
The Fleets on the Northern Frontier of the Roman Empire
from the 1st to 3rd century

Christoph Rummel, MA MA(Cantab)

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ABSTRACT

Ancient sources consistently identify a strong naval element to Roman military activity along the northern frontier from the earliest occupation campaigns to Late Antiquity. This element is formed by four established provincial fleets, the *CLASSES BRITANNICA*, *GERMANICA*, *PANNONICA* and *MOESICA*. The current understanding of these units, however, is disproportionate to their importance and some current interpretations are in urgent need of revision in view of new archaeological and epigraphic data relevant to the fleets.

This study identifies and analyses the main theories and problems in the study of naval activity on the northern frontier on the basis of concrete archaeological and epigraphic evidence. In order to establish a reliable foundation for further research, every site on the northern frontier identified as a fleet base in current research is studied in detail to identify fleet related evidence. These surveys, one for each of the provincial fleets based on the northern frontier, constitute the four main chapters of the thesis. The evidence for each fleet is summarised independently at the end of each chapter to revise current understanding of the respective fleet. The concluding chapter draws on all four of these summaries and reassesses the current understanding of naval power on the northern frontier of the Roman Empire from the 1st-3rd century, highlighting several misconceptions that exist in current scholarship.

As such, the study illustrates that there is substantially less evidence for the provincial fleets than is currently being assumed, while the evidence at hand is not being utilized to its full potential. It is shown that literary evidence for naval activity must be treated with far greater care than hitherto anticipated and that a number of difficulties in our understanding of Roman naval activity on the northern frontier are caused by a serious misinterpretation of the term *classis*. Although the “regular” fleets were evidently far smaller than currently believed and had a far more limited range of operations than assumed, the naval element in Roman military activity on the northern frontier was far more substantial than these four established *classes*: there is clear evidence not only for the use of *ad hoc* fleets, created and often requisitioned for specific military campaigns, but also that naval arms were maintained by both legions and auxiliary units. These detachments played a significant role in the control and safeguarding of the Empire’s northern frontier – probably more so than the established fleets, the *CLASSES BRITANNICA*, *GERMANICA*, *PANNONICA* and *MOESICA*.

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CHAPTER I

INTRODUCTION

I.I OUTLINE

There is a significant body of historical and archaeological data that is of direct relevance to Roman naval activity, particularly so in the north-western provinces of the Empire, where recent research has produced a number of finds of Roman ships and harbour-works, and several sites traditionally identified as fleet bases have been studied in detail. Research on Roman naval activity, however, has been limited and the majority of the work that has been carried out is marked by an over-reliance on outdated historical treatises that frequently incorporate somewhat fanciful interpretations of literary sources, individual epigraphic monuments and finds of stamped tiles. Consequently, the current understanding of Roman naval activity is far removed from any actual evidence for naval activity, as will be shown.

In order to counteract these inherent problems in current research, this thesis aims to systematically deconstruct some of the unrealistic assessments of Roman naval activity that are prevalent in modern scholarship in order to establish a sound basis of reliable evidence that will facilitate further research in this area. In particular, it attempts to identify the extent and nature of the four established Roman provincial fleets that operated on the northern frontier from the 1st to the 3rd century, the CLASSES BRITANNICA, GERMANICA, PANNONICA and MOESICA. The study furthermore attempts to identify to what extent these ever operated as part of a larger “Roman Navy”, and to what extent naval operations on the northern frontier of the Roman Empire were ever organized as part of one overall naval policy, as is frequently assumed.

I.II TRADITIONAL SOURCES OF EVIDENCE FOR NAVAL ACTIVITY IN THE ROMAN PERIOD

In dealing with military campaigns, Roman sources consistently highlight the significant role played by naval forces, notably so in the texts of Tacitus and Cassius Dio¹. The earliest mention of Roman naval activity is in the context of the Punic Wars, during which Rome ceased to rely solely on *socii navales* and established itself as a Mediterranean naval power through the capture and mass reproduction of a Carthaginian cataphract vessel².

This early drive in naval activity appears to have been a temporary measure in direct response to Carthage's naval dominance of the Western Mediterranean, rather than a conscious establishment of a standing "navy". During the 1st century BC, however, Rome was heavily engaged in naval activity not only during the Mithridatic Wars, but also in the ongoing battles against pirates in the Eastern Mediterranean and Adriatic. This prolonged need for a naval force led to the development of an established "Roman Navy" out of fleets drawn from allied states in the Eastern Mediterranean³.

¹ See below, esp. notes 9-17.

² Polybius, *Ἱστοριῶν* I, 20.8-16 states that the Romans decided to build 100 *quinqueremes* and 20 *triremes*, but lacked the necessary shipbuilding skills. Instead they borrowed vessels from *Tarentum*, *Locri*, *Elea* and *Neapolis* to transport their soldiers to Sicily in 261 BC. When a Carthaginian vessel was beached in the Straits of Messina, Rome salvaged it, using it as a model to construct an entire fleet. For a detailed discussion of Roman naval activity during the Punic Wars see Morrison & Coates (1996), pp. 43ff.

³ For naval activity in the **Mithridatic Wars** see Appian, *Mithridates* VIII, 51.1, describing Sulla's wait for the arrival of Lucullus' fleet in his winter quarters at Thessaly and the subsequent construction of a fleet, as well as the destruction of Flaccus' fleet by a storm off Brindisi. A more detailed discussion of the naval aspect of this conflict can be found in Morrison & Coates (1996), pp. 115-117 and Starr (1993), pp. 1-4. For **piracy** see Appian, *Mithridates* XIV, 92-94 who states Mithridates mobilised pirates from *Asia* and describes their *modus operandi*. Arguing that their main base was at *Cilicia*, he discusses their rise to dominance first in the eastern Mediterranean and ultimately all across the Mediterranean. He proceeds to describe how Pompeius was furnished with 120,000 infantry and 4,000 cavalry soldiers, as well as 270 ships and 6,000 Attic talents, to combat piracy. Dio XXXVI, 20-23.4 discusses pirates as background for Pompeius' career, stating that they sailed in substantial fleets and even attacked Ostia and other Italian harbours. He goes on to describe the Romans' limited responses until Aulus Gabinius' proposal that an ex-consul (Pompeius) be put in charge of a substantial force solely to combat piracy. Cicero, *De imperio Cn. Pompei* 31-36 extols Pompeius' virtues by describing the suffering of all Mediterranean peoples at the hands of pirates and exaggerating his quick and comprehensive victory. More detailed discussions of Piracy in the eastern Mediterranean can be found in De Souza (1999), pp. 97-178; Morrison & Coates (1996), pp. 117-119; Braund (1993), Pohl (1993) and Starr (1993), pp. 2-4

While these engagements in the Mediterranean are a good example of direct naval action, Caesar relied on naval units mainly for support and transport, both in his campaigns against the *Veneti* in Gaul and, particularly so, in the invasions of Britain in 55 and 54 BC⁴.

The Civil War of the 2nd half of the 1st century BC was instrumental in increasing the importance of Rome's naval forces. The struggle between Caesar and Pompeius resulted in several naval engagements such as those at *Massilia*⁵ as well as the Pompeian naval

⁴ For **naval engagements in the Gallic Wars** see Caesar, *De Bello Gallico* III, 9.1 outlining the building of warships on the Loire in order to attack the *Veneti*. The section closes with a discussion of the *Veneti* fleet, naval warfare in general and the Romans' lack of a proper navy. *DBG* III, 11.5 describes local vessels supplied for Caesar's campaigns by the *Pictones* and *Santoni* to form a fleet against the *Veneti*. *DBG* III, 13 provides a detailed description of the vessels used by the *Veneti* and their differences from Roman vessels, followed by a brief discussion of a naval encounter highlighting the superiority of Roman vessels in terms of speed, but showing that local vessels were more suitable to the conditions at hand. *DBG* III, 14 discusses the battle between Caesar's fleet and the *Veneti*, stating that the latter had about 220 ships far taller than the Roman vessels. Dio XXXIX, 40-43 summarises Caesar's campaign against the *Veneti*, describing how Caesar built local boats as they were most suitable to ocean navigation. These proved of little use against the *Veneti* strongholds, forcing Caesar to await the arrival of Brutus with a Mediterranean fleet. Chapter 41 contrasts the small and light "Mediterranean" vessels with larger and limbering Gallic types. Contrary to Caesar, Dio argues that the Romans did use rams against the *Veneti*, waiting for a calm during which the heavy vessels were practically useless because of their over-reliance on sails. Strabo, *Geography* IV, 4 discusses the *Veneti*, their ships and Caesar's naval engagement, following Caesar in arguing that the Roman vessels could not ram those of the *Veneti*, as their planks were too thick. For **Caesar's invasions of Britain** see Caesar, *De Bello Gallico* IV, 21-23, which describes Caius Volusenus' scouting Britain by ship, as well as the subsequent crossing of troops on a fleet of requisitioned vessels and ships built for the earlier campaign against the *Veneti*. Caesar's fleet consisted of 80 transports for his 2 legions as well as 18 further vessels for mounted auxiliaries and several warships. *DBG* IV, 28.1 deals with the 18 vessels transporting the cavalry and their distress in a storm. *DBG* V, 1-2 outlines the preparation for the 2nd invasion of Britain, stating that Caesar had requisitioned and/or built 600 *naves actuariarum* (to a design more suitable to local conditions than *naves onerariae*) and 28 warships, which were to proceed to *Portus Itius* to embark his troops. *DBG* V, 8 describes the Channel crossing by Caesar's force of "more than 800 ships", stating that the sight of such a large naval force caused the enemy to flee. Mason (2003), pp. 67-76 and Morrison & Coates (1996), pp. 119-124 provide further discussions of the naval aspects of these campaigns.

⁵ Caesar, *De Bello Civili* I, 34-36 describes the Pompeian fleet of seven *naves actuariarum* raised from private owners in *Igillum* and *Cosa* sailing to *Massilia*. On reaching the city, merchant vessels from the surrounding areas are requisitioned to form a navy. Caesar responds by constructing twelve warships (*naves longae*) from scratch in merely 30 days. *DBC* I, 56-58 deals with the first of the naval battles at *Massilia*: Domitius Ahenobarbus leaves the harbour with a fleet of 17 warships (11 cataphract) and several smaller vessels. Caesar's much smaller fleet under Decimus Brutus, manned with choice soldiers armed with claws and grappling hooks engages them, but is outsailed and outmanoeuvred. Of particular interest is the reasoning that Caesar's vessels were less agile not only because of untrained crews, but especially because "*tarditate et gravitate navium impediabantur; factae enim subito ex humida materia non eundem usum celeritatis habebant*". Nonetheless, Brutus' fleet manages to repel the sortie, capturing or sinking 9 Massiliot vessels. *DBC* II, 3 discusses the 2nd naval battle of *Massilia*, initiated by Pompeius' dispatch of 16 new vessels, including warships, to support Domitius Ahenobarbus. These join the repaired remnants of the earlier Massiliot fleet, and engage Brutus' fleet (which now included 6 captured Massiliot vessels). Despite their superior speed and nautical skill, however, Pompeius' forces are defeated yet again. While Lucan, *Pharsalia* III, 509ff. is probably not to be used for details of ship construction or battle tactics, being an embellished epic poem written in the mid 1st century AD, it nonetheless shows the acute awareness of the *Massilia* battles' importance in the Roman psyche towards the end of the Julio-Claudian period. As it presents a 1st century AD Roman's view of naval warfare, it furthermore provides interesting details of what the mechanisms of naval encounters would have been at this time. For a detailed discussion of these see Morrison & Coates (1996), pp. 129-132.

intervention in the *Dyrrachium* campaign and the engagements off Sicily⁶. The resulting conflict between Octavian and Sextus Pompeius was largely a naval one that saw the creation of a major fleet based in *Forum Iulii* and *Puteoli*⁷ and, after the naval battle at *Cumae*⁸, the large scale attack of Sicily with major naval engagements at *Mylae* and *Naulochus* in 36 BC⁹. These continued disputes of the late Republic finally ended in the clash between Octavian and

⁶ For the *Dyrrachium* campaign see Plutarch, *Pompey* 64.1, who states that Pompeius' naval dominance was absolute – he had a fleet of 500 fighting ships (machimoi) and innumerable Liburnians (liburnidoi) and scout boats (kataskopoi). Caesar, *De Bello Civili* III, 2-8 supports this, stating that Pompeius' fleet was drawn from several provinces and allies in the east. Caesar's naval forces, on the other hand, were below strength, capable of transporting “merely” 20,000 soldiers and 500 cavalry. As Caesar had to transport his troops across the Adriatic, naval clashes were practically inevitable. The first part of Caesar's army crossed the sea successfully, and the fleet was sent back to *Brundisium* to bring the remainder of his troops. The Pompeian admiral Marcus Bibulus, however, intercepted these vessels on their way back to Italy and destroyed 30 of them. *DBC* III, 14&15 deals with the naval blockade of *Oricum* by Bibulus, leaving Caesar trapped and cut off from his reinforcements, which remained at Brindisi. The transshipment of Caesar's army across the Adriatic, as well as the blockade of *Oricum*, are also discussed in Appian, *Roman History* II, 54-56. *DBC* III, 23-27 outlines another blockade, this time of *Brundisium*, at the hand of the Pompeian Admiral Scribonius Libo and his fleet of 50 ships and includes a detailed description of Marcus Antonius' use of fireships to break the blockade. When Caesar's fleet finally crossed the Adriatic, it was pursued by Quintus Coponius' fleet, but could shelter from a storm that wrecked the Pompeian fleet. For **engagements off Sicily** in the early autumn of 48 BC see *DBC* III, 101, describing Cassius' assault on the part of Caesar's fleet that was based at *Messana* under Marcus Pomponius which, again, involved the use of fireships. The city was held, however, and Cassius moved on to attack the remainder of Caesar's fleet at *Vibo*. Despite the Pompeian's renewed use of fireships, Caesar's troops gained the advantage and captured two quinqueremes and two triremes.

⁷ For the harbour at *Forum Iulii* (**Fréjus**) see Reddé (1996), Février (1963) and Donnadiou (1935). For *Puteoli* (**Pozzuoli**), see Piromallo (2004) and Fischer (1986a). Both harbours are also discussed in Lehmann-Hartleben (1923). Primary source references for both harbours can be found in Starr (1993), p. 9 note 23.

⁸ Appian, *Roman History* V, 81-84 describes how Octavian aimed to attack Sicily from *Tarentum*, while his admirals Calvinus Sabinus and Menodorus sailed from the Thyrrenian side. Pompeius' fleet under Menecrates met the latter force near the bay of *Cumae* and had the advantage of the open seas for manoeuvring, while Octavian's forces were limited in their movements as they were close to the shore. In a scene reminiscent of Homeric heroes, the two generals are described as pinning their vessels against each other.

⁹ The run-up to the invasion of Sicily, with the creation of large fleets and their progress towards the island, is described in the passage above (note 8) and in Appian, *Roman History* V, 93-105, while Chapters 106-109 contain a detailed discussion of the naval battle at *Mylae*, beginning with a brief description of the two fleets, and stating that in the main, Octavian's vessels under Agrippa were much larger and heavier than the small and swift ships of the Pompeian fleet, but manned with less able seamen (who were, however, better fighters). It seems that the conflict itself was resolved not so much by superior seamanship, but by brute force in close quarters fighting. Dio XLIX, 2&3 states that Agrippa and Demochares waited for each other to make the first move, until by accident both full fleets engaged each other. While both sides had different strengths – Pompeius' forces being superior in terms of seamanship while Octavian's forces were the more ferocious fighters – they were evenly matched overall. The famous battle of *Naulochus* is discussed in detail in Appian, *Roman History* V, 118-120, suggesting a “gentlemanly agreement” on a set decisive battle between two navies of 300 vessels each. These were equipped with all manner of devices to improve their chances in hand-to-hand combat, including Agrippa's invention of a *ἀρπαξ*, an advanced grappling-hook. The battle itself is presented in various phases: positioning, firing of missiles, ramming or grappling, and hand-to-hand combat. See further references in note 10, below.

Marcus Antonius in the battle of *Actium* in 31 BC, probably the most famous naval engagement in Roman history¹⁰.

With the Principate, the focus of naval activity shifted from the Mediterranean, where two permanent fleets were established at *Misenum* and *Ravenna*¹¹, to the provinces. Naval support, as well as direct naval action, played a central role in the conquest of the Balkans¹² and were crucial in the various campaigns that led to the creation of the German provinces

¹⁰ The build-up towards the engagement, with fleets gathered at *Ephesos* (Marcus Antonius) and *Brundisium* (Octavian), is described in Plutarch, *AVTΩVIOΣ* 56 & 61-64; Dio L, 11-15; Orosius, *Historiae adversum Paganos* VI, 19.6&7 and Velleius Paterculus LXXXIV, 1-2. Dio L, 16-34 presents the actual battle, characterising both generals in long speeches and describing how Agrippa swayed Octavian's plan for fanciful tactics in favour of a full-on traditional attack. At first, neither side initiated an attack until Octavian's ships suddenly advanced in a crescent, trying to encircle Antonius' fleet. While Octavian's smaller, more agile vessels concentrated on disabling enemy vessels, Antonius' large, cumbersome ships followed the traditional tactic of firing missiles and grappling hooks at the enemy vessels, turning a naval encounter into hand-to-hand combat. Neither tactic, however, proved superior. Dio places the decisive move in the battle in the hands of Cleopatra, who – unable to withstand the suspense of a matched battle – fled, signalling her vessels to follow. This caused several sections of Antonius' fleet to retreat, and Octavian's ships to attack individual vessels. These clashes remained indecisive, until Octavian launched fire attacks against the remaining vessels, utterly destroying these. Florus, *Epitomae Tito Livio Bellorum Omnium* II, 21 agrees with the general lines of this account, highlighting that Antonius' ships possessed towers and, at up to nine ranks of rowers, were much larger than the *biremes* of Octavian's fleet. Plutarch *AVTΩVIOΣ* 64-68 states that before the battle actually began, Antonius burned all but 60 of his Egyptian vessels in an attempt to rid himself of smaller ships. The account of the actual battle differs in that Plutarch suggests Antonius' forces initiated the attack. He does, however, describe Octavian's attempt to surround the enemy fleet. Plutarch disagrees with the accounts above, stating that Octavian's fleet was unable to use their rams as these might have broken off on impact with the larger vessels. Yet he does agree that Cleopatra's flight was decisive in the battle of Actium. Orosius, *Historiae adversum Paganos* VI, 19.8&9 states that Octavian's fleet was made up of 230 *naves rostratae* and 30 *sine rostris* (*triremes* and *liburnians*), while Antonius' forces consisted of only 170 vessels. Their smaller number, however, was balanced by their imposing size, rising up to ten feet above the sea. The battle remained indecisive from the 5th to 7th hour; victory only came at nightfall. Propertius, *Elegiae* IV, 6, reflecting on the battle of Actium, is an example of the importance this battle took in the mindset of Augustan Rome. Despite its being an elegy, it describes the tactics employed (as mentioned by Dio): a crescent shape attack by Octavian's forces (*tandem aciem geminos Nereus lunarat in arcus*), Antonius' significantly larger vessels (*classis centenis remiget alis*), the difference in tactics (Antonius' *uehant prorae Centaurica saxa minantis*, but are – in reference to Octavian's ramming tactic – described as *tigna caua*). For a detailed history of events leading to the battle of Actium including further references, see Morrison & Coates (1996), pp. 157-170. For full discussions of all naval battles of the civil wars see Morrison & Coates (1996), pp. 124-175; Starr (1993), pp. 5-8 and Kromayer (1897), pp. 426-457. Recently, Republican naval conflicts have been summarised in Steinby (2007).

¹¹ The creation of these fleets is described in Tacitus, *Annales* IV, 5.1, stating that under Augustus *Italiam utroque mari duae classes, Misenum apud et Ravennam, proximumque Galliae litus rostratae naves praesidebant*. Suetonius, *De vita Caesarum* II, 49 merely states that Augustus *classem Miseni et alteram Ravennae ad tutelam Superi et Inferi maris conlocavit*. On the creation of these fleets see also Starr (1993), pp. 11-24. Reddé (1986), p. 187, however, points out that any dates of establishment for these fleets are hypothetical suggestions, as the sources merely attribute their establishment (and the construction of their home ports) to the reign of Augustus. For an archaeological evaluation of the harbour at *Ravenna* see Mauro (2005); on *Misenum* see Chapot (1896).

¹² Dio, XLIX, 37 describes naval blockade of Siscia, during which several encounters between Roman vessels and native dugouts occurred; Appian, *Illyrian Wars* XXII, 6 states that Siscia was important as a supply base due to its position on two rivers and harbour where ships were built for the Danube conquest. The importance of Siscia as a naval base is also pointed out in Strabo, *Geography* VII, 5.2. Strabo, *Geography* VII, 3.13 confirms that the Danube was regularly used as a naval supply route by the Romans. Ovid, *Ex Ponto* IV, 7.27&28 describes how naval units were used to quickly convey troops to Aegyssus in AD 12: *donec fluminea deuecta Vitellius unda intulit exposito milite signa Getis*. See also Bounegru & Zahariade (1996), pp. 7-9, 91&92; Starr (1993), pp. 129-132.

along the Rhine¹³. All occupations of Britain required large numbers of vessels to convey armies across the Channel¹⁴, as did expeditions into the Black Sea¹⁵. During the Flavian period, naval activity is furthermore attested during the Batavian uprising and the revolt of *Antonius Saturninus* in the German provinces¹⁶, as well as the Agricolan campaigns in Scotland¹⁷.

¹³ On the **earliest campaign under Drusus** see Florus *Epitomae Tito Livio Bellorum Omnium* II, 30 stating that Drusus *Bonam et Gesoriacum pontibus iunxit classibusque firmavit*. While a clear reference to naval operations on the Rhine, the geography of *Bona* and *Gesoriacum* remains unclear. Tacitus, *Annales* II, 5.3 describes the motivation for the first campaign into Northern Germany to be a naval one, namely that *simul bellum maturius incipi legionesque et commeatus pariter vehi; integrum equitem equosque per ora et alveos fluminum media in Germania fore*. Dio LIV, 32 describes this campaign: Drusus sailed through the *fossa Drusiana* into the North Sea and to the river Ems. At one point his fleet was practically stranded at low tide (a common occurrence in the extensive mudflats of the Wadden Sea). For the **campaigns under Tiberius in AD 5** see *Res Gestae* V, 26 in which Augustus describes that *classis mea per Oceanum ab ostio Rheni ad solis orientis regionem usque ad fines Cimbrorum navigavit*. Velleius Paterculus II.104-106 deals with the same naval expedition, describing how the Roman fleet followed the North Sea coast to sail up the river Elbe. Tacitus *Annales* I, 45.2 states that later, following the revolt of the Rhine legions in AD 14, Tiberius considered sending *arma classem* against them. The German **campaigns of Germanicus in AD 15** are described in Tacitus, *Annales* I, 60-70: Germanicus repeated the tactic seen under Drusus, sailing 4 legions through the North Sea to meet his cavalry and auxiliaries at the river Ems. After visiting the site of the Varus disaster, the legions were sailed back along the same route they came, although 2 were disembarked to ease the ships' passage over shoals (a number of soldiers from these legions subsequently perished in adverse weather before rejoining the fleet). On the **second German campaign of Germanicus (AD 16)** see Tacitus, *Annales* II.6-8 describing how a 'fleet of 1000 vessels' of different types was built: *aliae breves, angusta puppi proraque et lato utero, quo facilius fluctus tolerarent; quaedam planae carinis, ut sine noxa siderent; plures adpositis utrimque gubernaculis, converso ut repente remigio hinc vel illinc adpellerent*. This fleet included both transports and ships with fighting decks. The ships rendezvoused at the *insula Batavorum* to take on troops and follow the route of Drusus' fleet to sail to the Ems. *Ann.* II.23&24 describe the return voyage of these units: due to the lack of seamanship amongst the bulk of Germanicus' troops, the entire fleet is wrecked in a major storm. Indeed, Germanicus' flagship, a *trireme*, apparently is the only vessel to return. See also Konen (2000), 73-153

¹⁴ For the **invasions under Caesar**, see note 4 above. The **"abortive invasion" of Caligula** is briefly described in Suetonius, *De vita Caesarum* IV, 44-46 and Dio *LIX*, 25, both sections suggesting that the emperor used a *trireme* to sail out into the channel. Cassius Dio *LX*, 19-22 states that **Claudius' invasion in AD 43** involved the transshipment of 4 legions from Gaul to Britain which occurred in three stages. It remains unclear whether this implies several sailings with different landing points, or one route sailed in three waves (e.g. Grainge [2002]; Frere & Fulford [2001], p. 47). See Mason (2003), pp. 67-104; Starr (1993), pp. 152-153.

¹⁵ Tacitus *Annales* XII, 17 describes how part of a fleet, returning after subjugating Zorsines, was beached on the Chersonese in a storm and their commanders killed by locals. See Bounegru & Zahariade (1996), pp. 17-22.

¹⁶ Tacitus *Historiae* IV, 16 describes how the revolt of Civilis spread to naval personnel: the fleet was rendered immobile as Batavians amongst the rowers first faked ineptitude and hindered operations until ultimately rowing their vessels towards Civilis' troops and killing their commanders, so capturing 24 vessels. *Hist.* IV.79 deals with a later stage in the conflict – naval forces are brought from Britain to harass the Batavian coastline, but the majority of vessels are attacked and sunk or captured by the Canninefates. *Hist.* V, 18 is an example of the importance of naval forces: had they arrived in time, the routed Germans could have been captured. A similar problem is described in *Hist.* V, 21, where the fleet is conspicuous by its absence, *formido et remiges per alia militiae munia disperse*. *Hist.* V, 22 sees the ultimate embarrassment for the fleet – in a night raid their vessels, including a *praetoria triremis*, are stolen and sailed up the river Lippe. See also Konen (2000), pp. 321-331.

¹⁷ Tacitus, *De vita Iulii Agricolae* XXV describes Agricola's march to Scotland, highlighting his use of a fleet and land based army in combined operations: *portus classe exploravit; quae ab Agricola primum adsumpta in partem virium sequebatur egregia specie, cum simul terra, simul mari bellum impelleretur*. *DVIA XXXVIII* states that Agricola *praefecto classis circumvehi Britanniam praecipit* in order to show that *Caledonia* had truly been subjugated. *DVIA XXVIII*, finally, presents a short anecdote in which a Usipian cohort stole three *liburnae*, but – incapable of sailing them – wrecked them in an attempt to return to Germany.

Rome's naval forces were heavily engaged throughout the 2nd century: the Dacian Wars of Domitian and Trajan relied on naval support wherever possible¹⁸, while the latter's campaigns in the East led to the creation of a fleet operating on the Euphrates and Tigris rivers¹⁹. The Marcomannic Wars under Marcus Aurelius saw further naval engagements on the Danube²⁰, while Septimius Severus' military campaigns in Scotland once again required significant levels of naval support²¹.

While historical sources provide little information on naval activity in the 3rd century, its importance in this period seems to be indicated by the frequent depiction of naval vessels in the coinage of Postumus, Carausius and Allectus (Figs 1.4-1.6), as well as the granting of the title *Gordiana* to both Italian fleets²². Accounts of the struggle between Constantine and

¹⁸ On the **Dacian Wars under Domitian**, see Strobel (1989). There are few references to naval activity in this campaign; Jordanes, *Getica* XIII, 76, states that Domitian rushed to Illyricum with troops from across the Empire, possibly implying naval transports (see note 12 above). The bridge built by Fuscus definitely required ships (*consertes naves*). Naval activity is attested more reliably for **Trajan's Dacian War**. Pliny, *Panegyricus Traiani* 81-82 briefly refers to the naval aspect of this campaign, depicting the emperor himself on a vessel: *enimvero, si quando placuit idem corporis robur in maria proferre, non ille fluitantia vela aut oculis sequitur aut manibus, sed nunc gubernaculis adsidet, nunc cum valentissimo quoque sodalium certat frangere fluctus, domitare ventos reluctantes remisque transferre obstantia freta*. Trajan's column offers iconographic evidence for the use of ships (e.g. [Figs 1.1-3]; see also <http://cheiron.humanities.mcmaster.ca/~trajan/indices.html>, search term "boat"). For a critical discussion of these reliefs see Leper & Frere (1988), a more optimistic approach can be found in Capo (2000). Whatever the reliability of the column as evidence, the presence of scenes depicting ships indicates that the campaign had a naval element. See also Bounegru & Zahariade (1996), pp. 93-101.

¹⁹ Dio LXVIII, 26 describes how Trajan built ships near Nisibis, as there is no wood in the Tigris region. In the subsequent description of the battle, Dio emphasizes that the Romans had so many ships that they could build pontoon bridges to cross the river and still have an active flotilla to participate in the fighting. On fleets on the Euphrates and Tigris see also Saddington (2001).

²⁰ The naval aspect of Aurelius' Wars is reflected in scenes on the column of Marcus Aurelius that depict ships, similarly to those on Trajan's column. Dio LXXI, 19.2 also hints at the importance of naval dominance on the Danube, stating that following the wars one of the conditions imposed on the *Iazyges* was that they were not allowed to possess boats or sail across the Danube. Tacitus *Germania* XLI, in contrast, states that the *Hermunduri* were allowed to trade across the river and use it as a waterway.

²¹ While the literary sources for this campaign, Herodian III, 14 and Dio LXXVII, 11-13 (cited as 76.13 in Mason [2003], p. 136 [note 2] and as 74.13 in Starr [1993], p. 155 [note 111], presumably due to differences in book and chapter numbering between the standard edition of Boissvain [as followed by H.B. Foster's recent 2004 edition] and various others [e.g. that of E. Cary, which is found in the old Loeb editions]), do not mention any naval activity other than the implied use of ships for the channel crossing, it has generally been assumed that naval support played a major role in Severus' Scottish Campaigns. This theory rests primarily on Pflaum's interpretation of an inscription from Rome that seems to indicate a special combined command of the CLASSES BRITANNICA, GERMANICA, PANNONICA and MOESICA (CIL VI, 1643) in the course of this campaign (see Kienast [1966], p. 44), and the suggestion of naval involvement in this campaign by Haverfield & MacDonald (1924), p. 123. This suggestion has been boosted by evidence for Severan rebuilding of supply buildings at Corbridge and South Shields, which has been taken to imply supply lines by sea (see Mason [2003], p. 136). See also Starr (1993), p. 155; Miller (1956), p. 40. N.B. This article is not included in the newest edition of the *Cambridge Ancient History*, Vol. XII, which does not refer to any naval operations in Scotland under Septimius Severus.

²² Starr (1993), p. 192

Licinius provide literary references to naval activity in the early 4th century²³, while Ammianus Marcellinus refers to regular river patrols on the Meuse acting as ice-breakers in the winter of AD 357²⁴. The late Roman writer Vegetius furthermore includes an entire chapter on fleets in his manual on all things military²⁵ and the *Notitia Dignitatum* lists numerous small naval units. In addition to this, various panegyrics refer to several flotillas stationed on the Rhine and Danube rivers during the 4th century²⁶. The most concrete evidence for late Roman naval activity, however, is the *Lex de lusoriis Danuvii* from AD 412, an imperial codex stating exactly how many vessels are to be stationed and maintained on the Danube in *Moesia Secunda* and *Scythia*, and detailing the number of replacements that are to be built every year²⁷.

It can be seen, therefore, that there is ample literary evidence highlighting the importance and continued use of naval forces in conflicts throughout the Roman period. No primary sources, however, suggest a *Roman Navy* in the modern sense of one centrally controlled naval arm of the military²⁸. Indeed, Roman naval operations seem to have been highly flexible and adaptable to local and temporary requirements. Any study of Roman naval

²³ Zosimus, *Historia Nova* II, 22-26 states that Constantine constructed a harbour at Thessalonica and fitted out a fleet of 200 thirty-oared warships and 2000 transport vessels before the battle of Adrianople (AD 324). Licinius, in response, drew together a fleet of Egyptian, Phoenician, Ionian & Dorian, Cypriot, Carian, Bythinian and African ships. While the naval forces play no part in Zosimus' account of the battle itself, he describes that Constantine's fleet was subsequently ordered from the Piraeus to aid in the siege of Constantinople. Licinius' admiral Abantus sent 200 large vessels against Constantine's vanguard of 80 small ships, but was at an engagement in a narrow channel in which Constantine's more mobile vessels had an advantage. On the next day, 130 vessels of Abantus' fleet were wrecked in a strong wind, and Constantine's fleet proceeded to blockade Constantinople. The final naval aspect of this war follows Licinius' flight to Chalcedon: Constantine responded by constructing "small vessels" and transporting his entire army across the Hellespont; Anonymus Valesianus, *Origo Constantini Imperatoris* V, 23-38 describes the same episode, suggesting that Constantine sent his large fleet, under Crispus, to occupy *Asia*. According to this source, the above encounter took place off Callipolis, and Licinius' general was called Amandus. See also Starr (1993), pp. 197&198; Reddé (1986), pp. 347&348.

²⁴ Ammianus Marcellinus *Rerum Gestarum* XVII, 2.3. A further reference to naval action of 40 *lusoriae* (late Roman warships) against the Alamanni in AD 359 can be found in the *Rerum Gestarum* XVIII, 2.12

²⁵ Vegetius, *Epitoma rei militaris* IV, 31-36. It is not entirely clear whether Vegetius wrote during the later 4th or around the mid 5th century AD. For discussions and models of late Roman vessels on the basis of this text see Baatz & Bockius (1997); for a critical approach, arguing that Vegetius' description is purely fictitious and of little value to modern scholarship see Rankov (2002).

²⁶ E.g. Eusebius *Oratio de Laudibus Constantini* VI & VIII; Claudius Mamertinus *Gratiarum Actio Juliano Augusto*, VII, 3; Claudian *Panegyricus de Quarto Consulatu Honorii Augusti*, 623-633.

²⁷ Codex Theodosianus VII.17. see Appendix, I.

²⁸ See Starr (1993). The title "The Roman Imperial Navy 31 BC-324AD" suggests one Roman navy in the modern sense. This study will show that such a view is inaccurate, although still frequently encountered in more recent literature, despite efforts to prove the contrary by scholars such as Saddington (1990a) and Konen (2000).

activity must therefore establish a clear time-frame, as Republican conflicts relied on a naval infrastructure that differed drastically from that of the Principate. The numbers of ships and fleets in late Roman sources such as the *Notitia Dignitatum* and the *Lex de lusoriis Danuvii*, however, cannot be related to the known fleet structures from the 1st-3rd centuries, showing that a further change in the organisation of Rome's naval forces must have occurred at some point during the 3rd or 4th centuries.

While Rome's naval activity during the Republic appears to have been in direct response to individual conflicts (both internal and external) and consequently temporary, the literary evidence summarised above suggests that the Principate introduced a more permanent organisation. Two main "Praetorian" fleets were based in Italy (the CLASSIS PRAETORIA MISENENSIS at *Misenum* and the CLASSIS PRAETORIA RAVENNATIS²⁹ at *Ravenna*), while several provincial fleets were stationed along the periphery of the Empire in Britain (CLASSIS BRITANNICA), the German provinces (CLASSIS GERMANICA), Pannonia (CLASSIS PANNONICA), Moesia (CLASSIS MOESICA), the Black Sea (CLASSIS PONTICA), Syria (CLASSIS SYRIACA), Egypt (CLASSIS ALEXANDRINA), Lybia (CLASSIS NOVA LYBICA) and Mauretania (originally made up from detachments of the Syrian and Egyptian fleets³⁰). This structure must have been modified at some point during the 3rd or 4th centuries, possibly as a consequence of Diocletian's reforms and/or changes caused by usurpations and the creation of breakaway empires such as that of Postumus or that of Carausius and Allectus, as late Roman sources reveal a much higher number of smaller fleets, stationed all along the periphery of the Empire³¹.

References to Roman naval activity are not, however, limited to literary sources. A significant corpus of inscriptions, both Latin and Greek, attests the presence and importance

²⁹ Frequently also identified as CLASSIS RAVENNATIUM or CLASSIS RAVENNAS.

³⁰ Starr (1993), pp. 117-120.

³¹ A study of late Roman fleet organisation is currently being compiled as a doctoral thesis at the University of Regensburg: Himmler, forthcoming. See also Pferdehirt (2005); Bakker (1997); Sarnowski (1990) and especially Höckmann (1986).

of fleets and naval action throughout the Roman Empire. While the majority of such inscriptions date to the 1st-3rd century and deal with the Praetorian fleets at *Misenum* and *Ravenna*, naval activity is attested epigraphically throughout the provinces, particularly so on the northern frontier³². These inscriptions not only prove the presence of fleet soldiers at a site, but frequently mention the names of ships, ranks and frequently even more than one fleet under one command³³. As some of the monuments include depictions of fleet soldiers and ships, they have also been used for iconographic research into Roman naval activity³⁴.

In addition to inscriptions, there are numerous papyri that refer directly to naval action, fleets, ships or their crews³⁵. Finally, an ever increasing number of military diplomata directly mention fleets, both in the Mediterranean and the provinces. These are of particular interest as they record fleet activity in a province at a specific point in time, since the exact date of the *constitutio* is included in the diploma formula³⁶. In addition to this, they also provide detailed information on the changing legal status of fleet soldiers, and status differences that existed between soldiers of the Praetorian and those of the provincial fleets³⁷.

³² While Spaul (2002) has attempted to compile a list of all Roman naval inscriptions, his study is woefully inaccurate in various places, with false citations as well as frequent inclusions of irrelevant inscriptions. As such it may serve as an initial stage for further research into the epigraphy of Roman fleets, but cannot be used as a reliable tool for reference. Starr (1993) is mainly based on epigraphic data and contains an appendix of inscriptions referring to naval praefects organised by fleets, but is somewhat outdated as his lists of inscriptions were compiled in the 1930s. A comprehensive list of naval inscriptions, albeit with a bias towards the Mediterranean evidence can be found in Reddé (1986), pp. 707-713. For naval inscriptions from Germany and the Low Countries see Konen (2000), pp. 470-477 and Pferdehirt (1995), pp. 45-54. Bounegru & Zahariade (1996), pp. 115-118, as well as French (1984), deal with epigraphic evidence for naval activity on the lower Danube and in the Black Sea. For inscriptions from the northern frontier see Appendices II-VI.

³³ For examples of epigraphic evaluations of the information on naval inscriptions see Pferdehirt (1997); Reddé (1995); Reddé (1986), pp. 665-679; Kienast (1966); Sander (1957); Wickert (1949).

³⁴ For a discussion of the problems involved in such an approach see Tilley (2000) and Tilley & Fenwick (1980). Examples of iconographic interpretations of epigraphic monuments can be found in Bockius (2001); Kritzas (1996) and Ellmers (1978).

³⁵ A full list can be found in Reddé (1986), pp. 713-714.

³⁶ For a summary of how to read military diplomata and use the information they contain, see Lambert & Scheuerbrandt (2002).

³⁷ For a complete list of diplomata up to 2004, supplement the *Roman Military Diplomas (RMD)* publications by M. Roxan with Pferdehirt (2004). Later diplomata can be found in subsequent publications of *L'Année épigraphique* (AE). Pferdehirt (2002), pp. 56-97 & 167-173 provides a detailed discussion of problems in the legal status of fleet soldiers and its changes over time. The status of fleet soldiers' families and changes therein are discussed in the same publication, pp. 185-187, 210-212, while pp. 230-233 specifically deal with diplomata of soldiers from the two Praetorian fleets.

I.III PAST SCHOLARSHIP

Despite this relative wealth of references for Roman naval activity in source material traditionally used by scholars of ancient military history, research into Rome's fleets has been limited – especially in comparison to legions and auxiliaries³⁸.

English speaking scholarship still relies heavily on Starr's 1941 treatise which tries to establish the thesis of one "Roman Navy" on the basis of epigraphic and literary evidence, with brief excursions into archaeological data. These mainly take the form of discussions of stamped tiles but include sporadic discussions of sites identified as possible fleet bases³⁹. Arguing that Constantine's campaign against Licinius "clearly marks the disappearance of the Augustan navy as an effective force, for neither of the hastily-levied squadrons shows any traces of the old fleets"⁴⁰, Starr sets the chronological framework of his research as 31 BC – AD 324. There is no geographical restriction on Starr's investigations, although it is important to realize that he deals with events in the provinces in a somewhat cursory fashion, merely presenting literary evidence and sporadic archaeological traces for the provincial fleets in order to outline their history⁴¹. Within these wide parameters Starr attempts to provide a synthesis of Rome's naval forces, their history, operational spheres and tasks. This is achieved primarily by the discussion of fleet related inscriptions and historic sources dealing with naval action, as well as a presentation of possible bases. His reliance on literary and epigraphic sources, however, means that Starr's model of Rome's naval forces is one of a large 'navy'

³⁸ The following discussion focuses on research monographs that deal with Roman naval activity, as well as selected articles. While there are a number of highly relevant articles appertaining to individual fleets, these are discussed in the relevant introductory sections on each of the four fleets studied below. See pp. 29ff. (CLASSIS PANNONICA), pp.87ff. (CLASSIS MOESICA), pp. 140ff (CLASSIS GERMANICA) and pp. 224ff. (CLASSIS BRITANNICA) below.

³⁹ Starr (1993) is the 3rd edition reprint of the original 1941 publication. The only change from the original edition are the correction of minor misprints (2nd ed) and an updated bibliography plus plates and illustrations. The entire argument, however, still relies solely on evidence available in 1941 and hence does not take into account any advances in scholarship nor important archaeological finds of the last 65 years.

⁴⁰ Starr (1993), p. 198

⁴¹ This is clearly reflected in the structure of the study, which contains 4 chapters on aspects of "The Italian Fleets", but manages to deal with "Naval Power on the Northern Frontier" in a single chapter of 43 pages.

that eventually outdates its initial purpose and is assigned administrative and logistical tasks instead of primarily military ones, until its supposed decline in the late 3rd century AD⁴².

Starr's study focuses on the Praetorian fleets of the Mediterranean and their command structure, as is to be expected from a primarily epigraphically and historically motivated study. On the basis of inscriptions appertaining to these fleets he argued – against popular opinion at the time – that the Praetorian fleets were never the sole domain of the imperial *familia*⁴³ and tried to reconstruct their 'Rangordnung' along the lines of the land based army, highlighting similarities⁴⁴. Starr suggested that overall command of all naval forces lay directly with the emperor⁴⁵ and that fleets were divided into squadrons of ships under *nauarchi*, while individual vessels were captained by *trierarchi*⁴⁶.

This caused a number of responses, all of which dealt with intrinsic epigraphic problems. Wickert, for example, argued that the Julio-Claudian fleets were in fact controlled by freedmen⁴⁷, while the revisions of Starr's naval 'Rangordnung' by Sander and Kienast provide different respective explanations for the ranks of *nauarchus* and *trierarchus*⁴⁸.

Starr's focus on epigraphic data, as well as his problematic interpretations thereof, ensured that his brief summaries of the actual history and development of the 'Roman Navy' have remained largely unchallenged until recently. Since Starr's treatise, there have only been two major studies of Roman naval activity that attempt not only to establish an overall history

⁴² Starr (1993), p. 168.

⁴³ As first suggested by Mommsen (1881), p. 463 – see also the discussion in Kienast (1966), pp. 9&79.

⁴⁴ This approach has found resonance amongst various scholars of fleet epigraphy. An overview of the problems involved in, as well as reasons for, comparing a fleet "Rangordnung" to that of the remainder of Rome's army can be found in Reddé (1995).

⁴⁵ Starr (1993), p. 31: "Every praefect of a fleet during the Empire, as every legate of a legion, was the vice-regent of the emperor, appointed directly by him of his own advice, and serving at his pleasure. The jurist can justify the praefect's authority only as a delegation of the emperor's *imperium proconsulare*; ..."

⁴⁶ For *nauarchi* see Starr (1993), pp. 38-43, for *trierarchi* pp. 43-45. See also pp. 55-61 for a discussion of similarities between the organisation of a naval crew and that of land based units.

⁴⁷ Wickert (1949).

⁴⁸ Sander (1957); Kienast (1966). Indeed, the discussion on the precise hierarchy continues even until today. See Reddé (1995); Forni (1992a); Forni (1992b).

of Rome's various naval squadrons, but also to assess their structure, ships, bases and operational duties, as well as changes in these over time⁴⁹.

Where Starr's "Roman Navy" may be criticised for putting too much emphasis on historic and epigraphic data, and consequently not giving events in the provinces their due attention, Viereck's "Classis Romana" has shortcomings of a different sort⁵⁰. At first, this major work seems to present a comprehensive history of all aspects of Roman naval activity, with chapters on all types of naval vessels used by the Romans⁵¹, their armament⁵², strategy and tactics⁵³, a detailed history of naval engagements⁵⁴, and a discussion of individual fleets and their bases as well as a more general evaluation of Roman harbours and harbour works⁵⁵. Unfortunately, however, the work lacks any references other than a general bibliography. Closer scrutiny reveals various details such as ship plans, lists of fleet bases and even the list of individual fleets to be overly optimistic and discloses a lack of critical scholarship in the collation of sources.

The most useful resource for research into Roman naval activity is the monograph "Mare Nostrum" by Reddé. Utilizing literary and epigraphic sources as well as a critical assessment of archaeological data, this study presents an overall history of Rome's naval forces. Adopting a similar approach to Viereck, Reddé begins his work by presenting the types of vessels used in the Roman period – a crucial difference, however, being his inclusion of a presentation and evaluation of source material⁵⁶. Before discussing fleet history, Reddé

⁴⁹ Viereck (1996); Reddé (1986).

⁵⁰ Viereck (1996).

⁵¹ Viereck (1996), pp. 19-91 deal with actual warships, auxiliary vessels and transports, while pp. 121-156 deal with various types of support and supply vessels.

⁵² Viereck (1996), pp. 92-120.

⁵³ Viereck (1996), pp. 157-167.

⁵⁴ Viereck (1996), pp. 168-236 lists and discusses the major naval engagements of Roman history – albeit without any reference to ancient source material whatsoever.

⁵⁵ Viereck (1996), pp. 252-259 present a list of individual fleets with associated fleet bases (for which no evidence is provided), while pp. 260-273 discuss known Mediterranean harbours on the basis of sketch plans. All of the harbours discussed, however, are taken directly from Lehmann-Hartleben (1923) and for the majority there is no evidence that they ever served a military purpose at all.

⁵⁶ Reddé (1986), pp. 11-141. See pp. 11-14 for the discussion of source material.

presents a list of possible military harbours – attempting to define how a military harbour can actually be identified – and concluding that it is practically impossible to do so⁵⁷.

It is only once this basis of firm archaeological data is established that Reddé embarks on a discussion of various sources dealing with fleet activity and operations, attempting to analyse their functions and tasks through various phases of the Roman period⁵⁸. While Reddé readily admits that there is not enough evidence to present a clear and accurate history of Roman naval activity, his data is sufficient to allow him to suggest that the concept of permanent fleets, rather than temporary naval forces in response to a temporary requirement, is an Augustan one⁵⁹. He furthermore argues that the setting up of permanent fleets brought with it a change in tactics, vessels and function of fleets that was to last throughout the Principate, but failed to survive the political and military unrest of the 3rd century⁶⁰.

Where Reddé's study was the first major fleet study to place a significant emphasis on archaeological traces of naval activity, this approach has been favoured by more recent work. The ever increasing amount of data that a detailed discussion of all evidence appertaining to Roman naval activity throughout the Empire would have to include, however, has meant that more recent studies have focussed on individual fleets – notably the ones on the northern frontier⁶¹. The geographical limitations of these studies in combination with the increased volume of archaeological data in comparison with that available in 1986, however, meant that

⁵⁷ Reddé (1986), pp. 145-319; where pp. 145-163 discuss what a military harbour actually is and how it can be identified (on this see also Morel [1991]; Rickman [1988]; Blackman [1982a]; Blackman [1982b] and de Coetlogon Williams [1976]), while pp. 164-308 present case studies of Roman harbours that may have served a military purpose. The concluding pages of this section of the study (pp. 309-319) then take the evidence discussed as basis for the charting of a brief history of Roman harbour development.

⁵⁸ Reddé (1986), pp. 323-652, where pp. 323-453 ('Les Missions') deal with literary and other evidence naval involvement of the Roman military, while pp. 457-652 ('Les politiques Navales de l'Empire Romain') try and identify the role of naval action within Roman strategy and politics from the late Republic to the 5th century. Of particular interest to this study are pp. 356-369, which deal with naval developments on the rivers of the Roman Empire, although study of events from the 1st -3rd century is sadly limited to a discussion of the German occupation, a brief overview of the Balkan occupation as well as Trajan's Dacian War and naval activity on the Euphrates. The bulk of this section deals with the problem of fortified landing places ('Schiffsländen' [termed 'débarcadère' by Reddé], e.g. Dunafalva, Veróce, Szentendre) and their function in the 3rd and 4th centuries.

⁵⁹ Reddé (1986), p. 655.

⁶⁰ Reddé (1986), p. 655-659.

⁶¹ See especially Mason (2003) on fleet activity in Britain, Konen (2000) on Germany and Bounegru & Zahariade (1996) for the Lower Danube.

it has been possible to produce more refined – and in some cases more accurate – assessments of some aspects of naval activity in the northern provinces of the Roman Empire.

In 1996, the Romanian scholars Bounegru and Zahariade published a study of fleet activity on the lower Danube from the 1st to 6th century⁶². This volume follows Reddé's approach in so far as it also attempts to draw on both archaeological and literary source material to reconstruct fleet history⁶³. Indeed, its very layout reflects that of Reddé's study, if in a different order: Bounegru & Zahariade also devote chapters to the types of vessels used on the Danube during the Roman period⁶⁴ as well as harbours and ports⁶⁵. Yet these are placed *after* an overview of the fleet's history and an epigraphic assessment of its hierarchy of command⁶⁶ – both chapters in a style highly reminiscent of Starr's problematic approach. The final section of the study is an attempt to reconstruct the duties and function of the CLASSIS MOESICA on the basis of earlier evidence⁶⁷.

This different order of chapters typifies the crucial difference in approach between this study and that of Reddé. Where Reddé established a firm archaeological basis from which to

⁶² Bounegru & Zahariade (1996).

⁶³ See Bounegru & Zahariade (1996), p. 1: "L' élaboration d'une histoire de la flotte du Bas Danube pendant les Ier-VIIe (?) siècles ap. J.C. ayant comme base les sources historiques et épigraphiques contient un certain degré de difficulté [...] le matériel archéologique et épigraphique accumulé offre des perspectives encourageantes".

⁶⁴ Bounegru & Zahariade (1996), pp. 46-72. This chapter is, however, flawed in that it displays a distinct over-reliance on the plans provided by Viereck (see models of the trireme (Fig. 7, p. 47), the *liburna* (Fig. 12, p. 54) and the "riverine" *liburna* (Fig. 13, p. 56). Aside from the study of one stamped tile from Novae that depicts a ship (Fig. 11, p. 52) the remainder of the chapter deals with iconographic interpretations of the ships on Trajan's column as well as depictions of freighters and smaller vessels (*ratis* and *musculus*) on various mosaics from Ostia, Sousse and Althiburbus.

⁶⁵ Bounegru & Zahariade (1996), pp. 73-90. This chapter is divided into two sections, one on ocean-harbours along the black sea (pp. 74-82) and one on river-harbours (pp. 82-88). The first of these is basically a discussion of evidence for harbours at *Callatis*, *Tomis* and *Histria*. While such evidence does exist, a distinct problem of this section is that it fails to deal with the question of what actually makes a military harbour – indeed, the very example of an ideal Roman harbour cited at the outset – Ostia (p. 73, see also Fig. 19, p. 74), has so far produced no evidence for any military presence. The section on riverine harbours consists of brief discussions of Drobeta, the late Roman landing site at Haiducka Vodenica (following Reddé's discussion of similar sites on the Upper Danube as well as a list of sites which ought to have served as naval stations on the basis of epigraphic or literary references. See also Maps 1 and 2 (pp. 89&90 for potential 1-3rd and 4th-6th century naval bases respectively).

⁶⁶ Bounegru & Zahariade (1996), pp. 7-28 deal with the history of the Moesian fleet, a discussion that is divided into two sections. The first deals with the 1st-3rd century and cites literary sources for naval activity on the lower Danube, as well as listing sites where fleet-related artefacts, stamped tiles and inscriptions have been found (pp. 7-22). The second section focuses on the 4th-6th century and discusses various late Roman references to naval units, arguing that these are to be included in the distribution map created earlier (pp. 22-28). The epigraphic discussion (pp. 29-43) is based on a comparison with the Praetorian fleet of Ravenna in which arguments similar to those of Starr are presented. It does, however, include a useful "Supplementum Epigraphicum" (pp. 115-118) which lists inscriptions referring to the CLASSIS MOESICA.

⁶⁷ Bounegru & Zahariade (1996), pp. 91-109.

draw historical conclusions, Bounegru and Zahariade present a colourful mixture of historical and archaeological data. This frequently results in the identification of sites as fleet bases at the hand of tenuous historical or epigraphic data, despite the lack of any concrete evidence for a naval presence⁶⁸. The overall impression is that the authors attempt to identify as many fleet bases as possible in order to highlight the importance of naval activity on the Danube, rather than presenting a critically balanced reflection of what may have occurred at the time.

Despite its problems, Bounegru and Zahariade's work was groundbreaking in so far as it is one of the earliest studies of Roman naval activity to move away from the notion of one *Roman Navy*. Instead, a large part of the volume focuses on one individual unit, the *CLASSIS MOESICA*⁶⁹. This approach is favoured in more recent research, which more or less accepts that Roman provincial fleets were independent units, rather than having been part of one large navy in the modern sense.

Probably the most substantial study of a single provincial fleet is that of the *CLASSIS GERMANICA* by Konen⁷⁰. Compiled as a doctoral thesis at the University of Münster, it presents meticulously researched discussions of all aspects of the fleet's operations – including a detailed discussion and assessment of natural conditions in the Rhine valley during the Roman period⁷¹. By virtue of its nature as a thesis in Ancient History, Konen's work focuses more on literary evidence than archaeological data – although by no means neglecting the latter.

⁶⁸ E.g. Ratiaria (Bounegru & Zahariade [1996], p. 12): “Bien que les recherches archéologiques ne l'eussent pas encore mise en évidence et que les sources épigraphiques et historiques refusent de mentionner comme telle, la présence d'une base navale à Ratiaria s'avère fort possible dès la période de la création de la flotte mésique. Le nom de cette localité qui provient du type de navire *ratis* ou *ratiaria*, suggère un rapport direct entre le toponyme respectif et les activités se déroulant dans la sphère de la navigation militaire sur le Danube. On y ajoute la supposition, difficile à vérifier, selon laquelle Ratiaria eût constitué la base de départ de l'expédition de Vitellius (12 ap. J.C.).”

⁶⁹ With the obvious exception of pp. 103-109, “L'activité de la flotte aux IVe-Vie siècles ap. J.C.”, which deal with the naval units that formed part of the late Roman frontier system on the lower Danube.

⁷⁰ Konen (2000).

⁷¹ Konen (2000), pp. 8-72: Pp. 8-46 of this introductory chapter uses ancient and medieval literary sources, as well as data from geological investigations, to discuss what the Rhine and its tributaries, as well as the Delta systems of the Low Countries, looked like in the Roman period. Pp. 46-72 attempt to assess to what extent this environment would have facilitated naval operations and what natural limitations would have been imposed on any fleet activity in this region.

Konen's study is divided into chronological sections according to historical events. The first section is a discussion of references to naval activity during the Julio-Claudian period, i.e. the German campaigns of Drusus and Germanicus and naval events until around 70 AD⁷². The second part deals with references to the CLASSIS GERMANICA in the late 1st and 2nd centuries⁷³. After an assessment of tasks of the fleet⁷⁴, Konen closes with a brief discussion of the decline of the Rhine fleet as part of the "3rd century crisis"⁷⁵ and concluding summary.

Whilst difficult to navigate due to various "temporal glitches" in his chronology⁷⁶, Konen's study presents a complete and comprehensive assessment of all data available for the CLASSIS GERMANICA. Following the approach of Bounegru & Zahariade, Konen studies a single individual provincial fleet – refuting the notion of one centrally structured "Roman Navy" as suggested by earlier scholars. Unfortunately, however, his emphasis on historical sources directly influences the weighting of different historical episodes. As such, his study devotes significantly more space to the occupation period rather than the late 1st to 3rd century on the Rhine. It is hardly surprising, therefore, that the majority of his conclusions relate to the Julio-Claudian period. This, however, leaves one with the impression that the established

⁷² Konen (2000), pp. 73-296 ('Das Zeitalter der Germanenkriege und die Anfänge der CLASSIS GERMANICA (12 v. – 16 n. Chr.'). At 223 pages, this is by far the largest section of the book (a reflection of the bias on this period in literary source material). Confusingly, the title seems to indicate the Augustan occupation of Germany as a general timeframe, but the section actually includes a discussion of fleet references up to AD 70 (pp. 154-188), as well as a presentation of the types of vessel used on the Rhine from the 1st to early 3rd century AD (pp. 189-243). The survey of possible fleet bases (pp. 244-296), on the other hand, deals – as expected – solely with sites dating to the earlier half of the first century AD.

⁷³ Konen (2000), pp. 297-347 ('Die CLASSIS GERMANICA im 1. und 2. Jahrhundert n. Chr.'). Konen discusses not only the personnel and vessels of the fleet (pp. 297-303) as well as its Flavian reorganization and references to naval activity between AD 70 and 165 (pp. 331-348), but also events from AD 17 to the Batavian revolt in AD 69/70 (pp. 303-331). This reduces the actual discussion of the post Julio-Claudian history of the fleet to 22 pages, a reflection of the relative scarcity of direct references to the CLASSIS GERMANICA in literary sources.

⁷⁴ Konen (2000), pp. 348-421 ('Aufgaben und Tätigkeiten'). Interestingly, it is this section with its somewhat speculative title that includes the most reliable discussions, namely those of epigraphic monuments and stamped tiles, as well as artefacts associated with the fleet.

⁷⁵ Konen (2000), pp. 422-463 ('Die Flotte in der Zeit der Reichskrise [166-284 n. Chr.]'). While the inclusion of the term "3rd century crisis" may sit uneasy with many contemporary scholars, the chapter nonetheless critically assesses various genres of source material available for the 3rd century in an attempt to identify a formal end to the German fleet. Whilst concluding that it is not possible to define a definite end point as events along the Rhine were extremely fluid in the earlier part of the century, Konen clearly identifies that the Diocletian reforms at the very latest brought definite changes in naval policy on the Rhine that were incompatible with the existence of one large provincial fleet (p. 463).

⁷⁶ See notes 72&73 above.

CLASSIS GERMANICA of the later 1st and 2nd centuries AD is unduly underrepresented because of a lack of primary source material, an impression that casts a shadow of doubt on the validity of some of Konen's more general verdicts.

The most recent monograph on Roman naval activity, apart from Steinby's recent study of the Republican fleets⁷⁷, is Mason's study of *Roman Britain and the Roman Navy*⁷⁸. While the title of this study suggests a return to Starr's notion of one Roman Navy, its main body actually deals solely with naval activity in Britain in general and the CLASSIS BRITANNICA in particular⁷⁹. Yet the introductory chapters on origins of the navy, its organisation and vessels, conversely, seem to propagate the notion of one centrally organised Roman Navy made up from several units⁸⁰ – an interpretation that had been suggested to be incorrect even in the early 1990s⁸¹.

These inconsistencies found in the introductory and concluding sections of Mason's study seem to be a direct result of his declared attempt to provide an understanding of the significance of Rome's naval powers for the general public⁸². As the primary sources on naval activity are incomplete as well as inconsistent, and a significant proportion of past scholarship on the subject has been overly general if not fanciful, there is no firm basis for such an overall history of all aspects of any of Rome's fleets. Mason compensates for this by referring to

⁷⁷ Steinby (2007).

⁷⁸ Mason (2003).

⁷⁹ Mason (2003), pp. 67-148. Chapter 5 (pp. 67-76) is a detailed study of Caesar's campaigns in Britain, while chapter 6 provides a detailed analysis of naval action as part of the conquest and occupation (pp. 77-104). Some sections of this chapter appear to imply that the CLASSIS BRITANNICA was in existence during this early period in the history of *Britannia* – despite the suggestion in the title of the following chapter ('The mature Classis Britannica; c. AD 90-193', pp. 105-134) that the British fleet was firmly established only around AD 90. Chapter 8 (pp. 134-148) examines events from 193-276, including a (possibly over-optimistic) examination of the fleet's role in the Severan campaigns in Scotland, and suggests not only an intimate link between the CLASSIS BRITANNICA and the establishment of the Saxon Shore forts (pp. 143-148), but also a drastic reorganisation of the fleet as a result of the administrative reforms in the early 3rd century (pp. 140-143).

⁸⁰ Mason (2003), pp. 8-66. The structure, as well as line of argument, of these three chapters is highly reminiscent of the generalising approaches found in Viereck's "Die Römische Flotte". A crucial difference, however, is that Mason backs his argument with references to both primary data and other secondary literature – providing a firmer basis to his argument.

⁸¹ See references to Saddington below, notes 89&90.

⁸² Mason (2003), pp 8: "In the popular imagination it was Rome's legions that enabled her to win and hold an empire. The truth of that cannot be denied but what is not so widely known or appreciated is the equally important part played by the Roman navy in the acquisition, maintenance and protection of that empire."

various types of evidence – or different fleets – to highlight whichever point he is trying to make in these sections⁸³.

Despite such problems, the central section of Mason's study offers an assessment of the CLASSIS BRITANNICA based on a balance of literary, epigraphic and archaeological data. It is in this section of the work that interesting new suggestions are made – such as the thesis that the main base of the CLASSIS BRITANNICA may not have been located in Britain, but at Boulogne in *Gallia Belgica*⁸⁴. A particularly important point of the study is Mason's suggestion that, even during the 1st the 3rd centuries AD, units other than the established provincial fleet in Britain may have been directly engaged in naval activity⁸⁵.

Aside from these major monographs on Roman naval activity, there have been several shorter syntheses providing overall histories as part of larger works on ancient naval activity or the Roman military⁸⁶. While the majority of these have followed the line of Fiebiger's summarizing entry in the *Realenzyklopaedie*⁸⁷ in producing overall outlines of fleet activity throughout the history of the Roman world, some have voiced new ideas that ought to drastically change scholars' understanding of the function of Rome's fleets.

In this respect, the work of Saddington in the early 1990s was groundbreaking. Moving away from the traditional approach of accepting historical dates as fact or (in the case of Reddé) trying to verify or disprove them by archaeological data alone, Saddington tried to argue for a revision of fleet chronology on the basis of his analysis of Julio-Claudian fleet epigraphy, arguing that this showed that none of the provincial squadrons could have been

⁸³ Despite declaring his study as “book devoted exclusively to the CLASSIS BRITANNICA” (Mason (2003), p. 14), Mason discusses events on the Rhine in AD 14 (p. 20), as well as the Danube (pp. 21&22) in order to trace the origins of the British fleet. The majority of data taken to support his 3rd chapter on ‘Organisation and size of the Imperial Fleets’ (pp. 27-34) is based on epigraphic data from the Italian fleets, while his chapter on vessel types is based on data from Morrison's reconstruction of a Greek trireme (pp. 40-44), iconography from North Africa and the Levant, as well as that from Trajan's column (pp. 44&51-61 [see also pp. 21-26 on a discussion of the column's iconography]) and further literary references to the campaigns in Germany (pp. 48&49), as well as late Roman sources (pp. 37&46). The section on fleet bases (pp. 61-66), while including data from London, is based primarily on reports of the excavation at Velsen in Holland, Cologne in Germany, the main Italian and North African ports as well as the Athenian ship-sheds at Zea.

⁸⁴ See also chapter 5 on the CLASSIS BRITANNICA, below.

⁸⁵ Mason (2003), pp. 120-128.

⁸⁶ E.g. Rankov (1995); Chapters 1 and 2 of Guillerm (1993); Webster (1969).

⁸⁷ Fiebiger (1899).

created before the middle of the 1st century AD⁸⁸. A further survey of literary references to naval activity showed that no sources actually refer to established fleets on the northern frontier during the Julio-Claudian campaigns. On this basis, Saddington proposed that in looking at Roman naval activities throughout the Empire one should distinguish between ‘standing fleets’ and what he called ‘invasion fleets’ – *ad hoc* created naval squadrons, created in response to a direct military requirement and not of a permanent nature⁸⁹.

Various ideas of Saddington’s are taken up and developed further in some of the more recent fleet studies – notably in Konen’s study of the CLASSIS GERMANICA discussed above and the research published by the *Museum für Antike Schifffahrt* at Mainz⁹⁰. A recent paper by Rankov, looking at the CLASSIS BRITANNICA, picks up on this and highlights various issues in current understanding that Mason, for example, fails to develop⁹¹. Crucially, Rankov looks at concrete data such as tiled stamps, inscriptions and associated forts for the British fleet, establishing that the evidence suggests operations of this unit must have been far more limited than frequently assumed in past scholarship⁹².

⁸⁸ Saddington (1990b); Saddington (1988). See also Saddington (2007).

⁸⁹ Saddington (1990a), pp. 229&230.

⁹⁰ Pferdehirt (1995); see also <http://www1.rgzm.de/Navis/home/frames.htm> under the headings “Themes” and “Fleets and Frontiers”. The original text by Pferdehirt is the German version.

⁹¹ Rankov (2005). See especially p. 62 which suggests that the CLASSIS BRITANNICA may have developed out of the earlier ‘invasion fleets’ of Caligula and Claudius. Rankov makes it clear, however, that the transition to its becoming a permanent ‘standing fleet’ can not be pinpointed with accuracy, as the earliest reference to a *classis* in literary sources dates to AD 70. The remainder of this article challenges a number of common assumptions, such as that the fleet was actively involved in supply of the British army (pp. 63-64).

⁹² Rankov (2005), p. 65: according to Rankov, concrete evidence for fleet activity is only found in the English Channel region (apart from inscriptions related to the building of Hadrian’s Wall), while the size of the forts at Boulogne and Dover allows for a navy of, at most, around 100 vessels. The article also includes a revealing discussion of the types of vessels used by the fleet (pp. 62-64) and the way they were constructed and maintained (including possible explanations for the lack of ship-sheds associated with the provincial fleets [pp. 67-69]).

I.IV METHODOLOGY

The above overview of evidence for naval activity and summary of the main monographs on the topic has shown various aspects of the current understanding of Rome's fleets to be inconsistent or controversial. Yet a significant proportion of these instances are caused not so much by the evidence itself or lack thereof, but by scholars' approaches to data appertaining to Roman naval history. Indeed, many misconceptions are rooted in an uncritical acceptance of frequently problematic ancient literary sources by early scholars of the Roman fleets⁹³. Literal readings of some sources, combined with the direct application of modern concepts of a 'navy', have resulted in some distorted views. More recent studies that attempt to present comprehensive 'overall histories' have exacerbated these problems by accepting results of problematic studies as fact and using them to develop further theses. This created models that are far removed from any evidence for naval activity in the Roman period⁹⁴.

Studies that focussed on archaeological evidence, rather than relying solely on epigraphic data and ancient literary sources, have produced more refined models of the Roman fleets – often differing starkly from established and accepted theses⁹⁵. While the inclusion of archaeological data in any assessment of Roman naval activity has by now become standard, there are still vastly different approaches to the study of Rome's fleets. The discussions of past scholarship above show how studies that separate literary evidence from archaeological and epigraphic data result in clearer arguments and more fruitful conclusions

⁹³ In order to present comprehensive histories of a "Roman Navy", many early 'fleet historians' (e.g. Starr [1993]; Fiebiger [1899]; Kromayer [1897]; Chapot [1896]; Mommsen [1881]) accepted data without due critical analysis, creating theoretical models based on the limited evidence available at the time as well as current concepts of a navy. Such models have had to be revised in view of archaeological or epigraphic discoveries, but theories proposed by Mommsen or Starr continue to be accepted as fact (e.g. Viereck [1996]), particularly so in general historical works that briefly refer to fleet activity as an aside (e.g. Horn [2002], pp. 114&115).

⁹⁴ This is particularly true in the case of Viereck (1996) and some summaries of individual fleets, as well as references to fleets in more general historical research (e.g. Black [2000]; Mitova-Džonova [1986]; Cleere [1977]; Reed [1975]; Condurachi [1974]).

⁹⁵ See for example the reinterpretation of the early history of the CLASSIS MOESICA in Sarnowski (1987), pp. 261&262 as well as the discussions on Reddé (1986) on pp. 14&15 above and Konen (2000) on pp. 17-19 above.

than those with a mixed argument⁹⁶. In this, it is important to note that studies that establish a firm archaeological and epigraphic base before supplementing this with literary evidence appear more successful than approaches that create a framework on the basis of literary evidence alone, into which archaeological and epigraphic data is then made to fit⁹⁷.

On this basis, future research ought to focus on relevant archaeological and epigraphic data and establish a basis of firm evidence from which to draw tenable historical conclusions in line with – or, if necessary, disproving – ancient literary sources. Such an approach, covering Roman naval history from the Punic Wars to Late Antiquity, would significantly exceed the scope of a doctoral thesis. It would furthermore have to be at least tripartite in nature, as Roman naval policy differed drastically between the Republic, Principate and Late Antiquity⁹⁸. Ancient sources and epigraphic data imply that it was during the Principate that Rome's fleets were established as permanent units that retained their structure for an extended period⁹⁹. It appears sensible, therefore, to limit this study to the 1st to 3rd centuries, as research based primarily on archaeological and epigraphic data is more likely to produce pertinent results when investigating established structures, rather than flexible and variable strategies such as the naval policies of the Republic and Late Antiquity. This timeframe has a direct bearing on the data that is to form the basis for this study: the 1st to 3rd centuries AD have produced the most reliable and comprehensive corpus of epigraphic data for the Roman Empire, as well as most of the useable military diplomata that have been found to date.

Within this timeframe, Rome's naval forces consisted of two Praetorian fleets in Italy and at least eight provincial fleets spread throughout the Empire¹⁰⁰. Any study of the Misene

⁹⁶ See, for example, the clear arguments and positive results of Reddé (1986) [pp. 13&14, above] as opposed to the problems identified in Konen (2000) [notes 72&73, above] and Mason (2003) [notes 79&80, above].

⁹⁷ Typified in the different approaches of Reddé (1986) and Bounegru & Zahariade (1996).

⁹⁸ See pp. 8-10 above.

⁹⁹ As opposed to the flexible arrangements in direct response to a conflict seen during the Republic or the multiplicity of smaller units of the later Empire (see pp. 9&10 above). On the issue of established fleets see also Rankov (1995); Saddington (1990a); Saddington (1990b); Saddington (1988).

¹⁰⁰ The CLASSES PRAETORIA MISENENSIS and PRAETORIA RAVENNATIS as well as the CLASSES BRITANNICA, GERMANICA, PANNONICA, MOESICA, PONTICA, SYRIACA, ALEXANDRINA and NOVA LYBICA. A further squadron may have been based in Mauretania. See discussion above, pp. 10.

and Ravennate fleets must be based primarily on epigraphy, as reliable archaeological evidence for these units is extremely limited¹⁰¹. The epigraphy of the Praetorian fleets, however, has practically been studied to exhaustion by numerous scholars¹⁰². Without the discovery of new, ground-breaking data, it seems unlikely that the remaining problems in this field can be resolved¹⁰³.

The study of individual provincial fleets, on the other hand, has produced interesting results in the past decade¹⁰⁴. In Europe in particular, archaeological research over the past years created a firm new base of evidence that may be used to re-examine Roman naval activity, in the manner proposed above¹⁰⁵. The scale – and, frequently, lower standard – of archaeological research on the eastern Black Sea littoral, in the Near East and North Africa, however, cannot be compared to the situation in Europe. In order to create as comparable an archaeological basis as possible between the provincial fleets studied, both in terms of quality and quantity of research, it therefore appears sensible to limit this study of 1st to 3rd century naval activity to the northern frontier of the Roman Empire, i.e. Britain and the Rhine and Danube provinces.

These chronological and geographical limitations necessitate that this study examine four provincial squadrons in detail – the CLASSIS BRITANNICA in Britain, CLASSIS GERMANICA on the Rhine and the CLASSIS PANNONICA and CLASSIS MOESICA on the Danube¹⁰⁶. As discussed above, the most interesting results have in the past been reached by studies of

¹⁰¹ While it is likely that the Praetorian fleets used harbours throughout the Mediterranean, concrete proof for their presence at sites is limited: e.g. the main bases at Misenum and Ravenna (see note 11 above) and Vespasianic work at the harbour of Seleucia Pieria (Starr [1993], p. 115; see Erol & Pirazzoli [1992])

¹⁰² E.g. Spaul (2002); Reddé (1995); Starr (1993); Kienast (1966); Sander (1957); Wickert (1949)

¹⁰³ This is highlighted by Pferdehirt (1997), who suggests plausible new solutions to various problems, including that of *trierarchi* and *nauarchi* but is unable to prove their accuracy due to lack of sufficient data. Spaul (2002), on the other hand, fails to present any new arguments, merely listing existing evidence (frequently inaccurately).

¹⁰⁴ E.g. Mason (2003); Konen (2000); Bounegru & Zahariade (1996) - although each of these studies suffers from problems in their approach to the study of Roman naval history (see pp. 16-20 above).

¹⁰⁵ As, for example, at the CLASSIS GERMANICA base in Cologne-Alteburg (most recently Hanel [2004]; Brunotte & Schulz [2003]; Fischer [2002]; Fischer [2001]). See also site discussion below, pp. 185-191.

¹⁰⁶ Due to lack of archaeological evidence or literature, the CLASSIS PONTICA is not included. Aside from overviews in general treatises (e.g. Starr [1993], pp. 125-129; Meijer [1986], p. 216) and research based on literary evidence such as Josephus' *Ἱστορία Ἰουδαϊκου πολέμου* (e.g. Saddington [2007], p. 215) the only study dealing directly with this fleet is a brief evaluation of a collection of related inscriptions (French [1984]).

individual Roman fleets. As such, each of the four subsequent chapters is dedicated to a single fleet. The summarizing conclusion that forms the final chapter combines the results of each ‘case study’ in an attempt to draw more wide-ranging conclusions about the structure of the four provincial fleets studied in particular and naval activity on the northern frontier in general.

The reasoning behind the order of the four chapters is based on their geographic distribution as suggested by recent research (Fig 1.7): the CLASSIS PANNONICA is the only true riverine fleet, while the CLASSIS MOESICA and CLASSIS GERMANICA are both believed to have operated in coastal as well as river environments. The chapter on the CLASSIS BRITANNICA is placed last, as this fleet was stationed around an island in a primarily coastal environment. On the basis of their geography alone, it might therefore be presumed that distributions of archaeological traces of the CLASSIS PANNONICA and CLASSIS BRITANNICA might differ significantly, while the results of research into the CLASSIS MOESICA and CLASSIS GERMANICA should lie somewhere between the two.

As each of these four units has its own problems and history of research, each chapter begins with an introduction to the fleet in question. These sections deal with past scholarship and problems therein, geographical distribution and issues affecting quality and quantity of relevant archaeological data¹⁰⁷. It has been established that the uncritical repetition of doubtful results of earlier studies forms a major issue in the study of Rome’s naval forces. This factor, as well as some scholars’ evident desire to identify as many fleet bases as possible, whatever the evidence¹⁰⁸, means that the identification of permanent fleet bases in current literature has to some extent become unreliable. This is particularly true of sites identified on a solely epigraphic basis or at the hand of stamped tiles alone. A single inscription, after all, need not imply anything more than the temporary presence of a single soldier or vessel at a site and

¹⁰⁷ As, for example, problems caused in the study of the CLASSIS PANNONICA due to sites’ location in countries with significantly different archaeological approaches such as Hungary, Bosnia and Serbia. See below, p. 89.

¹⁰⁸ This is particularly true of Viereck (1996), see p. 13 above, and Bounegru & Zahariade (1996), see pp. 15&16 above.

could – for example in the case of a deceased fleet veteran¹⁰⁹ – have no bearing on any fleet base whatsoever¹¹⁰. Equally, a sole shipment of stamped tiles as part of a general supply of building materials, or even a single stamped tile found in a secondary context can hardly be taken as proof of an established naval base – although such evidence has frequently been taken to imply just that in past research¹¹¹.

In view of these problems, it is necessary to revise current scholarship and survey primary data related to the fleets, in order to establish reliable lists of permanent bases along the northern frontier on the basis of concrete evidence. These can then serve as the ‘firm archaeological bases’ from which to draw further conclusions. Such an approach may also offer an opportunity to rectify some current misconceptions as to where the four fleets under investigation actually operated.

In order to create an accurate reflection of data related to the fleets, the main sections of each of the subsequent chapters contain series of site discussions. In these, *all* bases of the respective fleet as identified in current literature, as well as further sites that produced relevant evidence, are plotted on regional maps and discussed in detail in order to re-evaluate their status as permanent fleet base. The volume of data presented in these site discussions is then assessed according to three main criteria: number of relevant inscriptions, quantity of stamped tiles and archaeological data indicating naval activity such as harbour-remains or actual vessels. Relevant results are plotted and compared to the original distribution map of fleet sites. These plots are accompanied by discussions of each type of evidence in order to avoid mixed argumentation wherever possible.

As has been stated above, not one of the genres alone is sufficiently reliable to ensure identification of a permanent naval base. The three plots – epigraphy, stamped tiles and

¹⁰⁹ As in the case of the deceased veteran of the CLASSIS GERMANICA who died at the landlocked site of Bad Münstereifel. See **CIL XIII, 7941**. See Appendix IV.

¹¹⁰ The dedication of an altar to Neptune such as that set up by the centurion Caius Marius Maximus from Laach (**AE 1923, 32**), for example, need not imply a permanent fleet presence at this site. It could simply have been set up in completion of a vow made during a storm or other naval difficulty upon safe deliverance from it.

¹¹¹ As in the case of Richborough, see below, pp. 265&266.

archaeology – are therefore combined in maps to show the types of evidence at each site – as well as ‘insufficient’ or ‘inconsequential’ evidence¹¹². This enables a visual representation of the range of operations of each fleet through a plot of relevant data. Due to the inherent problems in epigraphic data and stamped tiles, as discussed above, the existence of permanent bases can only be postulated at sites that combine at least two genres of evidence¹¹³. While this approach may appear overly negative, it is necessary in order to ensure that further theories on the history and development of naval power on the northern frontier during the Principate rest on a foundation of reliable data. At the same time it produces a completely justifiable line of argument for the identification of fleet bases. This results in a reliable list of permanent naval bases on the northern frontier according to the data currently available which may serve as basis for any further historical work on the CLASSES PANNONICA, MOESICA, GERMANICA and BRITANNICA during the Principate.

The discussions of data for each fleet include preliminary conclusions relevant only to the respective fleet – frequently relating back to problems identified in each introductory section. In this way, each fleet is accorded a discussion of its own, as identified as desirable in the survey of past research above¹¹⁴. The results of each fleet study are then combined in the conclusion of this thesis which discusses them in the wider context of fleet studies in general and our understanding of 1st to 3rd century Roman naval policies in particular.

¹¹² ‘**Insufficient** evidence’ could be a single inscription, or reused tilestamps, while ‘**inconsequential** evidence’ is data indicating a naval presence that is not connected to the standing fleets of the 1st to 3rd century, e.g. Byzantine harbour-works or an inscription of naval personnel not attached to a standing fleet such as the *disces epibata* of LEG VII CLAUDIA on **CIL III, 14567** from *Viminacium* (see below, pp. 92).

¹¹³ In the case of inscriptions or stamped tiles these must furthermore occur in sufficient numbers. In the case of archaeological data, it must, of course, date to the 1st-3rd centuries AD.

¹¹⁴ See p. 17 above .

CHAPTER II

THE CLASSIS PANNONICA

II.I INTRODUCTION

In comparison to the other provincial fleets under investigation, the CLASSIS PANNONICA has seen relatively little study¹¹⁵. As such, its history and development are by no means clear. There are two main theories regarding the fleet's establishment: one group of scholars, following Starr, sees it involved in the earliest Balkan campaigns, such as the siege of *Siscia* in 35 BC, as well as the Augustan advance towards the Danube in 15/12 BC¹¹⁶. Others argue that the honorific FLAVIA in the full title of the CLASSIS FLAVIA PANNONICA¹¹⁷ indicates its creation during the Flavian period, most likely in the reign of Vespasian¹¹⁸. This necessitates an implicit acceptance that earlier references to naval activity refer to units drawn from other fleets, or *ad hoc* naval squadrons created in direct response to a temporary requirement¹¹⁹. While various inscriptions confirm the existence of the CLASSIS PANNONICA throughout the 2nd century¹²⁰, the fleet's development in the 3rd century is not understood as the last associated inscription dates to AD 201/207¹²¹.

While the current understanding of the Danube fleet's historical development is problematic, its geography is even less clear. Starr argued that the fleet initially operated

¹¹⁵ Apart from relevant chapters in general works (e.g. Starr [1993], pp. 138-141 and Reddé [1986], pp. 298-303 on its bases), few articles have dealt directly with this fleet (Dimitrijević [1996]; Hošek (1994); Zaninović [1993]; Soproni [1990]; Soproni [1987]; Heydendorff [1952]).

¹¹⁶ E.g. Starr (1993), p. 138; Mocsy (1962), p. 623. Zaninović (1993), p. 58 states that the CLASSIS PANNONICA originated in the campaigns of 35 BC, arguing further for its direct involvement in quelling the revolt of AD 6-9. Strangely, he argues that it was established under Vespasian at a later stage of the article.

¹¹⁷ As seen on most inscriptions (see Appendix II), as well as in the acronym CLFP on its stamped tiles (Fig. 2.1).

¹¹⁸ E.g. Dimitrijević (1996), p. 144. While Reddé (1986), p. 298 notes the use of naval forces during the occupation of the Balkans, he suggests that a permanent fleet was only established during the Flavian period (Reddé [1986], p. 300). Presumably this is the very argument Zaninović tries to make, but fails to communicate (see note 116 above). Soproni (1990), p. 732 argues that Tacitus, *Annales* XII, 30 indicates that the CLASSIS PANNONICA must have been in existence by AD 50. The problems surrounding the historical development of the CLASSIS PANNONICA prompt Hošek (1994) to disregard its establishment or development entirely. He concentrates solely on various tasks it may or may not have fulfilled (a debate based primarily on interpretations of the column of Marcus Aurelius) and tries – unconvincingly – to argue that the Pannonian fleet consisted of both military vessels and ships belonging to private contractors (see Hošek [1994], p. 24).

¹¹⁹ Thereby validating the theses of Saddington (see pp. 20&21 above).

¹²⁰ There is also general agreement amongst scholars of the CLASSIS PANNONICA that the depictions of ships on the column of Marcus Aurelius, however 'conventionalised', are evidence of its direct involvement in the Marcomannic Wars (e.g. Starr [1993], p. 140; Heydendorff [1952], p. 150).

¹²¹ Starr (1993), p. 140.

along the Danube from *Carnuntum* to the Iron Gates until the division of *Pannonia* into two provinces under Trajan. During this reform it was assigned to *Pannonia Inferior* with a main base at *Taurunum*. According to Starr, however, duties of the CLASSIS PANNONICA included regular patrols of the upper reaches of the Save and Drave rivers, extending its area of operations well into *Pannonia Superior*¹²². Current scholarship agrees that the fleet headquarters were located at *Taurunum*¹²³, but the geographic extent of regular fleet operations is less clear. While operations on the Danube between *Carnuntum* and the Iron Gates are assumed by the majority of scholars, a number of articles extend Starr's thesis, suggesting that the fleet operated along the Save and Drave, as well as its subsidiaries¹²⁴. Heydendorff implied that operations of the CLASSIS PANNONICA extended far beyond the limits of the two *Pannoniae*, arguing that the fleet controlled the Danube as far upstream as *Castra Regina*, a premise developed further by Viereck¹²⁵. The wide range of fleet operations suggested in these studies leads both scholars to identify fleet bases throughout *Pannonia Inferior*, *Pannonia Superior*, *Noricum*, *Raetia* and perhaps even *Regio X* of Italy¹²⁶ (Fig. 2.2).

The thesis that the CLASSIS PANNONICA's regular area of operations covered at least two, if not five, Roman provinces throws up a significant question in terms of fleet administration: the praefecture of the Pannonian fleet was sexagenary, and therefore subordinate to the command of any provincial governor¹²⁷. It is furthermore clear from

¹²² Starr (1993), pp. 138-40. While diplomata such as CIL XVI, 91 list the CLASSIS PANNONICA as part of the *exercitus Pannoniae Inferioris*, Starr argues that its range of operations included *Pannonia Superior* on the basis of CIL VIII, 7977, which links a praefect of the Pannonian fleet with a governor of both provinces, and CIL III, 4025 from *Poetovio*, dedicated by a *trierarchus* of the CLASSIS PANNONICA. Such evidence, however, is tenuous at best.

¹²³ E.g. Dimitrijević (1996), p. 144; Reddé (1986), p. 300.

¹²⁴ Dimitrijević (1996), p. 154; Visy (1994), p. 86. Reddé (1986), p. 299 argues that any evidence for naval activity along these rivers dates to the late Roman period, suggesting that during the Principate the defence of the Pannonian frontier was organised in a linear system along the Danube, while late Roman frontier defence adopted an 'in-depth' approach along the main routes into the interior.

¹²⁵ Viereck (1996), pp. 221, 227-230, 255&256; Heydendorff (1952), p. 151. Reddé (1986), pp. 300-301 discusses a number of sites along the upper reaches of the Danube, but argues that these need not have served as fleet bases.

¹²⁶ It has recently been questioned whether *Emona* may not have been located in *Regio X* rather than in *Pannonia Superior* (see Šašel-Kos [2002]).

¹²⁷ E.g. Pferdehirt (2002), pp. 56&57 (*erratum*: 80.000 is supposed to say 60.000); Pferdehirt (1995), p. 37; Mocşy (1962), p. 624.

military diplomata that from AD 107 onwards the CLASSIS PANNONICA was part of the *exercitus Pannoniae Inferioris*¹²⁸. As such, the extent of fleet operations suggested by current research implies that the governors of *Pannonia Superior*, *Noricum* and *Raetia* would have had to allow a unit not under their command (namely the Pannonian fleet) to operate in their provinces. This model seems problematic in view of the otherwise relatively clear structures of Roman frontier control as currently understood.

The wide geographic spread of sites currently associated with the CLASSIS PANNONICA furthermore presents difficulties for its study due to varying levels of archaeological research, in terms of both quantity and quality, between the modern countries of Germany, Austria, Hungary, Croatia, Bosnia and Serbia. This problem is aggravated by the political situation in former Yugoslavia, which has created a difficult framework for archaeological research at the best of times¹²⁹. In the affected areas, such difficulties have often led to sites being identified as fleet bases not because of any concrete evidence for naval activity, but on the basis of unreliable literary sources. Most frequent amongst such problematic methods is the recurring assumption that sites identified as fleet bases in the *Notitia Dignitatum* must also have served as stations of the CLASSIS PANNONICA from the 1st-3rd century¹³⁰. It is therefore necessary to reassess the sites currently identified as bases of the Pannonian fleet (**Fig. 2.2**), in order to identify reliable evidence from which any further conclusions regarding its history and development may be drawn, as stated in Chapter I.

¹²⁸ See note 122 above.

¹²⁹ The lack of excavation in the former Yugoslav nations is only part of the problem. The biggest challenges posed to Western scholars lie in access to publications, as series have been stopped or have changed titles. Often articles are impossible to locate - see Wilkes (2005), pp. 124-136. A further issue is the frequent use of archaeology as a political tool to disseminate propaganda and current ideology, frequently falsifying or biasing interpretations.

¹³⁰ E.g. Mocşy (1962), p. 624. See also the discussion in Reddé (1986), p. 300-301.

II.II SITES

1. CASTRA REGINA (Regensburg)¹³¹

Regensburg is situated at the most northerly point of the Danube Limes, near the confluences of three major Danube tributaries, the Laaber, Naab and Regen¹³². While the site is known mainly for its legionary fortress¹³³, it also had an auxiliary fort¹³⁴ and civilian settlement. As there is no evidence that the settlement ever acquired the legal status of a city, it appears that it remained under military control throughout its history¹³⁵. Regensburg is well excavated, but any overall understanding of the site and its development is limited by its urban nature. There is evidence for continuous settlement from the Roman period until the present. A pre-Roman settlement has been suggested, but not yet proven archaeologically¹³⁶.

The legionary fortress at Regensburg, base of LEG III ITALICA CONCORDIA was built in preparation for Marcus Aurelius' Marcomannic wars in the later 2nd century¹³⁷. A building inscription indicates that it was garrisoned by AD 179¹³⁸. The fortress measures 540 x 450m (24.3ha) and follows a north-south alignment. It was built in stone from the outset¹³⁹. While small finds attest continuous use throughout the late Roman and early medieval period, the development of the fortress in the 3rd and 4th centuries and remains unclear¹⁴⁰.

A fortlet at nearby Großprüfening has been shown to be contemporary with the legionary fortress. It is usually presumed that the 60 x 80m (0.48ha) installation controlled the valley of the Naab as well as the river's confluence with the Danube¹⁴¹.

¹³¹ Site numbers in this chapter correspond with those used in the distribution maps, Figs. 2.2, 2.14, 2.15, 2.16, 2.17

¹³² Fischer (1986b), p. 146; Ulbert (1960), p. 65.

¹³³ Ulbert (1960), p. 64.

¹³⁴ Ulbert (1960), p. 65.

¹³⁵ Ulbert (1960), p. 65.

¹³⁶ Fischer (1986b), p. 146.

¹³⁷ Dietz & Fischer (1996), p. 78; Ulbert (1960), p. 69.

¹³⁸ Dietz & Fischer (1996), p. 84; Ulbert (1960), p. 72.

¹³⁹ Ulbert (1960), p. 72.

¹⁴⁰ See Reuter (2005); Dietz & Fischer (1996), pp. 155ff; Ulbert (1960), pp. 75ff.

¹⁴¹ Fischer (1986b), p. 148.

An important auxiliary fort is located at Regensburg Kumpfmühl. Established in the Flavian period, it represents the earliest evidence of Roman occupation at Regensburg¹⁴². Its elevated position dominates the Danube valley at a point where it is crossed by a Roman road. Evidently, the fort was established to control this river crossing¹⁴³. Excavations at the site have shown that the initial earth and timber fort was replaced by a stone installation of 1.9ha during the reign of Hadrian or Antoninus Pius¹⁴⁴. The fort follows a rectangular plan along a north-south axis and was protected by a 2m thick wall and a ditch¹⁴⁵. While the size of the fort is usually published as 160 x 137m (2.19ha), a recent study has shown that these figures are not entirely reliable, as they have been determined solely by tracing stone robber trenches. In some cases, however, these may not actually belong to the auxiliary fort of the 2nd century¹⁴⁶. The fort at Kumpfmühl was destroyed in the early stages of the Marcomannic wars and not reoccupied. It is a rare example of a destruction layer actually containing small-finds that allow a clear association with the Marcomannic wars¹⁴⁷.

A *vicus* with several pottery dumps that provide dates corresponding to those above extends around the fort¹⁴⁸. Bath buildings in the *vicus* area produced a large number of stamped tiles¹⁴⁹. Such tiles, mentioning several units, are found across the site. A large number of COH II AQTIVANORVM tiles indicate that this was the main garrison up to the Marcomannic Wars¹⁵⁰. Other units found on tiles from Kumpfmühl include COH I FLAVIA

¹⁴² Fischer (1986b), p. 146; Ulbert (1960), p. 66. The date is supported by the fact that the numismatic and ceramic evidence from Kumpfmühl is identical to the material from nearby Eining. This fort was established under Titus (AD 79-81), as shown by a building inscription. See also Dietz & Fischer (1996), p. 45.

¹⁴³ Ulbert (1960), p. 67.

¹⁴⁴ Dietz & Fischer (1996), p. 46; Ulbert (1960), p. 67; these dates, however, are not clearly supported by archaeological data. It has merely been assumed that the fort was built in stone at the same time as other forts on the Raetian Limes. As there is no evidence to contradict this claim, a Hadrianic – Antonine date is presumed.

¹⁴⁵ Ulbert (1960), p. 68.

¹⁴⁶ Fischer (1986b), p. 146.

¹⁴⁷ Dietz & Fischer (1996), p. 63; Fischer (1986b), p. 146; Ulbert (1960), p. 69.

¹⁴⁸ Ulbert (1960), p. 68.

¹⁴⁹ Ulbert (1960), p. 68.

¹⁵⁰ Schleiermacher (1959), p. 58; Steinmetz (1926), p. 24ff – notably, none of the stamped tiles from Regensburg indicate the presence of a fleet.

CANATHENORVM MILL EQ SAGGITARIORVM, ALA I FLAVIA SING CIV ROM P F, COH III BRITTANORVM EQ and COH III THRACVM CIV ROM EQ BIS TORQ¹⁵¹.

While there is no epigraphic evidence to indicate a naval presence at Regensburg, finds from the “Eiserner Steg” area have been taken to indicate a Roman military harbour: excavations in 1900 revealed large ashlar with associated small finds, as well as a “large amount of rubble including Roman material”¹⁵². The finds include *terra sigillata* fragments as well as coarse-wares, *tegulae*, nails, belt-fittings, axes, a key and coins. The assemblage was assumed to have come from a harbour site associated with the legionary fortress¹⁵³. A recent evaluation of associated numismatic evidence, however, identified that the finds date to the 3rd century, and can therefore not be related to the establishment of the fortress in AD 179¹⁵⁴. Indeed, there is no evidence that the finds relate to a harbour installation – or even that they are military. Given their findspot, they are more likely to come from a sunken cargo vessel¹⁵⁵.

A significant number of inscriptions show that the main garrison of Regensburg was LEG III ITAL CONCORDS¹⁵⁶. The site has also produced diplomata from AD 113¹⁵⁷ and 153¹⁵⁸. Neither of these, however, mentions a provincial fleet. In view of the absence of any fleet related data, there is no reason to assume a naval presence at Regensburg, despite various references to the contrary in modern scholarship¹⁵⁹.

2. BOIODURUM/CASTRA BATAVA/BOIOTRO (Passau)

Passau is a strategically important site at the confluence of the Danube and Inn¹⁶⁰, reflected in its role as an important military base throughout the Roman period (Fig. 2.3). The

¹⁵¹ Dietz & Fischer (1996), p. 53; Dietz et al. (1979), p. 66ff.

¹⁵² Dallmeier (2000), p. 73.

¹⁵³ Dallmeier (2000), p. 73.

¹⁵⁴ Dallmeier (2000), p. 73.

¹⁵⁵ Dallmaier (2000), p. 74 – contains further references on arguments for a harbour at the site.

¹⁵⁶ Ulbert (1960), p. 74.

¹⁵⁷ Dietz & Fischer (1996), p. 70.

¹⁵⁸ Dietz & Fischer (1996), pp. 54&69; Ulbert (1960), p. 68.

¹⁵⁹ E.g. Viereck (1996), p. 255; Heydendorff (1952), p. 151

¹⁶⁰ Friesinger & Krinzinger (1997), p. 150; Genser (1986), pp. 11ff.; Schönberger (1956), p. 43.

site is recorded in all major geographic sources¹⁶¹, and is identified as an important garrison in the *Notitia Dignitatum*¹⁶². The history of Roman Passau is fairly well known, though mainly conjectured as one of the three forts at the site has been partially excavated but remains unpublished. All that is known of this so called *Castra Batava* is that it was located between the Inn and Danube in the current old town of Passau. It was therefore situated in the province of Raetia, and was probably garrisoned by COHORS IX BATAVORUM¹⁶³.

A second fort, located on the southern bank of the Inn, has been identified as *Boiodurum*. It was excavated extensively in the early 20th century, the 1950s and 1980s¹⁶⁴, as well as in ongoing small scale rescue excavations¹⁶⁵. As no datable material has been published for the *Castra Batava*, it is not clear whether the two installations coexisted or whether *Boiodurum* housed an earlier garrison. The fort forms an irregular rectangle of c. 1.3ha, protected by 3 ditches¹⁶⁶. Most of its northern front appears to have been eroded by the river Inn, but any existing remains have been destroyed by the construction of a railway line¹⁶⁷. With one of the sides missing and many excavated features not clearly datable, current ‘understanding’ of this installation is, to a large extent, conjecture¹⁶⁸. Excavations at *Boiodurum* have produced a coin series spanning the period AD 79-268¹⁶⁹. Ceramic data confirms occupation in the 1st century, but no fine-ware forms pre-date AD 79. On this basis, it is argued that the fort must have been established under Domitian and was abandoned in the mid 3rd century¹⁷⁰.

¹⁶¹ Ptol. Geogr. II 12.5; TabPeut II,4; ItAnt 249,5.

¹⁶² Not. Dig. occ. xxxiv, 44 .

¹⁶³ Alföldy (1974), p. 58; Schönberger (1956), p. 75.

¹⁶⁴ 1906-1911 under F.J. Engel, see Friesinger & Krinzing (1997), p. 151; the 1950s excavations are published summarily by Schönberger (1956); work from the 1980s is summarized in Wandling (1989a).

¹⁶⁵ Wandling (1989b), p. 245, Wandling (1987).

¹⁶⁶ Friesinger & Krinzing (1997), p. 151.

¹⁶⁷ Friesinger & Krinzing (1997), p. 152; see also plans in Genser (1986), pp. 18&21.

¹⁶⁸ Schönberger (1956), pp. 55ff.

¹⁶⁹ Schönberger (1956), p. 61.

¹⁷⁰ For the date of establishment of *Boiodurum* see Schönberger (1956), p. 75 and Friesinger & Krinzing (1997), p. 152; for the proposed end see Friesinger & Krinzing (1997), p.152; unfortunately, no evidence is cited to support this claim, inviting the conclusion that the sole evidence for this date lies in the establishment of the later fort of *Boiotro* (see below, p. 36).

As the associated *vicus* and pottery kilns date to the mid 2nd century AD¹⁷¹, while coins and pottery from the civilian settlement suggest it was occupied throughout the 2nd and into the early 3rd century¹⁷², it appears unlikely that the *Castra Batava* superseded *Boiodurum*. The evidence seems to suggest instead that the two installations co-existed throughout most of the 2nd century¹⁷³.

Several tiles stamped NVMB and ALAE have been found at *Boiodurum*, but do not help to identify its garrison¹⁷⁴. The epigraphic record is similarly inconclusive. A number of inscriptions have been found in the area, but cannot be associated with *Boiodurum*¹⁷⁵. The only inscriptions certainly from Passau fail to name any units based here¹⁷⁶.

In the late 3rd century, *Boiotro* replaced the two forts discussed above (Fig. 2.4). This fortress remained the main military centre in this region throughout the late Roman period¹⁷⁷. It is the most westerly example of the late Roman ‘Altrip’ type of fortification, being trapezoidal in plan – long side facing the river – with projecting fan-shaped towers¹⁷⁸. The walls are up to 3.6m strong¹⁷⁹ and protected by a 2m deep and 8.5m wide defensive ditch¹⁸⁰. While the architecture clearly reflects the late Roman nature of the fortress, small finds confirm that it was occupied throughout the 4th and 5th centuries. The coin series, however, stops as early as AD 375¹⁸¹.

¹⁷¹ Wandling (1989a), p. 236.

¹⁷² Wandling (1989a), p. 236, see also Friesinger & Krinzinger (1997), p. 152.

¹⁷³ The dating of *castra Batava* to the 2nd century currently rests on the presence of COH IX BAT during this period. A precise date will only be available once excavation data has been evaluated and published.

¹⁷⁴ Friesinger & Krinzinger (1997), p. 153; Genser (1986), p. 23; Schönberger (1956), p. 62 – the latter argue that the NVMB stamped tiles may in actual fact read NVMER. See Genser (1986), pp. 24ff.

¹⁷⁵ Schönberger (1956), p. 58; While CIL III 5690, mentioning a *beneficiarius*, was found at nearby Wernstein, it cannot be assumed that this inscription originally came from *Boiodurum*. Indeed, another inscription found in the area, CIL III 5692, has been shown to come from the upstream site of Straubing. See Schönberger (1956), p. 59, esp. note 63. Nonetheless, it appears that there was a customs station at *Boiodurum*, which may well explain the presence of *beneficiarii*. See Schönberger (1956), p. 75.

¹⁷⁶ CIL III, 5691-5693.

¹⁷⁷ Friesinger & Krinzinger (1997), p. 145; Genser (1986), pp. 22ff.

¹⁷⁸ Friesinger & Krinzinger (1997), p. 146, see also plan in Genser (1986), p. 23.

¹⁷⁹ Friesinger & Krinzinger (1997), p. 146.

¹⁸⁰ Genser (1986), p. 23.

¹⁸¹ Friesinger & Krinzinger (1997), p. 149.

While the garrison of *Boiotro* is not known, there have been several attempts to identify a naval base at the site, none of which yielded conclusive results¹⁸². The thesis of a naval presence at Passau rests on some scholars' conviction that 'Altrip' style fortresses were used by naval units, and Höckmann's argument that the Passau fort was moved to the location of *Boiotro* in order to take advantage of local topography: a rocky promontory breaks the Danube stream near the site of the later base, creating calm water for a harbour¹⁸³ (Fig. 2.4). Yet such considerations are mere conjecture and therefore of little relevance to this study, as there is no evidence to indicate a naval presence at Passau during the first three centuries AD. Even were arguments in favour of a harbour at *Boiotro* to be accepted, this could only be relevant to the late Roman period.

3. IOVIACUM (Schlögen)

Situated in a Danube bend between Passau and Linz¹⁸⁴ and framed by the Andlersbach and Mühlbach rivers¹⁸⁵, Schlögen controls the entrance to one of the longest gorges on the Austrian Danube¹⁸⁶. It is usually identified as *Ioviacum*, a site listed in the *Notitia Dignitatum* as base of a naval detachment of LEG II ITAL¹⁸⁷. Despite extensive discussions, it has not been resolved whether this association is actually correct¹⁸⁸. As the site is identified in the Antonine Itineraries, however, it is clear that an earlier installation, for which Schlögen is the only candidate in the region, must have existed at *Ioviacum*¹⁸⁹.

¹⁸² See Höckmann (1998a) and Höckmann (1998b) for attempts to locate a harbour. Friesinger & Krinzinger (1997), p. 149 discuss possible garrisons. Viereck (1996), p. 255 also identifies Passau as a fleet base.

¹⁸³ For 'Altrip' style fortresses, see Höckmann (1998b), p. 12; see Höckmann (1998a), p. 21 on topography.

¹⁸⁴ Friesinger & Krinzinger (1997), p. 160.

¹⁸⁵ Bender & Moosbauer (2003), p. 223.

¹⁸⁶ Genser (1986), p. 44.

¹⁸⁷ Not. Dig. occ. xxxiv, 37.

¹⁸⁸ Friesinger & Krinzinger (1997), p. 160.

¹⁸⁹ ItAnt. 249, 1; see also Wilkes (2005), p. 194.

The site has a long research history that includes extensive excavation seasons, the latest of which took place in the 1980s¹⁹⁰. These identified several forts, the most studied of which is an irregular trapezoid fortlet, of 0.65ha that lies parallel to the Danube along an east-west axis¹⁹¹. The remains of its curtain wall stand up to 1.65m in places and there is evidence for the existence of interior towers¹⁹².

Finds from this main fort and its associated *vicus* (situated further west on an elevated plateau) indicate that it was built in stone in the third quarter of the 2nd century and occupied continuously until the mid 5th century¹⁹³. The site has two distinct phases, separated by a significant amount of material – up to 1.4 metres of deposits between the two phases of defensive ditches. The end of period 1 is marked by a destruction layer found throughout the site. While this makes the earlier phases easier to date, hardly any traces of structures associated with this period survive¹⁹⁴.

Coin finds from the destruction layer indicate that the earlier fort cannot have been destroyed before the second quarter of the 4th century¹⁹⁵. While fine-ware finds support a date of c. AD 200 for the establishment of the earlier fort, the pottery assemblage as a whole clearly indicates that the fort must have been built between AD 130 and 160¹⁹⁶. Unfortunately, there is virtually no datable material from the second period apart from associated coarse-wares, a chronology for which has yet to be established.

A feature with a width of 1.05m and a depth of 60cm depth has been interpreted as the foundations of a quay¹⁹⁷ (**Fig. 2.5**). A second quay is proposed on the basis of features of

¹⁹⁰ For a detailed history of excavations see Genser (1986), p. 45 note 3 (1833) & p. 47 note 22 (1950s); for the 1980s excavations see Friesinger & Krinzinger (1997), p. 162; see also Bender & Moosbauer (2003).

¹⁹¹ Bender & Moosbauer (2003), p. 223; Friesinger & Krinzinger (1997), p. 162.

¹⁹² Bender & Moosbauer (2003), p. 223.

¹⁹³ Friesinger & Krinzinger (1997), p. 163.

¹⁹⁴ Eckhart (1969), p. 50.

¹⁹⁵ Eckhart (1969), p. 51 argues that the fort must have existed by AD 200 because of two Caracallan coins (AD 198 & AD 201-201). This thesis cannot be supported, as the coins could have been in circulation for an extended period until finding their way into the fort. The destruction is dated through an issue of Licinius (AD 308-324) sealed in the destruction layer.

¹⁹⁶ See Eckhart (1969), pp. 51&52. The earlier fort must therefore be that identified in the Antonine Itineraries.

¹⁹⁷ Bender & Moosbauer (2003), p. 223; Eckhart (1969), p. 42.

comparable construction that run along a similar alignment¹⁹⁸. A stone block discovered nearby has been identified as a mooring stone that would have been situated on top of the postulated quay wall, considered by the excavators as proof that the structure was indeed used for mooring ships, rather than being a supporting wall to secure the river bank near the fort¹⁹⁹. A small road leads towards the ‘quayside’ from a side-gate of the fort. It has been used to argue that there was a significant amount of goods transport to and from the alleged mooring point. Indeed, one scholar suggests that it may have been a slipway for carrying out ship repairs inside the fort²⁰⁰.

This interpretation is not without problems: while exact water levels during the Roman period are unknown, the structure is about 35m away from the current Danube bank. It seems unlikely that in Antiquity the Danube actually came close enough to the fort for the walls to act as a quay. The rather fanciful identification of Schlögen as a naval base containing a *fabrica* for ship repairs inside the fort cannot be maintained, as it appears unlikely that vessels were carried up a ramp and into the fort for repairs²⁰¹. In addition to this, the remains inside the fort identified as ship-sheds are in no relation to the known sizes of vessels operating on the Northern frontier²⁰².

It appears that the remains have been interpreted as a quay and harbour simply because Schlögen is presumed to have been the naval base *Ioviacum* identified in the *Notitia Dignitatum*²⁰³. In themselves, the remains cannot be seen as conclusive evidence of a harbour – particularly in view of the fact that it is not even clear whether they were actually located

¹⁹⁸ Eckhart (1969), p. 42.

¹⁹⁹ Eckhart (1969), p. 43.

²⁰⁰ Eckhart (1969), p. 45.

²⁰¹ For the thesis of Schlögen as a naval base, see Eckhart (1969), p. 63. Bender & Moosbauer (2003), p. 224, argue succinctly that, even had the Danube reached the fort in Antiquity, there would still have been a difference of 11m between the river level and that of the elevated fort. The quay wall would therefore have been situated at least 6m above the waterline, making the docking of vessels impractical if not impossible.

²⁰² See Bender & Moosbauer (2003), pp. 228&229, comparing the structures’ sizes to the measurements of the vessels from Oberstimm (Oberstimm 1: 15.7m x 2.7m; Oberstimm 15.4m x 2.65m) and Mainz (Mainz 1: 21.6m x 2.79m; Mainz 2: 17.5m x 3.7m).

²⁰³ Friesinger & Krinzinger (1997), p. 161; see also Viereck (1996), p. 255 for identification of Schlögen as a naval base.

near the ancient course of the Danube. While the garrison of Schlögen in the 1st – 3rd century remains unclear, there is no conclusive evidence at the site to suggest a naval presence during this time.

4. LAURIACUM (Enns-Lorch)

While there is no epigraphic material from *Lauriacum*, the site can be identified on the basis of several records in ancient geographic sources²⁰⁴. It occupies a strategically important position on an elevated plateau dominating the confluence of the Enns and Danube rivers²⁰⁵. Some excavations were undertaken by Gaisberger in the 19th century, with more concentrated research carried out in the early decades of the 20th century. Aside from sporadic rescue excavations at the site, research in the later half of the last century focussed on the civilian aspects of the archaeology of *Lauriacum*²⁰⁶.

It has traditionally been assumed that the first military base at the site was an auxiliary fort for an *ala*²⁰⁷, but a recent assessment and revision of data from earlier excavations shows that there is nothing in the archaeological record to corroborate this assumption²⁰⁸. The main military phase of *Lauriacum* was the fortress of LEG II ITALICA²⁰⁹ with its significant extramural settlement. This was established in the course of the Marcomannic Wars²¹⁰ and continued in use until the late 5th century²¹¹.

The fortress measures 539 x 398m (21.5ha), with rounded corners and rectangular interior towers as well as horse-shoe shaped gate towers²¹². While the well-excavated interior follows the traditional layout of a legionary fortress²¹³, the entire plan is not rectangular but

²⁰⁴ ItAnt 235,1, 249,1, 256,6 & 258,2; TabPeut III,3; IV,1.

²⁰⁵ Genser (1986), p. 126.

²⁰⁶ Friesinger & Krinzinger (1997), p. 189; see also Genser (1986), pp. 129-136.

²⁰⁷ Vettters (1977), p. 359, see especially notes 26&27.

²⁰⁸ Friesinger & Krinzinger (1997), p. 188; Ruprechtsberger (1980), p. 11.

²⁰⁹ Eckhart (1983/4), p. 17; Ruprechtsberger (1980), p. 9; Vettters (1977), p. 355.

²¹⁰ Friesinger & Krinzinger (1997), p. 190; Eckhart (1983/4), p. 17.

²¹¹ Eckhart (1983/4), p. 18.

²¹² Friesinger & Krinzinger (1997), p. 191; Vettters (1977), p. 364.

²¹³ See plan in Vettters (1977), p. 364.

forms a parallelogram. Small finds from the excavations in the interior indicate that the fortress was constructed around AD 175-192. Various fragments of building inscriptions show that different interior buildings had been completed between AD 192 and AD 205²¹⁴. Numismatic evidence dates a destruction layer within the fortress to ca AD 270²¹⁵ and shows that the fortress was subsequently rebuilt under Aurelian and Probus²¹⁶.

While it is generally assumed that *Lauriacum* was the base of LEG II ITALICA, one inscription refers to a soldier of LEG XV APOLLINARIS²¹⁷. A single inscription, however, cannot be taken to imply any prolonged presence of this unit at the site. A large number of stamped tiles from *Lauriacum* refer to LEG II ITALICA. Yet several stamps show that auxiliary units also supplied building material for the legionary fortress²¹⁸.

There is no evidence in the archaeological record to indicate any form of naval presence, let alone that of the Pannonian fleet. It is clear, therefore, that the only basis for the assumed naval presence at *Lauriacum* is its mention in the *Notitia Dignitatum*, where it is identified as base of the CLASSIS LAURACENSIS²¹⁹. Clearly, this does not suffice to imply a base of the CLASSIS PANNONICA in the 1st to 3rd century.

5. ARELAPE (Pöchlarn)

The Roman fort of Pöchlarn is situated on the right bank of the Danube in a fertile plain²²⁰. Roman remains at the site have been recorded as early as the 16th century, with further observations known from the 17th and 18th century²²¹. These early scholars were able to associate Pöchlarn with *Arelape* on the basis of several ancient geographic sources²²². Systematic excavations were carried out from the mid 19th century until the outbreak of

²¹⁴ Eckhart (1983/4), p. 19; Vettors (1977), p. 363.

²¹⁵ Vettors (1977), p. 365.

²¹⁶ For a detailed discussion of layers and their dating, see Genser (1986), pp. 146-153.

²¹⁷ Friesinger & Krinzinger (1997), p. 188.

²¹⁸ Friesinger & Krinzinger (1997), p. 189.

²¹⁹ Not. Dig. occ. xxxiv, 43. For identification of the site as a naval base see Viereck (1996), p. 255

²²⁰ Genser (1986), p. 233.

²²¹ E.g. W. Lazius – for literary references and discussion see Genser (1986), p. 233 note 3.

²²² TabPeut III,5; ItAnt 234,3 & 248,5; Ptol. Geogr. II 13,2 & VIII 7,5.

WWII. For a long time, research took place only in the form of sporadic rescue excavations, until a large scale project of systematic excavation began in 1982²²³.

Until 1928, only the defensive ditches of the fort were known, and a theoretical reconstruction attempted on the grounds of data from the Upper German and Raetian frontier forts²²⁴. It has since been shown that there were two separate Roman forts at Pöchlarn, an earlier installation in earth and timber and a later one in stone. Interestingly, the later stone fort does not occupy the site of its predecessor²²⁵.

Small finds and fine-wares indicate a Roman presence at *Arelape* in the late 1st century²²⁶, but it is not clear whether these finds were associated with the earth and timber fort²²⁷. The date of the earliest garrison at the site therefore remains unclear.

Several units have been considered as garrison of *Arelape*, mainly on historical grounds. It seems most likely that it was COHORS I FLAVIA BRITTONVM, which is referred to on several inscriptions²²⁸. One of these has been dated to the 2nd century on stylistic grounds²²⁹. On this basis, it is generally assumed that the COHORS I FLAVIA BRITTONVM was based at *Arelape* from the reign of Hadrian or Antoninus Pius onwards.

There is no evidence at Pöchlarn that indicates any form of naval presence, although this has frequently been suggested²³⁰. Indeed, while the garrison is not known, it appears most likely to have been an infantry cohort. The naval association in other studies is based solely on the identification of the site as a late Roman fleet base in the *Notitia Dignitatum*²³¹, where it is listed as base of the *equites Dalmatae* and the CLASSIS ARELAPENSIS ET MAGINENSIS²³².

²²³ For detailed discussion of archaeological investigations at Pöchlarn see Genser (1986), pp. 233-235.

²²⁴ Genser (1986), p. 241.

²²⁵ Genser (1986), p. 242.

²²⁶ Stiglitz (1967), p. 136.

²²⁷ Genser (1986), p. 245.

²²⁸ For a discussion of possible garrisons see Genser (1986), pp. 242-245.

²²⁹ Stiglitz (1967), p. 132.

²³⁰ Wilkes (2005), p. 195; Viereck (1996), p. 255.

²³¹ Alföldy (1974), p. 343, note 12.

²³² Not. Dig. occ. xxxiv, 34&42 .

6. FAVIANA (Mautern)

Mautern is situated on an elevated plateau jutting into the Danube at a point where the river exits the narrow valley of the Wachau²³³, and is known from ancient literary sources²³⁴. While there has been some discussion regarding its identification in the 1970s, it has been positively identified as ancient *Faviana* (also termed *Favianis*) in recent investigations²³⁵.

Systematic excavations at Mautern have taken place under the auspices of the Austrian Archaeological Institute since WWII, although there had been sporadic earlier investigations²³⁶. A large scale project has been under way at the site since 1992²³⁷. The site is difficult to access archaeologically, as it underlies the modern village of Mautern. Only parts of the Roman fort are known, but its overall size is estimated at around 3ha. No interior buildings have been excavated²³⁸. Small finds indicate that the earliest occupation occurred during the Flavian period, but to date the only features that can be associated with this period are extensive destruction layers in the north-western area of the later fort²³⁹.

Two defensive ditches, identified as fort I, have been identified in several rescue excavations. As the individual sections identified do not align, it is virtually impossible to gauge the size of the earliest period²⁴⁰. Southern Gaulish and Italian *sigillata* associated with this earliest phase clearly indicate that it was established in the early Flavian period (AD 70/80)²⁴¹ and was occupied until the reign of Trajan²⁴².

A second fort existed from AD 100/110 – 120/140²⁴³. Very little is known of this fort, other than an approximate date range as indicated by small finds. It is usually assumed that it

²³³ Wilkes (2005), p. 196; Friesinger & Krinzinger (1997), p. 208, Genser (1986), p. 271.

²³⁴ See Genser (1986), p. 271 for references to Mautern in the *Vita Sancti Severini*.

²³⁵ Friesinger & Krinzinger (1997), p. 208.

²³⁶ Friesinger & Krinzinger (1997), p. 209.

²³⁷ See Groh et al (2002) and Gassner et al (2000); for a detailed discussion of earlier research and references see Genser (1986), pp. 271-276.

²³⁸ Friesinger & Krinzinger (1997), p. 210.

²³⁹ Friesinger & Krinzinger (1997), p. 210.

²⁴⁰ Groh et al (2002), p. 555; Gassner et al (2000), p. 382.

²⁴¹ Gassner et al (2000), p. 382.

²⁴² Groh et al (2002), p. 555.

²⁴³ Groh et al (2002), p. 555.

had the same basic plan as its better known successor and was built of earth and timber. As the entire installation has only been identified on the basis of isolated interior structures, however, such theories are merely hypothetical²⁴⁴.

As fort 3 / 4 was built of stone and remains of it have been found in several places, its plan could be reconstructed, suggesting an area of 175 x 175m (3.06ha)²⁴⁵. *Faviana* underwent significant changes in the late Roman period, when it became the base of the late Roman LEG I NORICORVM. Changes in the 4th century can be observed in the construction of new and larger walls with massive projecting towers²⁴⁶.

The *Notitia Dignitatum*²⁴⁷ identifies *Faviana* as base of a naval detachment of LEG I NORICORVM, but its earlier garrison is unclear. Several tiles at the site have been stamped COHIVB²⁴⁸, others are marked by COHORS II BATAVORVM²⁴⁹. Arguments for the latter unit as garrison seem to be supported by a military diploma which implies that the 2nd Batavian cohort was based here around AD 110²⁵⁰. From AD 140 onwards, COHORS I AELIA BRITTONVM MILLIARIA is thought to have occupied the stone fort at *Faviana*²⁵¹. Various legionary stamped tiles indicate that all Norican Legions provided building materials for this fort²⁵².

Clearly, the only evidence for a naval presence at Mautern is the mention of the *liburnarii* of LEG I NORICORVM in the *Notita Dignitatum*. As this is not supported by any archaeological evidence, however, the site cannot justifiably be argued to have been a fleet base in the 1st – 3rd centuries AD²⁵³.

²⁴⁴ Gassner et al (2000), p. 383.

²⁴⁵ Gassner et al (2000), p. 384.

²⁴⁶ Friesinger & Krinzinger (1997), p. 211.

²⁴⁷ Not. Dig. occ. XXXIV, 41.

²⁴⁸ These have been used to argue for the presence of COHORS I VBIORVM, an association that has not been accepted (see Genser [1986], p. 288).

²⁴⁹ Gassner et al (2000), p. 356.

²⁵⁰ CIL XVI, 174. See Gassner et al (2000), p. 354; Friesinger & Krinzinger (1997), p. 210.

²⁵¹ Friesinger & Krinzinger (1997), p. 210.

²⁵² Gassner et al (2000), p. 358&359.

²⁵³ Although this has been suggested, amongst others, by Viereck (1996), p. 255.

7. COMAGENA (Tulln)

Tulln is situated on the right hand bank of the Danube at the mouth of the “Grosse Tulln” river²⁵⁴, dominating the “Tullner Becken”, a large river plain in Lower Austria²⁵⁵. The site is mentioned in several ancient geographic sources²⁵⁶, and has been excavated more or less continuously from the late 19th century to the 1970s. Since then, research has been carried out primarily in the form of small scale rescue excavations²⁵⁷.

These investigations have shown that almost half of the Roman fort at the site has been eroded by the river, while extensive stone robbing and medieval re-use of remaining structures pose further difficulties for archaeological research²⁵⁸. It is estimated that the fort measured around 4.2ha, with side lengths of around 195 - 230m²⁵⁹. The earliest fort at Tulln was established in the late 1st century (presumably under Domitian) in earth and timber. It has been identified on the basis of sections of the eastern *vallum* as well as palisade post holes, several ditches and *liliae*²⁶⁰.

Several sections of later fortification walls were identified in the 1980s, including the *porta principalis dextra* which is built in stone with horse-shoe shaped projecting towers²⁶¹. The initial stone phase is presumed to be Trajanic. The fort was destroyed twice in the 3rd century, as indicated by two destruction layers dated between AD 258 and 283 on the basis of associated numismatic finds²⁶². A further destruction layer dates to the second half of the 4th century²⁶³. It appears that *Comagena* was immediately rebuilt after each of these events.

The garrison of the fort remains unclear. It is usually presumed to have been the ALA I COMMAGENORVM, which is believed to have given the site its name. The unit is known from a

²⁵⁴ Friesinger & Krinzinger (1997), p. 226.

²⁵⁵ Genser (1986), p. 357.

²⁵⁶ TabPeut IV,1, ItAnt 234,1 & 248,3.

²⁵⁷ Friesinger & Krinzinger (1997), p. 227; for a detailed history of archaeological investigations at *Comagena* see Genser (1986), pp. 357-359.

²⁵⁸ Friesinger & Krinzinger (1997), p. 226.

²⁵⁹ Genser (1986), pp. 361-363.

²⁶⁰ Friesinger & Krinzinger (1997), p. 228; Genser (1986), p. 363.

²⁶¹ Friesinger & Krinzinger (1997), p. 228. See also plan *ibid*, p. 226

²⁶² Friesinger & Krinzinger (1997), p. 229.

²⁶³ Friesinger & Krinzinger (1997), p. 229.

military diploma, several inscriptions and stamped tiles, all of which suggest that it occupied the fort at Tulln until the 3rd century²⁶⁴. The garrison of the earlier fort, however, is not known as the ALA I COMMAGENORVM can only have moved to *Noricum* in AD 106 seeing that it was stationed at *Talamis* in Egypt until then²⁶⁵.

In the *Notitia Dignitatum*, *Comagena* is identified as base of EQVITES PROMOTI as well as the CLASSIS (CO)MAGINENSIS²⁶⁶. In view of the complete absence of any evidence for an earlier naval base in the epigraphic or archaeological record, however, the identification of Tulln as a station of the CLASSIS PANNONICA cannot be maintained²⁶⁷.

8. VINDOBONA (Vienna)

Vindobona is the first site in this discussion actually located in one of the Pannonian provinces: several ancient geographical sources locate it in *Pannonia Superior*²⁶⁸. Throughout modern literature, the site is considered a base of the CLASSIS PANNONICA²⁶⁹, although the only known military structure at the site is a legionary fortress²⁷⁰. The earliest period of the fortress has an irregular plan of about 18.5ha²⁷¹; it was modified and extended to about 22.9ha in the 2nd century²⁷². Although it has never been excavated extensively because it lies beneath the modern city centre, enough individual sections of Vienna's legionary fortress are known to conjecture a sketch plan. The majority of theories regarding the interior layout, however, are based on the fully excavated officers' quarters²⁷³.

Individual small-finds, as well as a funerary inscription referring to LEG XV APOLLINARIS indicate a military presence at Vienna in the early 1st century, although this may

²⁶⁴ Friesinger & Krinzinger (1997), p. 227.

²⁶⁵ Friesinger & Krinzinger (1997), p. 227.

²⁶⁶ Not. Dig. occ. xxxiv, 36 & 42.

²⁶⁷ Viereck (1996), p. 255; Alföldy (1974), p. 343, note 12.

²⁶⁸ TabPeut IV,1; ItAnt. 248,2, 266,7, 261,4a & 266,4; Ptol. Geogr. II 14,3.

²⁶⁹ Visy (2003a), p. 54; Viereck (1996), p. 256.

²⁷⁰ Friesinger & Krinzinger (1997), p. 241.

²⁷¹ Friesinger & Krinzinger (1997), p. 244.

²⁷² Kronberger & Mosser (2002), p. 573.

²⁷³ Friesinger & Krinzinger (1997), p. 244.

only have been of a temporary nature²⁷⁴. The earliest identified phase of the legionary fortress dates to around AD 89²⁷⁵. A building inscription may suggest that the fortress was rebuilt in stone under Trajan, but the reading is uncertain as only small fragments survive²⁷⁶. Current research at Vienna indicates four main phases to the fortress. Established in earth and timber under Domitian, it was rebuilt in stone in the mid 2nd century. This stone phase has in the past been associated with both the Marcomannic wars and the Trajanic inscription mentioned above. It seems most plausible, however, that it actually is Hadrianic and associated with the arrival of LEG X GEMINA at Vienna²⁷⁷. A third period dates to the first half of the 3rd century, while final changes occurred in the early 5th century²⁷⁸. Due to the nature of urban excavations it is unclear whether these phases apply to the entire fortress, or are local modifications to individual sectors. The lack of data associated with the entire fortress has led to extensive discussions regarding the fortress' chronology. While the above periods are commonly agreed on, they are by no means conclusively proven by the archaeological record²⁷⁹.

Some of the most recent excavations in the *retentura* and *principia*, combined with a new project of digital mapping and database collection of all earlier excavations²⁸⁰, have provided new insights into the earliest phases of the legionary fortress. Two consecutive earth and timber fortresses have been identified, while the main phases of the installation could be dated to the 4th century²⁸¹.

The results of these digitized re-evaluations, as well as a tombstone dated to pre AD 50, have been used to argue for an early 1st century installation at *Vindobona*²⁸². In view of

²⁷⁴ Kronberger & Mosser (2002), p. 574.

²⁷⁵ Kronberger & Mosser (2002), p. 574.

²⁷⁶ See discussion in Neumann (1973).

²⁷⁷ Mosser (2002), pp. 102ff.

²⁷⁸ Friesinger & Krinzinger (1997), pp. 245&246.

²⁷⁹ Genser (1986), pp 508ff. for dating and possible garrisons see also Neumann (1985b), pp. 121ff.

²⁸⁰ Kronberger & Mosser (2002), p. 573; Mosser (1998).

²⁸¹ Kronberger & Mosser (2002), p. 573.

²⁸² CIL III, 15196.

historical arguments this is suggested to have been a temporary base of LEG XV APOLLINARIS, established around AD 39²⁸³.

A spread of various types of small finds indicates that the fortress at Vienna supported extensive *canabae*. The finds that have been used to delineate its extent indicate that the earliest occupation is late Flavian – which corresponds to the above theories regarding the establishment of the legionary fortress²⁸⁴.

The most interesting aspect of *Vindobona* for this study is the alleged military harbour at the site²⁸⁵. Unfortunately, concrete evidence for a naval presence is scant. The identification of Vienna's harbour rests on two features: the first is an extra gate in the wall of the fortress that is linked to steps leading to what is assumed to have been the ancient course of the Danube²⁸⁶ and a feature that was identified as a harbour in the early 20th century, a thesis that has been maintained uncritically throughout the last century²⁸⁷. The feature in question is a 60cm thick layer of fine concrete, initially interpreted as the bottom of a Roman harbour²⁸⁸. There are, however, no parallels of concrete harbour bottoms from the rest of the Roman world. It seems likely, therefore, that the feature in question may be little more than a collapsed wall or similar structure.

Numerous inscriptions are known from Vienna, which indicate the presence, not only of the X, XIII, XIV and XV legions, but also of the ALA I FLAVIA AVGVSTA BRITANNICA MILLIARIA CIVIVM ROMANORVM BIS TORQVATA OB VIRTVTEM²⁸⁹. While the majority of tiles from the site were stamped by the X, XIII and XIV legions²⁹⁰, there are also tiles of a COHORS I AELIA, LEG II ITALICA, LEG XV APOLL and the ALA THRACVM VICTRIX. While there is a

²⁸³ Mosser (2002), pp. 102ff.

²⁸⁴ Donat & Pichler (2003), p. 28.

²⁸⁵ Reddé (1986), p. 300; Heydendorff (1952), p. 157.

²⁸⁶ Genser (1986), p. 501.

²⁸⁷ Pascher (1949), pp. 166&167.

²⁸⁸ Kenner (1910), p. 62b.

²⁸⁹ See Neumann (1961/62) for inscriptions discovered up to 1960.

²⁹⁰ Neumann (1985a), pp. 254ff.

significant amount of epigraphic data indicating the presence of auxiliary units at Vienna²⁹¹, no associated auxiliary fort has been found to date, a problem that could be explained if the ALA I FLAVIA BRITANNICA occupied the site of the legionary fortress at an earlier date²⁹².

Apart from the alleged harbour, which cannot be identified as such for certain and is without date, there is nothing in the archaeological record to suggest a base of the Pannonian fleet at Vienna. Clearly, the interpretation of the site as a naval base is caused by the assumption that the identification of Vienna as a late fleet base in the *Notitia Dignitatum*²⁹³, combined with an alleged military harbour, makes it a good candidate for a CLASSIS PANNONICA base. Even if there was a harbour at Vienna, however, it was clearly attached to the legionary fortress – as indicated by the associated steps leading up to a gate in the fortress walls discussed above – and can therefore not be taken as evidence for a base of the CLASSIS PANNONICA.

9. CARNUNTUM (Petronell/Bad Deutsch-Altenburg)

Carnuntum, the capital of *Pannonia Superior*, is attested in several geographic sources²⁹⁴. It is strategically located at the point where the ‘Amber Road’ crosses the Danube²⁹⁵. Excavations have been carried out at Petronell since 1885²⁹⁶, identifying a legionary fortress and auxiliary fort, as well as a significant civilian settlement²⁹⁷.

The precise size of the legionary fortress remains unclear, as it had a polygonal plan and not all walls have been fully excavated. It is clear, however, that it extended to around 17ha²⁹⁸. The earliest phase of the fortress is Claudian and believed to have been built by LEG

²⁹¹ Friesinger & Krinzinger (1997), p. 243; Neumann (1985b), p. 120.

²⁹² Wilkes (2005), p. 197; Friesinger & Krinzinger (1997), p. 243.

²⁹³ Not. Dig. occ. xxxiv, 28: *praefectus classis Histricae*.

²⁹⁴ TabPeut IV,2; ItAnt 247,4, 262,3&8, 266,14 & 267,12; Ptol. Geogr. II, 14.3.

²⁹⁵ Friesinger & Krinzinger (1997), p. 258.

²⁹⁶ For a discussion of research at *Carnuntum* see Genser (1986), pp. 576-595.

²⁹⁷ Wilkes (2005), pp. 197&198.

²⁹⁸ Visy (2003a), p. 55; Genser (1986), p. 620.

XV APOLLINARIS²⁹⁹. From the early 2nd century onwards, *Carnuntum* became the main base of LEG XIV³⁰⁰. The majority of theories on the phases of the fortress at *Carnuntum* are based on historical considerations and epigraphic material³⁰¹. While the Claudian establishment is corroborated by small finds such as fine-wares and military equipment³⁰², the stone rebuilding of the fortress – which entailed some changes to its general layout – has been associated with a Vespasianic building inscription. Finds from the associated layers, however, do not support a date before the early 2nd century³⁰³. The stone fortress was levelled for the establishment of phase three, which brought more changes to the layout of the fortress. Associated pottery dates this destruction to around AD 200³⁰⁴. The third period fortress was destroyed by an earthquake between the early 3rd and mid 4th century, and rebuilt under Valentinian I – a phase that was followed by a final period in the later 4th century³⁰⁵.

Stamped tiles and inscriptions from the fortress excavation indicate the presence of LEG I ADIVTRIX and LEG X GEMINA. Further tiles stamped by all known Upper Pannonian legions indicate that there was a significant amount of interaction in the supply of building materials³⁰⁶. While a wealth of epigraphic material shows that LEG XIV GEMINA was based at *Carnuntum* from the early 2nd century onwards, any detailed discussion of successive garrisons is virtually impossible: historical arguments regarding troop movements in this part of the Roman world have not yet been resolved and stamped tiles and monuments cannot be dated, or do not appear in significant enough numbers to allow for detailed interpretation³⁰⁷.

²⁹⁹ Visy (2003a), p. 55.

³⁰⁰ Friesinger & Krinzinger (1997), p. 258.

³⁰¹ Genser (1986), p. 647.

³⁰² Genser (1986), p. 652.

³⁰³ Genser (1986), p. 653.

³⁰⁴ Genser (1986), p. 653.

³⁰⁵ Friesinger & Krinzinger (1997), p. 261; Genser (1986), p. 654.

³⁰⁶ Kandler (1991), p. 237.

³⁰⁷ For a discussion of the problems and considerations involved in identifying the early garrison of *Carnuntum*, as well as a comprehensive list of epigraphic monuments from the site, see Genser (1986), pp. 628-646.

The fortress supported a substantial civilian settlement. It was elevated to the status of *municipium* under Hadrian³⁰⁸ and developed into a significant Roman provincial city with associated public buildings including an amphitheatre and large baths³⁰⁹.

The auxiliary fort at *Carnuntum* is one of the most studied forts on the Pannonian Limes³¹⁰. It was established under Domitian and rebuilt in the early 2nd century, presumably under Trajan³¹¹. In the mid 2nd century, *horrea* and *fabricae* were built inside the fort. The fort was rebuilt in AD 200 and remained occupied until its final destruction by the same earthquake that destroyed the legionary fortress³¹².

As only the northern and southern defences of the earliest earth and timber fort have been excavated, no conclusions regarding its size can be reached. The stone fort measured 207 x 177m (3.66)³¹³. Several sub-phases indicate changes and additions in the 2nd and 3rd periods, but there appears to have been no change in the occupying unit³¹⁴. The building of *horrea* and *fabricae* in the mid 2nd century may be a sign of preparations for the Marcomannic wars, although there is no concrete evidence to support this theory³¹⁵. Stamped tiles throughout the site, as well as various owners' graffiti on equipment identifying individual *turmae*, indicate that the auxiliary fort at *Carnuntum* was garrisoned by ALA I THRACVM³¹⁶.

One inscription from *Carnuntum* appears to identify a naval element at the site insofar as the relief over the text depicts a boat bearing the legend *felix Italia* (Fig. 2.6)³¹⁷. While the iconography of this funerary inscription highlights a naval element, this is not reflected in the text, which is a vow to a deceased wife and child dedicated by a *frumentarius* of LEG X GEMINA.

³⁰⁸ Friesinger & Krinzinger (1997), p. 259.

³⁰⁹ Friesinger & Krinzinger (1997), pp. 261-266.

³¹⁰ Jilek (2005), p. 166, Friesinger & Krinzinger (1997), p. 263.

³¹¹ Although this date is a result of purely historical considerations, as shown in Stiglitz (1986), p. 206.

³¹² Visy (2003a), p. 60; Genser (1986), p. 652; Kandler et al (1981/82), p. 32.

³¹³ Genser (1986), p. 625.

³¹⁴ Jilek (2005), p. 167.

³¹⁵ Müller (2003), p. 146.

³¹⁶ Stiglitz (1986), p. 204.

³¹⁷ Krüger (1970), p. 57, Cat. No. 331 (plate 67).

While there is a wealth of archaeological material at Petronell and the site clearly was an important military centre, there is no data that might indicate any form of naval presence. As such, it is unclear why the site has been identified as a fleet base, other than that some scholars argue that a fleet detachment may readily be assumed to have been stationed in every provincial capital³¹⁸. Without any evidence for a naval presence, however, there is no reason to identify Petronell as a fleet base of the Principate.

10. BRIGETIO (Komarom)

Aerial photography has identified at least 18 temporary camps around *Brigetio*³¹⁹. Of more interest than these, however, is the legionary fortress, which was the base of LEG I ADIUTRIX³²⁰. The site is well known from several ancient geographic sources³²¹ and has been excavated systematically since 1927. A new archaeological programme under Borhy and Számadó has been carried out since 1992³²².

East of the legionary fortress, an earth and timber auxiliary fort, presumed to date to the mid 1st century on historical grounds, has been identified³²³. It is believed to be a ‘predecessor garrison’ to the legionary base which was established around the turn of the 1st/2nd century³²⁴.

The legionary fortress at Komarom has a rectangular plan of 430 x 540m (23.22ha)³²⁵ and was protected by a curtain wall as well as a double ditch³²⁶. The lack of datable evidence from the legionary fortress makes proposed dates and phases little more than an exercise in historical conjecture. No date is given for the earliest earth and timber fortress, while the first stone phase is argued to have been built under Trajan or Hadrian; no evidence is presented to

³¹⁸ E.g. Viereck (1996), p. 255.

³¹⁹ Visy (2003a), p. 79; Visy (2003b), pp. 34-38.

³²⁰ Visy (2003a), p. 75.

³²¹ ItAnt. 246,4, 262,10, 263,2 & 264,7.

³²² Visy (2003a), p. 76.

³²³ Visy (1988), p. 54.

³²⁴ Kuzmová (2001), p. 102.

³²⁵ Visy (1988), p. 55; Fitz (1976), p. 33.

³²⁶ Visy (2003a), p. 77.

support this claim³²⁷. While the plan of the fortress at *Brigetio* is based almost solely on aerial photographs³²⁸, some interior structures have been excavated. The results of these excavations support the theory of an earth and timber phase preceding the stone phase, but fail to provide chronological details beyond the existence of three substantial, but undated destruction layers³²⁹.

South of the fortress, excavations discovered a building containing several hundreds of kilos of lead, a find that has led to theories proposing a major supply centre at *Brigetio*³³⁰. This reasoning seems supported by the use of the auxiliary fort at *Carnuntum* as a supply base in the 2nd century, as well as the establishment of significant pottery workshops³³¹ and other manufacturing *officinae*³³² at *Brigetio* at this time.

A Roman bridge and bridgehead fort of 175 x 176m (3.08ha) have apparently been identified in the 19th century, but there is no actual evidence for their existence³³³. Ceramic evidence dates the bridgehead to the late 2nd century, which has led to an association with the Marcomannic wars³³⁴. Coin finds from the reign of Commodus, however, suggest that the fort may only have been established after the Marcomannic wars³³⁵.

Excavations by Paulovics apparently uncovered structures between the fortress and the Danube bank which were interpreted as harbour facilities and storage buildings of the CLASSIS PANNONICA (**Fig. 2.7**). A tile allegedly stamped by the CLASSIS FLAVIA HISTRICA has been used to support this claim³³⁶. The features in question are actually no more than two parallel walls running down to the Danube from the fortress corners. While they could indeed form a rather

³²⁷ Visy (2003a), p. 76.

³²⁸ Visy (2003a), p. 76.

³²⁹ Visy (2003a), p. 77.

³³⁰ Visy (1988), p. 56.

³³¹ See Bónis (1977).

³³² Bónis (1986), pp. 301ff.

³³³ Visy (1988), p. 57.

³³⁴ Kuzmová (1997), p. 45.

³³⁵ Kuzmová (2001), p. 104.

³³⁶ Visy (2003a), p. 77.

oddly shaped fortified stretch of bank – interpreted as a harbour³³⁷ – it seems more likely that they are part of a later, rectangular fortification which has been partly eroded by the Danube³³⁸. Such an interpretation suggests itself not only on the grounds of the different construction method of the walls in comparison with the remainder of the legionary fortress, but also their significantly better state of conservation³³⁹ (**Fig. 2.8**).

In addition to the tile argued to indicate the late Roman CLASSIS FLAVIA HISTRICA, there are numerous tiles stamped by LEG XIII GEMINA, LEG XIII GEMINA and LEG XV APOLLINARIS, as well as LEG I ADIUTRIX³⁴⁰.

While the archaeological record does not provide any connection with the CLASSIS PANNONICA, a single inscription from *Komarom* does mention a fleet soldier³⁴¹. The presence of a trierarch at *Brigetio*, however, need not imply a permanent fleet base at this site³⁴²: it has already been shown that both *Brigetio* and *Carnuntum* appear to have acted as supply and storage bases in the Marcomannic wars, a campaign in which the CLASSIS PANNONICA seems to have been involved as a supply unit³⁴³. As such, the occurrence of a tombstone of a fleet soldier can easily be explained.

11. AQUINCUM (Budapest)³⁴⁴

Aquincum, modern Budapest, was the capital of *Pannonia Inferior*, as identified in several ancient geographies³⁴⁵. While it was an important civilian and administrative centre for the province, several military installations indicate that it was also of major military

³³⁷ Lőrincz, (1975), p. 349.

³³⁸ See plan in Fitz (1976), p. 35.

³³⁹ Visy (1988), p. 55.

³⁴⁰ Visy (2003a), p. 76.

³⁴¹ CIL III, 4319 = RIU 02, 555; see Appendix II.

³⁴² Viereck (1996), p. 255; Starr (1993), p. 140; Mocsy (1962), p. 624

³⁴³ See note 20 above.

³⁴⁴ The most recent results of research in progress at *Aquincum* are collected in Zsidi (2003). As the civilian settlement at *Aquincum* cannot be seen as a fleet base on the basis of archaeological evidence, a detailed discussion of irrelevant aspects of the city's archaeology is avoided. An overview of the military installations at *Aquincum* and their history clearly show that there are no archaeological grounds to presume a fleet base here.

³⁴⁵ ItAnt 245,7; Ptol. Geogr. II 15.3.

importance³⁴⁶. South of the civilian settlement is a legionary fortress with associated *canabae*³⁴⁷, which is protected by two bridgehead installations across the river. There are also two early auxiliary forts, as well as a substantial auxiliary fort south of the legionary fortress³⁴⁸.

The earliest military installation at *Aquincum* was a Claudian fort located slightly south of the later legionary fortress³⁴⁹. Its precise size is not known, as its position in the urban setting of modern Budapest makes large scale excavations impossible. Estimates on the basis of the known remains indicate a fort of about 190 x 250m (4.75ha), which was garrisoned before the establishment of the legionary fortress³⁵⁰.

Another early fort is located south of the later legionary fortress³⁵¹. Little is known about this auxiliary fort of about 140 x 180 – 200m (ca. 2.66ha)³⁵². Its location in an urban setting makes excavation difficult and complicates access to important sectors³⁵³. Parts of this fort have been excavated in the 1980s and 90s, but not published in enough detail to allow critical assessment of evidence³⁵⁴. The excavators argue for an initial earth and timber phase followed by a stone phase dated to the early 2nd century, but do not support these hypotheses with archaeological data. Several questions remain aside from the lack of supporting evidence: the end of the fort is not actually defined, but presumed to lie somewhere in the late 2nd century AD³⁵⁵. There is furthermore no indication as to when the first earth and timber fort is believed to have been established. The problem is that, while a significant amount of Claudian small finds were discovered during excavation, the excavators are keen to associate

³⁴⁶ Visy (1988), pp. 80ff; for a discussion of the topography of *Aquincum* see Zsidi (1995).

³⁴⁷ Póczy (1986), pp. 404ff.

³⁴⁸ See foldout map in Zsidi (2003); for research up to the early 1990s see Németh (1995) and Németh (1991).

³⁴⁹ See Mees (1993) for a discussion of early ceramic material from *Aquincum*.

³⁵⁰ Visy (2003b), p. 60.

³⁵¹ Visy (2003b), p. 60, Németh (1990); Németh & Kérdő (1986).

³⁵² Visy (2003b), p. 60.

³⁵³ Kocsis (1984), p. 505.

³⁵⁴ Visy (2003a), p. 102.

³⁵⁵ Visy (2003a), p. 104.

the original foundation of the fort with a Vespasianic building inscription³⁵⁶. This inscription states that the ALA I TVNGRORVM FRONTONIANA built a fort under Vespasian, demonstrating that the fort existed at the same time as the legionary fortress. It does not clarify, however, whether the fort built by this unit was the earliest military base at the site³⁵⁷.

The legionary fortress at *Aquincum* was established by LEGIO II ADIUTRIX. Its earliest phase was constructed around AD 89, and consisted of an earth and timber fortress measuring 430 x 460m (19.78ha)³⁵⁸. Some interior structures, such as *fabricae*, the *principia* and several *horrea* have been excavated³⁵⁹. Datable evidence from these interior excavations shows that the fort was rebuilt in stone in the early 2nd century. Due to the legion's involvement in the Parthian Wars, historians argue that the stone phase, measuring 460x520m (23ha), must have been built after AD 117/118³⁶⁰. It seems that the fortress was rebuilt in a second stone phase under Hadrian, but located further away from the river, a position it retained until the late 3rd/early 4th century AD³⁶¹. In the 30s of the 4th century, a new late Roman fortress measuring 720 x 300m (21.6ha) was established in the same position. This appears to have taken over as main garrison of *Aquincum* in the late Roman period³⁶².

Not far from the legionary fortress was a substantial Danube bridge, which led into the 'Barbaricum' and was guarded by a bridgehead fort, known as *Transaquincum*. This fort measures 76 x 76m (0.58ha)³⁶³ and was built with tiles stamped by LEG II ADIVTRIX and LEG III FLAVIA. The presence of these tiles is hardly surprising, as an obvious link with the *Aquincum* fortress is provided by the Danube Bridge³⁶⁴. It seems that the bridgehead fort was established in the early 2nd century – probably coinciding with one of the stone phases of the

³⁵⁶ Fitz (1976), p. 83.

³⁵⁷ Visy (2003a), p. 103; Visy (2003b), p. 60; Szirmai (1990), pp. 683ff.; Visy (1988), p. 81.

³⁵⁸ Visy (2003a), p. 99; Visy (2003b), p. 59; Visy (1988), p. 81; Fitz (1976), p. 83.

³⁵⁹ Fitz (1976), p. 84.

³⁶⁰ Visy (1988), p. 81; Nagy (1977).

³⁶¹ Visy (2003a), p. 99; Visy (2003b), p. 59.

³⁶² Visy (2003b), p. 59.

³⁶³ Visy (2003b), p. 61; Visy (1988), p. 82 presumed that it was 76x78m, a measurement that has been revised by the excavations of Halitzky (see Visy [2003b], p. 61).

³⁶⁴ Visy (2003b), p. 61.

legionary fortress – and remained in operation until the 4th century³⁶⁵. It is not clear what unit garrisoned *Transaquincum*, though the small size of the fort suggests that it may have been a detachment of the legion based at the *Aquincum* fortress.

Another auxiliary fort is located at Albertfalva, on a Danube island in the southern part of modern Budapest³⁶⁶. The fort, measuring 166 x 190m (3.2ha) was initially believed to have been a Claudian establishment³⁶⁷. Recent evaluations have shown that the Claudian features actually belong to a marching camp, and that a permanent fort was only established on the island under Vespasian or Domitian³⁶⁸. While the garrison of this earliest earth and timber fort is not known, it is presumed to have been an *ala* in view of the size of the fort³⁶⁹. In the late Trajanic period the fort was rebuilt in stone and slightly enlarged to a size of 186 x 210m³⁷⁰. It seems to have been rebuilt again following the Marcomannic Wars, until its final destruction in the 3rd century³⁷¹.

While several military diplomata for the province of *Pannonia Inferior* have been found in the area around Albertfalva, the garrison of this fort is still unknown. Inscriptions appear to indicate the presence of an ALA I FLAVIA BRITANNICA MILLIARIA in period 3, but there is no evidence for earlier and later garrisons³⁷². As the garrisoning of Lower Pannonian forts has been extensively studied at the hand of military diplomata, Visy suggests that the fort at Albertfalva was garrisoned by a *vexillatio* of LEG II ADIVTRIX during the periods for which the garrison remains unclear³⁷³. A newly discovered diploma has given rise to the theory that from AD 180-260 the fort may have been occupied by a COHORS MILLIARIA NVMDARVM³⁷⁴. This hypothesis rests on the assumption that all existing forts in Pannonia for

³⁶⁵ Visy (1988), p. 84.

³⁶⁶ See foldout map in Zsidi (2003); Visy (2003b), p. 62.

³⁶⁷ Visy (2003b), p. 63; Visy (1988), p. 87; Fitz (1976), p. 91.

³⁶⁸ Visy (2003a), p. 104; Visy (2003b), p. 63.

³⁶⁹ Visy (1988), p. 87.

³⁷⁰ Visy (1988), p. 87; Fitz (1976), p. 91.

³⁷¹ Visy (2003a), p. 104; Visy (1988), p. 88.

³⁷² Fitz (1976), p. 91.

³⁷³ Visy (1988), p. 89.

³⁷⁴ Visy (2003a), p. 105; Zsidi (2003), pp. 93ff.

this period have been identified and dated correctly. Even if this were so, a certain conjectured element remains to the argument.

A second fort, built in the late 3rd century, was located across the Danube at *Contra Aquincum* near Albertfalva³⁷⁵. This installation extends to 84 x 86m (0.71ha) and is built with the fan-shaped corner towers and U-shaped gate towers characteristic for this period³⁷⁶. It is believed that an earlier fort may underlie this installation, as tiles stamped by COH VII BREVCORVM and LEG II ADIVTRIX have been found at the site³⁷⁷. There is, however, no concrete evidence to support this claim.

The identification of *Aquincum* as a fleet base is made difficult by the sheer number of military installations at the site. There are no stamped tiles or inscriptions indicating the presence of the CLASSIS PANNONICA. While Viereck argues for a fleet base – indeed the fleet headquarters – at Alt Ofen (Óbuda)³⁷⁸, there are no military installations that the fleet could have used at this site. The only fort in the *Aquincum* area that could be considered as a possible fleet base is the installation on the island at Albertfalva. Such a theory would, however, be no more than a conjectured attempt to identify a fleet base at the provincial capital³⁷⁹.

The identification of *Aquincum* as a fleet base must be treated with great care, as the majority of studies proposing such identification rest their case on a fleet inscription allegedly from Budapest³⁸⁰. The monument in question³⁸¹, however, has frequently been misidentified. While CIL III cites it as being from *Aquincum*, the actual locality given in the accompanying paragraph is *Aquincum-Patka*. It was, therefore, not actually found at Budapest, but in the village of Patka, which is located about 80km to the south-west. As such, it can hardly be

³⁷⁵ Visy (1988), p. 85.

³⁷⁶ Visy (2003b), p. 62; Visy (1988), p. 86; it seems that architectural details and historical considerations form the main basis for the dating of this fort. While this means that the given date of AD 294 need by no means be accurate, it seems justifiable to tentatively date the fort into the later 3rd century.

³⁷⁷ Visy (2003b), p. 62.

³⁷⁸ Viereck (1996), p. 255.

³⁷⁹ See also pp. 48-50 above for a similar argument regarding *Carnuntum*.

³⁸⁰ Starr (1993), pp. 88&140; Viereck (1996), p. 255.

³⁸¹ CIL III, 10343 = RIU 6, 1400; see Appendix II.

used to argue for a fleet base at Budapest. As there is only one inscription known from Patka – a dedication at that – it cannot be used to propose a fleet base even at this site. As there is no navigable river in the Patka area, the inscription can at best be interpreted as a dedication made by an individual who happened to be a fleet soldier, but which is of no help in locating permanent CLASSIS PANNONICA bases.

12. ALTINUM (Kölked)

The fort of *Altinum* is identified as a fleet base by Viereck, but associated with modern Mohács and called *Altina*³⁸². In actual fact, Roman *Altinum* has been identified as Kölked near Mohács on the basis of several ancient geographic sources³⁸³, while *Altina* has been shown to be modern Surčin in former Yugoslavia³⁸⁴. Clearly, the site referred to by Viereck must have been Kölked – as it is the site nearer to Mohács. Roman surface finds have been reported from Kölked since the early 18th century³⁸⁵. These consisted mainly of bricks and tiles as well as pottery, although there were occasional coin finds³⁸⁶.

Altinum was an auxiliary fort, situated on a hilltop overlooking the river Danube³⁸⁷. It had a significant *vicus* settlement, which has been identified in several survey campaigns³⁸⁸. Fülep carried out excavations in the 1970s which investigated a section of the fort's defences³⁸⁹. The majority of research on Kölked, however, is based on aerial photographs. Excavations could only identify the perimeter of the fort and identified that initially there was an earth and timber fort, which was rebuilt in stone³⁹⁰. Aerial photographs indicate fan- or U shaped corner towers, which are taken as evidence that the fort was still occupied in the late

³⁸² Viereck (1996), p. 255.

³⁸³ ItAnt 244; see also Wilkes (2005), p. 207.

³⁸⁴ Wilkes (2005), p. 185, see also Barrington 21, C5.

³⁸⁵ Visy (2003b), p. 107.

³⁸⁶ Visy (2003a), p. 132.

³⁸⁷ Visy (1988), p. 125.

³⁸⁸ Visy (2003a), p. 132; Visy (2003b), p. 107.

³⁸⁹ Visy (2003b), p. 107.

³⁹⁰ Visy (2003a), p. 134.

Roman period³⁹¹. The data from Fülep's excavations has been combined with aerial photographs in order to propose an estimated size of 230 x 150-180m (ca. 3.8ha)³⁹².

Katona Győr has carried out sporadic and localized rescue excavations at Kölked since 1987³⁹³. These have provided numerous small finds, but failed to shed further light on the site's history. While older research assumed that *Altinum*/Kölked was the base of COH I LUSITANORVM³⁹⁴, there is no reliable evidence for the garrison of the fort. Stamped tiles indicate that building materials were supplied by LEG II ADIVTRIX and COH VII BREVCORVM³⁹⁵, while others bear a QVADRIBVR stamp. A few epigraphic monuments have been found in the area around Kölked, but these do not refer to any units directly³⁹⁶. Two units are mentioned as garrisons of *Altinum* in the *Notitia Dignitatum*³⁹⁷: a CUNEVS EQUITVM FORTENSIVM, as well as EQVITES SAGITTARII³⁹⁸. As both of these are cavalry units, there is no evidence for a fleet presence even in the late Roman period.

It appears, therefore, that the identification of *Altinum* as a fleet base rests on a confusion of sites. In the listings for the province *Moesia Secunda*, the *Notitia Dignitatum* lists a station also named *Altinum* as base of the MILITES NAVCLARII ALTINENSES³⁹⁹. While this is a naval unit, it can clearly not be brought into connection with the fort at Kölked which – at this time – was located in the province of *Valeria*. As the archaeological data from Kölked is in no way sufficient to postulate a base of the CLASSIS PANNONICA, it must be concluded that its identification as such must be caused by a misreading of the *Notitia Dignitatum*, and can therefore not be maintained.

³⁹¹ Visy (2003a), p. 134; Fitz (1976), p. 117.

³⁹² Fitz (1976), p. 125.

³⁹³ Visy (2003a), p. 133; Visy (2003b), p. 107.

³⁹⁴ Fitz (1976), p. 117.

³⁹⁵ Fitz (1976), p. 117.

³⁹⁶ Visy (2003a), p. 134.

³⁹⁷ Not. Dig. occ. xxxiii, 28 & 44.

³⁹⁸ These are identified as *Altino*, *nunc in burgo contra Florentiam* – indicating that they had been withdrawn from *Altinum* while the *Notitia Dignitatum* was being collated.

³⁹⁹ Not. Dig. or. xl, 28.

13. MURSA (Osijek)

Mursa was an important civilian settlement on the right bank of the river Drave⁴⁰⁰ near its confluence with the Danube⁴⁰¹. In the first century AD it was an important military centre during the occupation of *Pannonia*, which is reflected in the epigraphic record dating to this period: there are various references to an ALA I HISPANORVM ARAVACORVM and COHORS II ALPINORVM EQVITATA⁴⁰². From the mid 1st to the early 2nd century an auxiliary fort was located at *Mursa*. It appears to have been extended in the course of Trajan's Dacian wars, and possibly occupied by a detachment of LEG X GEMINA for a brief period⁴⁰³, before being abandoned following the conquest of *Dacia*⁴⁰⁴.

From the mid 2nd century onwards, *Mursa* was a primarily civilian centre, granted the status of a *colonia* under Hadrian⁴⁰⁵. In the 4th century, the site once again gained military importance with the establishment of a base for LEGIO VI HERCVLIA as well as the CLASSIS HISTRICA, as indicated by the *Notitia Dignitatum*⁴⁰⁶.

While a number of important battles were fought near *Mursa* in the late Roman period⁴⁰⁷, it is clear that the site was civilian in nature during the 2nd and 3rd centuries, when it acted as one of the main centres of sarcophagus production for *Noricum* and the two Pannonian provinces and was one of the major crossing points of the Drave river⁴⁰⁸. This importance is reflected by the Drave bridge which was discovered in the mid 1980s⁴⁰⁹. There is no evidence for a military presence during this period other than 3 *beneficarii* altars

⁴⁰⁰ Pinterović (1956), p. 92.

⁴⁰¹ Bulat (1990), p. 419.

⁴⁰² Visy (1988), p. 126.

⁴⁰³ Pinterović (1978), p. 202.

⁴⁰⁴ Bulat (1990), p. 419.

⁴⁰⁵ Visy (1988), p. 126; Pinterović (1978), p. 203.

⁴⁰⁶ Visy (1988), pp. 126&127; Not. Dig. occ. xxxii, 52: *praefectus classis Histricae, Mursae*.

⁴⁰⁷ Angyal (1970), pp. 238ff. identifies *Mursa* as the site of the battle between Gallienus and Ingenuus in 260, as well as that of Constantius against Magnentius in 351 – but no actual garrison can be identified for *Mursa* before the 4th century.

⁴⁰⁸ Pinterović (1967), p. 62.

⁴⁰⁹ Bulat (1990), p. 429.

identified in early 1970s, all of which date to the late 2nd century⁴¹⁰. Yet the presence of a *statio of beneficiarii* need by no means imply a military presence, as is shown by several other such stations in the Roman world⁴¹¹.

As there is no evidence for a military presence between the Pannonian occupation and the late Roman period, there is no reason to consider the site as a possible base of the CLASSIS PANNONICA⁴¹². Clearly, past scholarship has only suggested this on the basis that the site is identified as a late Roman fleet base in the *Notitia Dignitatum*.

14. ACUMINCUM (Slankamen)

The site of *Acumincum* is known from several references in ancient geographies⁴¹³. It has been identified as modern Slankamen, a site situated on a hill opposite the mouth of the Tisza river on the right bank of the Danube⁴¹⁴. While the majority of remains at Slankamen are medieval, Roman fortifications were clearly discerned during excavations. Research identified repairs and rebuilding work that could be dated provisionally to the 2nd/3rd century. Neither establishment of the fort nor its end, or even layout and size, however, are known⁴¹⁵. It seems ironic, that while so little is known about the military installation at *Acumincum*, an associated sanctuary of Jupiter Dolichenus is extremely well documented both in terms of small finds and excavations⁴¹⁶.

While COHORS I CAMPANORVM VOL is shown to have had some connection to the fort of *Acumincum* in that tiles stamped by this unit were found here, COHORS I BRITANNICA C R EQVITATA has also been suggested as a possible garrison on the basis of historical considerations⁴¹⁷.

⁴¹⁰ Bulat & Pinterović (1971), p. 114.

⁴¹¹ Ott (1995).

⁴¹² As has been suggested by Viereck (1996), p. 255; Mocśy (1962), p. 624

⁴¹³ Ptol. Geogr. 297.13.

⁴¹⁴ Visy (2003a), p. 147; Piletić (1971), p. 960.

⁴¹⁵ Visy (2003a), p. 147.

⁴¹⁶ Zotović (1971), p. 64.

⁴¹⁷ Visy (2003a), p. 147; Visy (1988), p. 129.

The identification of *Acumincum* as a naval station is based on literary evidence citing it as a military harbour⁴¹⁸. Yet it is unclear whether the site referred to is, indeed, *Acumincum*, or rather *Aquincum*. Even if Slankamen is accepted as the site referred to, the text identifies *Acumincum* as a naval base in the course of the campaigns of Constantius II, i.e. the mid 4th century. As such, the only evidence for a fleet presence at *Acumincum* is neither ‘concrete’, as set out in Chapter I, nor can it be connected to the CLASSIS PANNONICA in any way. Indeed, there is no evidence to suggest a naval presence of any form at *Acumincum* in the 1st to 3rd century AD.

15. BURGENAE (Novi Banovci)

Ancient *Burgenae* has been identified as modern Novi Banovci near Belgrade. The site was originally identified as a Roman military installation by Fröhlich, who estimated its size at 500 x 600m (30ha)⁴¹⁹. More recent investigations, however, have shown that the fort is much smaller⁴²⁰. The Belgrade Military Museum has carried out excavations in an effort to create a plan of the fort and establish an accurate size. However, investigations at Novi Banovci achieved little but to establish that neither objective could be reached as major sections of the structures have been eroded by the Danube. Nonetheless, a substantial stone wall with a horse-shoe shaped projecting tower was discovered⁴²¹.

While unable to shed light on the size or plan of *Burgenae*, investigations at Novi Banovci discovered several tiles stamped by COH I THRACVM ROMANORVM EQVITATA⁴²², which is also mentioned on an inscription from the site⁴²³. It is believed that this mounted cohort garrisoned *Burgenae* from the reign of Antoninus Pius onwards⁴²⁴. No other garrison is

⁴¹⁸ Ammianus Marcellinus XVII 12 & XIX 11.8; Dimitrijević (1996), p. 154; Viereck (1996), p. 255.

⁴¹⁹ See list of literature on the “Yugoslav” frontier in Visy (1988).

⁴²⁰ Visy (1988), p. 130.

⁴²¹ Visy (2003a), p. 149.

⁴²² Dimitrijević (1996), p. 147; Visy (1988), p. 130.

⁴²³ CIL III, 15138.

⁴²⁴ Visy (1988), p. 130.

indicated until the late Roman period, where *Burgenae* is listed as base of the CVNEVS EQVITVM CONSTANTIANORVM and the *praefectus legionis quinta Iouiae* in the *Notitia Dignitatum*⁴²⁵. Evidently, none of the units listed as garrisons of *Burgenae* have any naval detachments.

It appears that Novi Banovci has been identified as a base of the CLASSIS PANNONICA on the basis of 6 CLFP stamped tiles which were found here⁴²⁶. While this may be considered a small number of tiles compared to finds of tiles stamped by other provincial fleets, it is a significant number for the CLASSIS PANNONICA. Nonetheless, the identification of a fleet base solely on the basis of 6 stamped tiles, when the only other arguments are circumstantial ones based on local topography and river mouths⁴²⁷, is difficult to support. The material does not reflect more than that the CLASSIS PANNONICA was actively involved in activity at Novi Banovci. The site was therefore clearly within the sphere of operations of the Pannonian fleet, but the evidence does not suffice to assume a permanent fleet base at the site⁴²⁸.

16. TAURUNUM (Belgrade – Zemun)

Ancient *Taurunum*, the modern suburb of Belgrade – Zemun is located in a strategic position at the confluence of the Save and Danube rivers⁴²⁹. It has long been identified as the main base of the CLASSIS PANNONICA⁴³⁰. This identification is based mainly on references in ancient geographies, which appear to emphasize its nature as a fleet base⁴³¹: while the Antonine Itineraries identify it as *Taurunum Classis*, the Tabula Peutingeriana shows *Taurunum* with the symbol of two towers⁴³², usually reserved for *municipia* or other

⁴²⁵ Not. Dig. occ. xxxii, 5, 24, 46; Seeck argues that Burgenta (Not. Dig. occ. xxxii, 18, 37) is in fact the same site, and that the *equites Dalmatae* therefore used *Novi Banovci* as well. While it is not clear to what extent this theory is acceptable, it is of little relevance to this study.

⁴²⁶ Dimitrijević (1996), p. 148; Dušanić (1988), p. 87; Reddé (1986), p. 301.

⁴²⁷ Dimitrijević (1996), p. 148.

⁴²⁸ As has been suggested by Dimitrijević (1996), p. 148; Reddé (1986), p. 300; Mocsy (1962), p. 624.

⁴²⁹ Visy (1988), p. 130.

⁴³⁰ Starr (1993), p. 140; Reddé (1986), p. 302; Mocsy (1962), p. 624.

⁴³¹ ItAnt 131,6 – identified as *Taurunum Classis*; see also Ptol. Geogr. I 15,3.

⁴³² TabPeut V,5.

settlements of high status. Clearly, the site at Zemun cannot have had such a status as a civilian settlement, as it is little more than a poorly understood fort. Serbian scholars argue that this discrepancy may be explained by the importance of the site, had it been the headquarters of the CLASSIS PANNONICA⁴³³, although this conjectured argument has little basis in actual evidence.

As systematic excavations on a large scale have never taken place at Zemun, no precise dates or phases, let alone a coherent overall plan, can be identified⁴³⁴. Nonetheless, excavation produced some interesting remains of interior structures⁴³⁵. It appears that the fort on the Danube bank was established in the 2nd or 3rd century⁴³⁶. The only “plan” available is extremely conjectural and seems to be more of an attempt to join 6 known walls into a connected pattern rather than being a coherent plan (**Fig. 2.9**)⁴³⁷.

Apart from *Taurinum*'s status in the ancient geographic sources, the notion of it being a fleet base is supported by ‘several’ tiles stamped by the CLASSIS PANNONICA that have been found at the site⁴³⁸. That these tiles cannot be taken to identify a garrison on their own is shown by several tiles stamped by LEG VII CLAVDIA that were also found at Zemun⁴³⁹.

An inscription from the site provides a further link to the Pannonian fleet⁴⁴⁰. It is of particular relevance as Iulius Celer is identified as *scriba classis*. This rare rank is unlikely to have been carried on board of individual ships. At headquarters of a fleet or a permanent base, however, such an administrative post may be expected. While the inscription does not specify the fleet Paternus Iulius Celer served in, it appears safe to assume that it was the Pannonian

⁴³³ Dimitrijević (1996), p. 146. However, such an argument can hardly be conclusive in itself if not supported by archaeological or epigraphic evidence.

⁴³⁴ Dimitrijević (1996), p. 144.

⁴³⁵ Dimitrijević (1956-57), p. 307.

⁴³⁶ Visy (2003a), p. 150.

⁴³⁷ Dimitrijević (1996), p. 145.

⁴³⁸ Visy (2003a), p. 150; Dimitrijević (1996), p. 145; Dušanić (1988), p. 87. Unfortunately, none of the available publications specifies the actual number of tiles.

⁴³⁹ See CIL III, 13394.

⁴⁴⁰ ILJug-1, 278; see Appendix II.

fleet, as he apparently died in active service. The CLASSIS PANNONICA, after all, was the only ‘regular’ fleet operating in *Pannonia Inferior* from the 1st to 3rd centuries.

A sarcophagus discovered in 1945 is also of relevance: while some sources attribute it to a fleet soldier⁴⁴¹, there is no actual inscription to support this identification. It appears that in a circular argument the sarcophagus was identified as that of a fleet soldier because *Taurunum* was identified as a fleet base, rather than because of any real evidence on the object itself.

In view of the archaeological data alone, namely an unspecified number of CLASSIS PANNONICA stamped tiles and one inscription, a permanent fleet base at *Taurunum*, let alone the fleet headquarters, cannot be presumed. The specific highlighting of the site as a naval base in geographic sources, as well as the fact that the inscription is not of regular naval personnel, but of a *scriba*, however, suggests that a base of the CLASSIS PANNONICA was located at Belgrade – Zemun.

17. SINGIDUNUM (Belgrade)

Ancient *Singidunum*, now capital of Serbia, is identified as base of LEG IV FLAVIA in Ptolemy’s *Geographies*⁴⁴². This is supported by epigraphic finds from the 2nd and 3rd century that refer to this unit⁴⁴³.

Archaeological research has been carried out in Belgrade since WWII, but mainly in the way of rescue archaeology⁴⁴⁴. This has resulted in the majority of publications on the site being primarily concerned with individual finds, small local discoveries or overall circumstantial historical theories⁴⁴⁵. While there has been an increase in archaeological

⁴⁴¹ Dimitrijević (1996), p. 145.

⁴⁴² Ptol. Geogr. III 9.3.

⁴⁴³ Popović (2005), p. 105; Popović (2000), p. 8; Popović (1997), pp. 59&60.

⁴⁴⁴ Bojović (1975), p. 83.

⁴⁴⁵ Wilkes (2005), p. 208; Popović (1997), p. 18.

research in recent years, the focus has been on the ancient city's *necropoleis*, and is thus of limited value for this study⁴⁴⁶.

Little is known of the legionary fortress at *Singidunum* other than its roughly trapezoidal plan with side-lengths of 560 x 330/380m (c. 20ha)⁴⁴⁷. While some recovered sections of the stone perimeter wall date to the late 2nd century and some excavation of the interior has taken place in the southern part of the fortress, the identification of individual phases is made virtually impossible as the central part of the installation has almost completely been lost to modern building activity⁴⁴⁸. Data from the southern interior excavations allows some interpretations regarding changes to the fortress layout in the 3rd/4th century, but sheds no light on earlier developments. Current theories regarding the establishment and arguing for an early military importance of Belgrade must therefore be seen as conjecture based on historical considerations⁴⁴⁹. Indeed, the most recent excavations which actually recorded the reaching of natural soil failed to identify any early phases of the fortress at all. One must conclude, therefore, that military occupation of the site in the form of an established legionary fortress only began in the 2nd century⁴⁵⁰.

While a double ditch system has been discovered, the only dating available is a 'possible association' with houses of wattle and daub construction. As these structures contained artefacts from the 1st and 2nd centuries it has been suggested that a nearby fort – presumed on the basis of ditches and local topographic considerations – existed at this time⁴⁵¹.

Singidunum was a major civilian centre⁴⁵², which is reflected in the extent of the settlement (30-35ha in the 3rd and 4th century)⁴⁵³. Some of the most important pottery

⁴⁴⁶ Popović (1997), p. 19.

⁴⁴⁷ Popović (1997), p. 19.

⁴⁴⁸ Popović (1997), p. 19.

⁴⁴⁹ Popović (1997), p. 19.

⁴⁵⁰ Popović (2005), pp. 42&43; Popović (1997), p. 19.

⁴⁵¹ Popović (1997), p. 19.

⁴⁵² Popović (1997), p. 19.

⁴⁵³ Popović (1997), p. 19.

workshops for the region, producing a local *terra sigillata* imitation, were active in the 2nd century⁴⁵⁴.

The presumed base of the CLASSIS PANNONICA at Belgrade⁴⁵⁵ is not reflected in the archaeological evidence from the site. Indeed, it seems highly unlikely that the Pannonian fleet would have been based in the province of *Moesia Superior*. Had there been a naval base at *Singidunum* – and there is nothing in the archaeological record to suggest this – it seems more likely that it would have been garrisoned by the Moesian fleet.

18. EMONA (Ljubljana)

Due to large scale building programmes on the site of the Roman city of *Emona* in the post-war period, rescue excavations have been carried out at Ljubljana on a large scale⁴⁵⁶. Despite archaeological investigations, important aspects of the site's history remain unresolved. Its foundation, for example, has been studied almost exclusively on the basis of historical data. It remains unclear, therefore, whether the site came under Roman control in the course of Octavian's Illyrian campaigns, or whether it was only formally taken over under Tiberius and Claudius⁴⁵⁷.

While *Emona*, situated on the Save river, flourished as a civilian settlement, it seems that it initially was a legionary fortress. This much has been indicated by Schmid's investigations of the city wall in the early 20th century. Schmid identified several phases of wall construction and repairs, but could not provide datable evidence to support his theses⁴⁵⁸. In view of this, it is unclear to what extent the size of the legionary fortress, given as 22.75ha, is actually based on firm evidence, or whether it is the result of topographic considerations⁴⁵⁹.

⁴⁵⁴ Bjelajać (1987), p. 473.

⁴⁵⁵ Viereck (1996), p. 256.

⁴⁵⁶ Curk (1972/73), p. 125.

⁴⁵⁷ Wells (1974), p. 185.

⁴⁵⁸ Schmid (1913), pp. 61ff.

⁴⁵⁹ Wells (1974), p. 185.

Recent archaeological investigations of the pottery from *Emona* indicate that the earliest permanent Roman settlement at the site dates to AD 10-14⁴⁶⁰. This date is supported by epigraphic finds from the site, in particular a building inscription from AD 14/15. Interestingly, this does not mention a military presence, indicating that the site was of a purely civilian nature by this date⁴⁶¹. It seems likely, therefore, that the *colonia* of *Emona* was established around AD 14, which fits with the historical considerations referred to above⁴⁶².

While there is nothing in the archaeological record of *Emona* itself to suggest a naval presence, the remains of a ship, thought to have been Roman, were found in a nearby moor, then called the Laibach moor, in 1890⁴⁶³ (Fig. 2.10). The wreck in question is that of a large cargo vessel of the *Prahm* type found throughout North Western Europe⁴⁶⁴ (Fig. 2.11). These large flat-bottomed boats would have been ideal for navigation of shallow rivers as well as swamped moors⁴⁶⁵. C14 dates have yielded surprisingly early dates for this vessel, indicating that the timbers it is built from were felled in the early to mid 2nd century BC. Presumably, therefore, the ship was used in the second and possibly even the 1st century BC. It would be unrealistic to propose a longer 'working life'⁴⁶⁶. While this makes the ship from the Laibach moor near Ljubljana the earliest *Prahm* type vessel known, it cannot be of any consequence to a study of the CLASSIS PANNONICA.

An inscription built into the chapel of a hospital at *Emona* is more relevant⁴⁶⁷. It identifies Lucius Aelius Nigrinus as *miles* of the CLASSIS PANNONICA and indicates that he died in active service. It is not certain, however, that the inscription was found in Ljubljana, as it was reused in building the hospital chapel. Even under the assumption that the inscription is

⁴⁶⁰ Curk (1972/73), p. 127.

⁴⁶¹ Wells (1974), p. 186.

⁴⁶² Maxfield (1986), p. 282.

⁴⁶³ Gaspari (1998), p. 527.

⁴⁶⁴ Similar to, for example, the Zwammerdam vessel, the Woerden ships and the cargo ship from Mainz Kappelhof (see also <http://www1.rgzm.de/Navis/home/frames.htm>).

⁴⁶⁵ Gaspari (1998), p. 527.

⁴⁶⁶ Gaspari (1998), p. 528.

⁴⁶⁷ CIL III, 14354. See Appendix II.

from *Emona*, one individual inscription cannot be taken as evidence of a permanent fleet base⁴⁶⁸.

19. POETOVIO (Ptuj)

The late Augustan legionary base and later *colonia* of *Poetovio* was situated at an important crossing point of the Drave river⁴⁶⁹. The majority of research on Ptuj has been historical in nature, rather than in the form of archaeological investigations. It is believed that the initial garrison at *Poetovio* was LEG VIII AVGUSTA, which was replaced by LEG XIII GEMINA at some point in the 1st century⁴⁷⁰. It is commonly assumed that this change occurred during the reign of Claudius⁴⁷¹.

An inscription found in 1963 refers to the establishment of a *colonia* at Ptuj⁴⁷². This has recently been reinterpreted to suggest that this status was conferred on *Poetovio* between AD 103 and 105⁴⁷³. In the 2nd century, the settlement expanded rapidly until it occupied both banks of the river Drave⁴⁷⁴. Under Hadrian, a monumental bridge was built at Ptuj, identified on the basis of a substantial marble building inscription found in 1913, as well as large ashlars and timber posts found in the river bed⁴⁷⁵.

Poetovio has produced a large number of inscriptions, mostly civilian in nature⁴⁷⁶. A number of military inscriptions, however, refer to the two legions mentioned above⁴⁷⁷. LEG XIII GEMINA was clearly involved in the construction of *Poetovio*'s public buildings and aqueduct, as tiles stamped by this legion are found throughout such structures⁴⁷⁸.

⁴⁶⁸ As suggested by Viereck (1996), p. 255 and Starr (1993), p. 140. Mocśy (1962), p. 624, on the other hand, is of the opinion that the inscription from *Emona* is not sufficient to argue for a fleet base at the site.

⁴⁶⁹ Tomanič-Jevremov et al (2001), p. 93.

⁴⁷⁰ Vomer Gojković (1998), p. 17.

⁴⁷¹ Tomanič-Jevremov et al (2001), p. 93.

⁴⁷² Mráv (2000), p. 78.

⁴⁷³ Tomanič-Jevremov et al (2001), p. 94; Vomer Gojković (1998), p. 17.

⁴⁷⁴ Bratanić (1954-7), p. 162.

⁴⁷⁵ Mráv (2002) p. 15.

⁴⁷⁶ For a discussion see Subic (1977), pp. 92-100.

⁴⁷⁷ Tomanič-Jevremov et al (2001), p. 94.

⁴⁷⁸ Tomanič-Jevremov et al (2001), p. 94.

An important inscription links *Poetovio* with the CLASSIS PANNONICA⁴⁷⁹. Even though it is misspelled and the initial ‘t’ is omitted, it is clear that L. Iulius Maximus was a *trierarchus* in the Pannonian fleet. While this inscription therefore reflects the presence of a fleet soldier of the CLASSIS PANNONICA at *Poetovio*, it is a votive inscription which may have been set up at a shrine far from any fleet base. While any single inscription is insufficient as evidence for a permanent fleet presence, a votive inscription is even less conclusive than a funerary one⁴⁸⁰. As such, there is no concrete evidence to substantiate theories of a permanent fleet base at *Poetovio*⁴⁸¹.

20. SISCIA (Sisak)

Roman *Siscia* has been identified as modern Sisak, situated at the edge of the Pannonian plain near the confluence of the rivers Kulpa⁴⁸² and Save, on the basis of several mentions in ancient geographic sources and other texts⁴⁸³. The site was originally occupied by a substantial pre-Roman settlement, ancient *Segestica*⁴⁸⁴. There appears to have been a significant degree of interaction, as well as military conflict with Rome during the Republic, culminating in the annexation of *Segestica* under Octavian. This event has been dated to 35 BC on historical grounds⁴⁸⁵. Historians argue that a legionary base was established at *Siscia* under Tiberius in an attempt to deal with the Dalmatian revolts⁴⁸⁶, but this has not been proven archaeologically.

In the Flavian period, *Siscia* was granted the status of a *colonia* and settled by veterans of the Praetorian fleet based at Ravenna⁴⁸⁷. The site proceeded to develop into an important

⁴⁷⁹ CIL III, 4025. See Appendix II.

⁴⁸⁰ See discussion of epigraphy in Chapter I, pp. 25-27 above.

⁴⁸¹ Starr (1993), pp. 139&140.

⁴⁸² The ancient *Colapis*.

⁴⁸³ Košćević & Makjanić (1995), p. 1; Buzov (1993), p. 66; Brizzi (1982), p. 33.

⁴⁸⁴ Brizzi (1982), p. 33; Faber (1972/73), p. 160.

⁴⁸⁵ Košćević & Makjanić (1995), p. 2; Buzov (1993), p. 66; Brizzi (1982), p. 35.

⁴⁸⁶ Faber (1972/73), p. 160.

⁴⁸⁷ Košćević & Makjanić (1995), p. 2; Nenadić (1986/87), p. 101; Brizzi (1982), p. 37.

civilian and commercial centre of the Roman Empire, reflected in the establishment of an imperial mint⁴⁸⁸. In the Diocletianic reforms, *Siscia* became capital of Pannonia Savia⁴⁸⁹.

While the history of the site is well known from historical sources, archaeological data is extremely limited and insufficient to present any overall discussion of the urban development or a possible Roman military presence. Local rescue excavations throughout Sisak have discovered numerous signs of destruction layers, as well as several phases of urban development, but the evidence is too sporadic to enable an overview of the entire site⁴⁹⁰.

Archaeological research has been carried out on public buildings such as the central baths, the forum and the capitol⁴⁹¹. Small-finds from these excavations underline the fact that *Siscia* was an important civilian and administrative centre from the 1st to the 6th centuries⁴⁹², and include a number of items of military equipment that indicate a military presence beyond the 1st century AD⁴⁹³. Yet no associated structures or fortifications have been discovered.

Several boats found at Sisak provide a naval connection. These are very simple dugouts and can hardly be related to any military unit (**Fig. 2.12**). Indeed, they have been carbon-dated to the 2nd and 1st centuries BC, and are thus not relevant to this study⁴⁹⁴. In view of the site's position at the confluence of two rivers, a quay has long been presumed at *Siscia*. To date, however, there have been no archaeological finds to corroborate such claims⁴⁹⁵.

There is no firm data to suggest a Roman naval presence at *Siscia*. Indeed, it seems that a 1st-3rd century fleet base is presumed solely the basis that the site is cited as a fleet base in the *Notitia Dignitatum*⁴⁹⁶. This reference alone, however, does constitute sufficient evidence to presume a CLASSIS PANNONICA fleet base during the 1st – 3rd centuries.

⁴⁸⁸ Leitner (1984), p. 234.

⁴⁸⁹ Buzov (1993), p. 66.

⁴⁹⁰ Buzov (1993), p. 66; Nenadić (1986/87), p. 101.

⁴⁹¹ Nenadić (1986/87), p. 100; Faber (1972/73), p. 159.

⁴⁹² See catalogue and plates in Leitner (1984).

⁴⁹³ Košćević & Makjanić (1995), p. 3.

⁴⁹⁴ Jurišić (1993), p. 69.

⁴⁹⁵ Košćević & Makjanić (1995), p. 10.

⁴⁹⁶ Not. Dig. occ. xxxii, 56: *praefectus classis Aegætiensium siue secundae Pannonicae, ... nunc Sisciae*. See also Viereck (1996), p. 256; Starr (1993), pp. 138&139; Reddé (1986), p. 298; Mocşy (1962) p. 624.

21. SERVITIUM (Bosanska/Stara Gradiska)

Servitium is identified in several ancient geographic sources⁴⁹⁷, and mentioned in Ptolemy as border town of *Pannonia*⁴⁹⁸. Yet the identification with modern Bosanska Gradiska (also known as Stara Gradiska) that has been proposed by Grosse⁴⁹⁹ and which is generally accepted without criticism is by no means certain⁵⁰⁰. While the *Tabula Peutingeriana* situates *Servitium* on the right bank of the Save river, the locality Bosanska Gradiska is not on the river, but in a forested area. Indeed, Bosanska Gradiska is identified as a Roman site on little more than a few surface small finds⁵⁰¹.

Servitium is seen as a fleet base in view of an entry in the *Notitia Dignitatum*, identifying it as the base of the CLASSIS PRIMA PANNONICA⁵⁰². Clearly, however, this does not suffice to presume a permanent base of the CLASSIS PANNONICA⁵⁰³ from the 1st – 3rd centuries at the site – particularly so in view of the lack of any archaeological data.

22. SIRMIMUM (Sremska Mitrovica)

Sirmium, which has been identified as modern Sremska Mitrovica, is situated on the low northern bank of the Save river, at an important Roman road junction. It connects the North-South route towards *Carnuntum* and *Aquincum* with the East-West road from Italy to the Danube frontier⁵⁰⁴.

A significant pre-Roman settlement at the site was conquered by the Romans in the final decades BC⁵⁰⁵. Historians disagree whether the Roman occupation began in 35-33 BC or only in 13-9 BC. As no archaeological evidence is available for this period, the arguments for

⁴⁹⁷ TabPeut VI,1; ItAnt 268.

⁴⁹⁸ Ptol. Geogr. II15.4 & VIII 7.7.

⁴⁹⁹ Grosse (1920), p. 74.

⁵⁰⁰ Wilkes (2005), p. 185.

⁵⁰¹ Pinterović (1973/5), p. 124.

⁵⁰² Not. Dig. occ. xxxii, 55: *praefectus classis primae Panninicae, Seruitii*.

⁵⁰³ Suggested by Viereck (1996), p. 255; Mocşy (1962) p. 624.

⁵⁰⁴ For a detailed discussion see Mirković (1971), p. 8.

⁵⁰⁵ Mirković (1971), pp. 8-10.

either are conjectured and based solely on historical sources⁵⁰⁶. *Sirmium* was granted the status of a *colonia* under the Flavians⁵⁰⁷ and gained in importance as a civilian and administrative centre from the 2nd to the 4th centuries⁵⁰⁸. During Domitian's Danube Wars it may have served as a short term base for LEG I ADIVTRIX, but there is some disagreement regarding the precise date and extent of this hypothetical occupation⁵⁰⁹. The archaeological record corroborates the site's importance in the 2nd and 3rd centuries, as the majority of structures excavated date to this period. Unfortunately, little earlier material has been recovered⁵¹⁰.

An excavation of the Roman Save bridge discovered archaeological remains, identified as those of a harbour that could infer a naval presence at *Sirmium* (Fig. 2.13)⁵¹¹. These features are connected directly with fortification walls dated to the 4th/5th century. Even if the excavated discoloured soil and timber posts are accepted to have been a quay, they are of little consequence to this investigation as they are too late to have been associated with the CLASSIS PANNONICA of the 1st – 3rd centuries.

Various military and civilian stamped bricks have been found at *Sirmium*, indicating that numerous units were involved in work at the site⁵¹². While *Sirmium* has been identified as a fleet base in several studies⁵¹³, no tiles of the CLASSIS PANNONICA have been found. Several inscriptions from *Sirmium* underline the presence of the two LEGIONES ADIVTRICES, as well as LEG I MINERVIA, LEG IV FLAVIA and LEG VIII AVGVSTA⁵¹⁴. Inscriptions referring to LEG II ADIVTRIX are the most common, and have given rise to the theory that a vexillation may have

⁵⁰⁶ Mirković (1971), p. 11.

⁵⁰⁷ Mirković (1971), p. 6.

⁵⁰⁸ Mirković (1971), p. 6.

⁵⁰⁹ For a detailed discussion see Mirković (1971), pp. 26ff.

⁵¹⁰ See Duval & Popović (1977) for excavations of major public buildings, as well as ramparts.

⁵¹¹ Milošević (1995), pp. 201&202; Parović-Pešikan (1969), p. 87.

⁵¹² Stamps of military units include: LEG I ADIVTRIX, LEG II ADIVTRIX, LEG IV FLAVIA, LEG X GEMINA, LEG VII CLAVDIA, LEG VI HERCVLIA, LEG XIV GEMINA, LEG I NORICORVM, LEG II ITAL SAB, ALA DALMATORVM SAGITTARIORVM, ALA I AVGVSTA ETRVREORVM, ALA I GALLORVM ET BOSPORANORVM, COH. III ALPINORVM, COHORS I ALP PED, COH I ALP EQ, COH II ASTVRVM ET CALLAECORVM, EQUITES SIRMIENSES, EXERC PANN INF. For a full list and detailed discussion see Mirković (1971), pp. 95-118.

⁵¹³ Viereck (1996), p. 256; Starr (1993), 138-140; Mocşy (1962), p. 624.

⁵¹⁴ Mirković (1990), p. 631; for a collection of inscriptions found up to 1971 see Mirković in *Sirmium 1* (1971), pp. 60-90.

been based here in the 2nd and 3rd century⁵¹⁵. There is, however, no evidence to corroborate this claim and no associated fortification has been identified. The epigraphic record further attests that *Sirmium* was an important *statio beneficiariorum* in the late 2nd and early 3rd century. The *beneficarii* identified on these inscriptions are mainly associated with LEG II ADIVTRIX, but some seem to have been affiliated with LEG IIII FLAVIA, LEG I ADIVTRIX and LEG X GEMINA⁵¹⁶.

While *Sirmium* presents a rich epigraphic record and has produced a large number of stamped tiles, there is no material related to the CLASSIS PANNONICA. The identification of the site as a fleet base appears to rest solely on the *Notitia Dignitatum*, where *Sirmium* is listed as base of the CLASSIS PRIMA FLAVIA AVGVSTA⁵¹⁷. If *Sirmium* was a late Roman fleet base, the presumed harbour may indeed have been identified correctly, as the discolorations and timber post date to the late Roman period. Yet there is nothing to suggest that the site ever was a base of the CLASSIS PANNONICA from the 1st to 3rd centuries.

23. GRAIUM (Sremska/Bosanska Raca)

The site of *Graium*, identified as a fleet base in the *Notitia Dignitatum*⁵¹⁸, presents a number of problems. To date, the site could not be positively identified. While it is usually associated with Sremska/Bosanska Raca on the Serbian-Bosnian border⁵¹⁹, it is not clear whether this is, indeed, where ancient *Graium* was located. Even if Sremska Raca is accepted as the site of ancient *Graium*, little can be said about it. Scattered surface finds are the only evidence for any Roman presence. In view of the absence of interpretable evidence, *Graium* can therefore be ignored for the purposes of this study. The site has clearly been identified as

⁵¹⁵ Mirković (1961/62), p. 325.

⁵¹⁶ Jeremić et al (1988), pp. 145&146.

⁵¹⁷ Not. Dig. occ. xxxii, 50: *praefectus classis primae Flaviae Augustae, Sirmi.*

⁵¹⁸ Not. Dig. occ. xxxii, 51: *praefectus classis secundae Flaviae, Graio.*

⁵¹⁹ Grosse (1920), p. 74.

a fleet base solely on the basis of its mention as base of the CLASSIS SECVNDA FLAVIA in the *Notitia Dignitatum*⁵²⁰.

24. ? (Progar)

The site of Progar on the Save is identified by archaeological data alone. It is one of the most interesting sites in dealing with the CLASSIS PANNONICA as it is argued to have been the fleet's tile production centre⁵²¹, although this identification is not without problems.

Progar is located about 30km upstream from *Taurunum*/Zemun. Numerous tile kilns have been found at the site. These have been dated to the early 4th century on the basis of numismatic evidence⁵²². One of the kilns excavated contained more than 40 tiles stamped by the CLASSIS PANNONICA in various type forms⁵²³ (Fig. 2.1). While this is the most significant number of tiles of the Pannonian fleet found anywhere, the current dating of the kilns is problematic. The kilns have been dated to the 4th century on the basis of a Constantinian coin "associated" with one kiln. The excavators assume, therefore, that this coin indicates that the CLASSIS PANNONICA kilns were still operating during the reign of Constantine⁵²⁴.

There is no evidence, however, that the CLASSIS PANNONICA still operated in the 4th century, and it is equally uncertain whether the kiln containing the tiles actually dates to the 4th century. No publication to date provides an adequate discussion of the nature of the "association" of the Constantinian coin with the kiln in question. It has furthermore not been specified whether CLASSIS PANNONICA tiles had actually been burned in the kiln in question, or whether they were only found associated with it⁵²⁵. As such, the site appears to have the potential to be the tile manufacturing centre of the fleet, and may even present an opportunity

⁵²⁰ *Graium* is identified as a base of the CLASSIS PANNONICA in Viereck (1996), p. 255; Mocsy (1962), p. 624.

⁵²¹ Lőrincz (1990), p. 83.

⁵²² Dimitrijević (1996), p. 154.

⁵²³ Dimitrijević (1996), p. 155.

⁵²⁴ Dimitrijević (1996), p. 154.

⁵²⁵ Dimitrijević (1996), p. 155.

to re-evaluate the end date of this fleet. In view of the current level of scholarship, however, these possibilities are negated by the lack of detail in the site's publication.

The significant number of stamped tiles suggests a prolonged presence of the CLASSIS PANNONICA at Progar. Due to the unreliable context, however, it is questionable whether the tiles actually attest a permanent fleet base. As there is no other form of evidence related to the CLASSIS PANNONICA at the site, it appears safer to treat them merely as indicators that Progar was in the territory under direct control of the Pannonian fleet.

Two final sites ought to be discussed as they produced inscriptions of the CLASSIS PANNONICA. Neither is located on the Danube or in the area traditionally seen as the operational sphere of the Pannonian fleet making them unlikely to indicate sites of permanent fleet bases. Yet the inscriptions are clearly related to the CLASSIS PANNONICA and must therefore be taken into consideration in any further theories developed in this study.

An inscription found at **Kerepes** in Hungary⁵²⁶ is of interest in view of a recently proposed reading which argues that the final line implies that a vexillation of the CLASSIS PANNONICA was based in Marcomannic territory⁵²⁷. This reading is based on the findspot which is located on the left bank of the Danube beyond the territory under Roman control. While it cannot be argued for certain that the inscription was originally set up at Kerepes itself, seeing that it is built into the wall of the Church, it appears reasonable to assume that it originates in the general area. It is therefore of interest solely by virtue of coming from beyond the actual Roman frontier. While the presence of a vexillation beyond the frontier is of little use in attempting to identify bases of the CLASSIS PANNONICA, the existence of temporary commands must be taken into account in any subsequent evaluation of data.

A further inscription referring to the CLASSIS PANNONICA was found beyond what might reasonably be assumed to have been its sphere of operation at **Burneri** in the Thracian

⁵²⁶ AE 1988, 940 = AE 1991, 1329. See Appendix II.

⁵²⁷ See Soproni (1990), p. 731.

Chersonese⁵²⁸. While Caius Manlius evidently held the post of *praefecus Classis Pannonicae*, the combination of this title with the praefecture of the CLASSIS GERMANICA presents problems: it is not clear whether these titles are intended to be read together or as consecutive parts of the *cursus honorum*. While a progression from praefect of the Pannonian fleet via praefect of the CLASSIS GERMANICA⁵²⁹ to an imperial procuratorship would make sense, such an interpretation of the inscription as a continuous *cursus honorum* is made difficult as the two fleet commands are joined by ET, rather than being two separate “entries”.

As such, it appears that Gaius Manlius may have acted as praefect of both fleets at the same time. Such a union of two separate ranks or permanent unification of the commands of units from entirely different parts of the empire seems highly unlikely. The only Pannonian setting in which such a joint command might be seen as plausible – albeit only if of a temporary nature - would be as a special command in the course of Trajan’s Dacian wars or the Marcomannic wars of Marcus Aurelius. The former hypothesis appears to be supported by the date of the inscription⁵³⁰.

The inscription is of no use for any attempt to identify bases of a provincial fleet, as Caius Manlius was not praefect of a fleet, but a legionary tribune at the time the inscription was set up. As such, the findspot of the inscription need have no connection to the CLASSIS PANNONICA⁵³¹.

⁵²⁸ CIL III, 726 = Dessau 1419. See Appendix VI.

⁵²⁹ Though it seems strange to hold two consecutive *provincial* fleet praefectures – even though the second is of a higher denomination.

⁵³⁰ As taken from the imperial titulature.

⁵³¹ The same applies to the reference to the CLASSIS GERMANICA in this inscription. As such, it will not be discussed again in Chapter IV.

II.III DISCUSSION

The survey of data above has shown that the majority of sites currently identified as bases of the CLASSIS PANNONICA, as shown in Fig. 2.2, have been identified as such either on the basis of references to naval units in the *Notitia Dignitatum* or on the grounds of historical considerations rather than concrete archaeological data. The clear disparity between the 24 (+2) sites currently associated with the CLASSIS PANNONICA and the number of sites that actually produced reliable data indicating such a fleet presence reflects the primarily historical approach to studies of the Danube frontier that has been adopted until recently.

Epigraphic evidence for the CLASSIS PANNONICA (Fig. 2.14)

Fig. 2.14 highlights the problems encountered by any studies that have, in the past, attempted to study the history of the CLASSIS PANNONICA on the basis of epigraphic data. While all sites on this map – with the exception of Kerepes – have long been assumed to have served as fleet bases⁵³², none produced sufficient epigraphic material to suggest a permanent fleet presence: as no site produced more than a single inscription, they cannot be identified as fleet bases on the basis of epigraphic material alone⁵³³.

In contrast to Fig. 2.2, which outlines all currently identified bases of the Pannonian fleet, there is evidently no epigraphic evidence for the CLASSIS PANNONICA in *Noricum* or *Raetia*. With the exception of the inscriptions at *Emona* (18), Burneri and Kerepes, all of the epigraphic material related to the Pannonian fleet actually originates from the two Pannonian provinces. While the inscription from Burneri in the Thracian Chersonese cannot have any

⁵³² For *Brigetio* (10), see Viereck (1996), p. 255; Starr (1993), p. 140; Mocşy (1962), p. 624; for *Aquincum* (11) see Viereck (1996), p. 255; Starr (1993), pp. 88&140; for *Taurunum* (16) see Starr (1993), p. 140; Reddé (1986), p. 302; Mocşy (1962), p. 624; for *Emona* (18) see Viereck (1996), p. 255; Starr (1993), p. 140; for *Poetovio* (19) see Starr (1993), pp. 139&140.

⁵³³ See discussion on the reliability of epigraphic data in the identification of permanent bases, pp. 25&26 above.

relevance in a discussion of possible permanent bases of the CLASSIS PANNONICA⁵³⁴, the inscription from *Emona*, referring to an active fleet soldier who died on duty, is clearly relevant. The value of this inscription as evidence for a naval base is limited, however, as it is not actually certain to originate from *Emona*⁵³⁵. While the inscription from Kerepes may have been moved as well, it is not relevant for this discussion of permanent fleet bases, as it refers directly to a temporary command⁵³⁶.

With one exception, the remaining inscriptions were found in *Pannonia Inferior*. The inscription from *Poetovio* (19), however, is a dedicatory inscription set up by a *trierarchus*. As such it cannot be taken as evidence of a permanent CLASSIS PANNONICA base. Indeed, CIL III, 4025 proves no more than the temporary presence of L. Iulius Maximus, trierarch of the Pannonian fleet. As such, he may well merely have passed through Ptuj and need not even have been on active service duty⁵³⁷. The inscription from Patka ‘near’ *Aquincum* (11) presents similar problems. The confusion surrounding its origin is exacerbated by the fact that it was found reused in a local estate, making it unreliable for any attempts to locate a permanent base of the CLASSIS PANNONICA. Its nature as a dedicatory inscription, set up by P. Magnius Victorinus, does not prove anything but his presence – as seen with the inscription from Ptuj above⁵³⁸. CIL III, 4319 from *Brigetio* (10) is insufficient as evidence for a permanent fleet base, as it seems likely that any fleet presence at *Brigetio* must be seen in connection with its supply role during the Marcomannic wars⁵³⁹.

The only inscription from the survey above that could imply a fleet presence of consequence is ILJUG-1, 278 from *Taurunum* (16). While this inscription alone cannot prove the existence of a naval base, the fact that it was set up by a *scriba* of the fleet suggests that

⁵³⁴ See pp. 77&78 above.

⁵³⁵ See p. 69 above.

⁵³⁶ See p. 77 above.

⁵³⁷ See p. 71 above.

⁵³⁸ See pp. 58&59 above.

⁵³⁹ See p. 54 above.

the fleet presence it reflects *may* have been of a more permanent nature⁵⁴⁰. Clearly, therefore, the epigraphic record alone cannot prove the existence of any bases of the CLASSIS PANNONICA and must therefore be used in combination with other types of evidence.

Tiles stamped by the CLASSIS PANNONICA (Fig. 2.15)

The survey above has shown that any evaluation of tiles stamped by the CLASSIS PANNONICA (see Fig. 2.15) can have little impact in a study attempting to identify permanent fleet bases, unless tiles stamped by the fleet occur in significantly higher numbers than those stamped by other units. The various units identified on stamps from *Carnuntum*, *Vindobona* and *Lauriacum*, for example, clearly show that building material for military installations was frequently supplied by several units, if not the entire army of a province⁵⁴¹.

The evidence from Novi Banovci (15) is therefore not sufficient to argue for a base of the CLASSIS PANNONICA at the site. While there are several types of stamp, suggesting a regular supply rather than a one-off shipment of building materials, six tiles are not sufficient to suggest a prolonged or permanent fleet presence at the site. They do indicate, however, that the site was frequented by the Pannonian fleet⁵⁴².

While *Taurunum* (16) has long been presumed to have been the headquarters of the CLASSIS PANNONICA on the basis of 'several' tiles stamped by the fleet, no exact number of tiles has ever been published for this site. This makes it impossible to assess whether the tiles indicate a prolonged or even permanent fleet presence at Zemun. While it appears that there are several types of stamped tile, indicating supply over a period of time, it is not possible to

⁵⁴⁰ See pp. 65&66 above.

⁵⁴¹ For stamped tiles from *Lauriacum*, see p. 41 above. *Carnuntum* produced tiles stamped by all legions based in *Pannonia Superior*, see pp. 50 above; for the various units identified on stamped tiles from *Vindobona*, see p. 48 above.

⁵⁴² See p. 64 above.

argue for a permanent presence of the CLASSIS PANNONICA on the basis of the stamped tiles from this site alone⁵⁴³.

The forty tiles from Progar (24), bearing different types of CLASSIS PANNONICA stamps (Fig. 2.1), on the other hand, seem to be reliable evidence for an extensive fleet presence, particularly so in view of their apparent association with a kiln⁵⁴⁴. This is problematic, however, as the kiln is dated to the 4th century, a time when current scholarship believes the CLASSIS PANNONICA had ceased to exist. Unfortunately, the evidence from Progar is not published in sufficient detail to provide firm evidence for this later history of the Pannonian fleet. Indeed, it is not clear whether the tiles were actually burned in the 4th century kilns, or merely found in their vicinity. On the basis of the current state of publication, the stamped tiles from Progar show that the site appears to have been part of the fleet's general infrastructure, but cannot be used to argue for a permanent fleet base.

It is impossible, therefore, to locate permanent fleet bases on the basis of tiles stamped by the CLASSIS PANNONICA. These do, however, clearly show that the fleet operated in the area of the confluence of the Save and Danube rivers, the most south-easterly region of *Pannonia Inferior* (Fig. 2.15).

Direct evidence for naval activity (Fig. 2.16)

Fig 2.16 shows that any study of the CLASSIS PANNONICA based solely on archaeological data is doomed to fail, as there is no direct archaeological evidence for a naval presence during the Principate in the entire region. While *Emona* (18) produced the remains of an ancient ship – significant in that it is the earliest example of its type – the vessel is pre-Roman

⁵⁴³ See p. 65 above.

⁵⁴⁴ See pp. 76&77 above.

and as such irrelevant for this study⁵⁴⁵. The same applies for the several boats that have been found at *Siscia* (20) which are little more than small, pre-Roman dugouts⁵⁴⁶.

While the data for harbour installations at Passau (2), Schlögen (3), *Brigetio* (10) and *Sirmium* (22) is far from convincing, the remains that give rise to such hypotheses all date to the late Roman period. Even if they were taken as proof of harbours, these could therefore not be used in any assessment of the CLASSIS PANNONICA in its 1st-3rd century structure. The harbour at *Acumincum* (14) is furthermore not supported by any archaeological finds, but rests on a literary source identifying it as a military harbour. The source in question, however, is late Roman and cannot be used to argue for a harbour at the site in the 1st-3rd centuries AD⁵⁴⁷.

There is, therefore, no archaeological data of consequence which can be used to identify permanent bases of the CLASSIS PANNONICA.

Evaluation of evidence for the CLASSIS PANNONICA (Fig. 2.17)

There is an evident discrepancy between the map showing sites identified as bases of the CLASSIS PANNONICA in current literature (Fig. 2.2) and Fig. 2.17, which plots actual evidence for the fleet. The fact that evidence for naval units is only found at 12 out of the 24 sites (+ two findspots of inscriptions) originally studied reflects the common reliance on unclear historical sources and circumstantial evidence in current scholarship. In actual fact, direct evidence for the CLASSIS PANNONICA is only found at seven sites – six of which produced insufficient data to postulate a permanent fleet presence.

Taurunum (16) is left as the only site where a base of the CLASSIS PANNONICA may reasonably be presumed, although there is no concrete proof of this. The distribution of fleet related evidence, however, is highly interesting. Fig. 2.17 indicates three concentrations of evidence related to the CLASSIS PANNONICA: the presence of three sites that produced material

⁵⁴⁵ See p. 69 above.

⁵⁴⁶ See p. 72 above.

⁵⁴⁷ See p. 63 above.

around the confluence of the Save and Danube indicates regular fleet operations in this region. It seems likely that these were centred on a permanent base. There is further evidence for the fleet in the Danube knee between *Brigetio* (10) and *Aquincum* (11) as well as in the Upper Save and Drave areas at *Emona* (18) and *Poetovio* (19). The two latter sites, however, are identified solely on the basis of individual inscriptions, which do not prove any form of fleet presence.

In summary, there is no reliable evidence for a prolonged presence of the CLASSIS PANNONICA outside the province of *Pannonia Inferior*. Within this province, it appears that the fleet was clustered around its upstream and downstream borders in the region of *Brigetio* and *Taurunum* respectively. While the survey above has therefore failed to identify any definite bases of the CLASSIS PANNONICA, it has significantly altered the understanding of this fleet's area of operations⁵⁴⁸.

This affects the main research problems identified in the introduction to this chapter directly. Current scholarship grapples with the question of how the CLASSIS PANNONICA, which was part of the *exercitus Pannoniae Inferioris*, could have operated in *Pannonia Superior*, *Noricum* and *Raetia*, as this implies a conflict of responsibilities that cannot be explained by any current models of the military 'Rangordnung'⁵⁴⁹. If the CLASSIS PANNONICA'S regular operations were confined to *Pannonia Inferior* as suggested above, no such conflict exists, as the isolated data from outside this province can be linked directly with temporary commands in the course of major campaigns⁵⁵⁰. While it cannot be taken as absolute proof, this observation lends credence to Saddington's thesis that Roman naval

⁵⁴⁸ The results from surveys such as this cannot be 100% conclusive, as they are directly influenced by very different standards of and approaches to archaeological research. Future research will no doubt affect the model established here, and may disprove any theories entirely. Sites in former Yugoslavia in particular offer countless opportunities for further research on potential fleet bases, which is required urgently if research based on concrete evidence is to move away from minimalist approaches such as the one presented here.

⁵⁴⁹ See discussion pp. 30&31 above.

⁵⁵⁰ This includes the inscription from Kerepes and that from Burneri. While Soproni (1990), p. 733 succinctly argues that the date of the inscription from Kerepes places it in the context of Marcus Aurelius' Marcomannic Wars, the inscription from Burneri appears to refer to a special command in the course of Trajan's Dacian Wars, as the Imperial titlature used dates it to AD 114 (see Konen [2000], p. 470).

operations were significantly more flexible than traditionally assumed and often responded directly to major military events⁵⁵¹.

The survey above did not provide evidence for the early history of the CLASSIS PANNONICA, as the level of archaeological research at relevant sites is insufficient to allow for a definite identification of a fleet base, let alone refined chronological arguments. The data from Progar, however, has shown that further archaeological research has the potential to drastically change the current understanding of the CLASSIS PANNONICA.

The finds from *Siscia* seem to confirm historical sources suggesting a naval blockade in 35 BC that included a battle between Roman ships and native dugouts⁵⁵². There is no evidence, however, of the CLASSIS PANNONICA'S involvement in this campaign⁵⁵³. Indeed, none of the sites directly affected by the Julio-Claudian conquest of the Balkans produced any evidence for the CLASSIS PANNONICA. As there is no concrete evidence that the fleet existed during the Julio-Claudian period and literary sources dealing with naval activity during this period fail to mention the CLASSIS PANNONICA by name⁵⁵⁴, scholars arguing that the fleet was established under the Flavian Emperors seem to present a convincing case⁵⁵⁵. Any theory regarding the establishment of the CLASSIS PANNONICA must, however, remain purely hypothetical.

⁵⁵¹ See Saddington (1990a).

⁵⁵² Dio, XLIX, 37. For further primary references and summary see note 12 above.

⁵⁵³ This has been suggested by Starr (1993), p. 138; Zaninović (1993), p. 58; Mocşy (1962), p. 623.

⁵⁵⁴ Tacitus, *Annales* XII, 30, for example, states that in AD 50 Vannius *ad classem in Danuvio opperientem perfugit*. While this seems to indicate that some fleet operated on the Danube it seems unlikely to have been the CLASSIS PANNONICA, as one would expect Tacitus to actually have referred to this unit by name.

⁵⁵⁵ See p. 29 above.

CHAPTER III

THE CLASSIS MOESICA

III.I INTRODUCTION

Despite a significant amount of research, the history of the CLASSIS MOESICA is far from clear⁵⁵⁶. As with the CLASSIS PANNONICA, current scholarship is divided as to whether the Moesian fleet was a Julio-Claudian or Flavian creation. Bounegru and Zahariade follow Starr, arguing that it must have existed by AD 12/15, when C. Poppaeus Sabinus was installed as *legatus Moesiae*⁵⁵⁷. Condurachi supports this thesis, citing finds from *Ratiaria* as evidence for an Augustan naval base⁵⁵⁸. Both argumentations have, however, been disproven⁵⁵⁹.

While theories of an earlier establishment rest on literary sources referring to naval activity, scholars favouring a Flavian date base their argument on the honorific FLAVIA⁵⁶⁰. There are several indicators for the date of this honorific: a military diploma from AD 92 discharges *iis qui militant in classe Flavia Moesica*⁵⁶¹, while two inscriptions dated pre AD 86 refer to the CLASSIS MOESICA without its honorific⁵⁶². The title must therefore have been conferred under Domitian, and can not be indicative of a Vespasianic reorganisation or

⁵⁵⁶ Aside from Bounegru & Zahariade (1996) and relevant sections in general works (e.g. Starr [1993] and Reddé [1986]), there have been several studies of the CLASSIS MOESICA: Matei (1991); Matei (1988); Sarnowski (1987); Mitova-Džonova (1986); Condurachi (1974).

⁵⁵⁷ Bounegru & Zahariade (1996), pp. 8&10; Starr (1993), p. 131; For an early history of the lower Danube region see Ivanov (1997), pp. 473-503.

⁵⁵⁸ Condurachi (1974), p. 84; see also discussion of *Ratiaria* below, pp. 101-103.

⁵⁵⁹ Sarnowski (1987), pp. 261&262 identified that the reference cited by Starr as implying the existence of the CLASSIS MOESICA by AD 12 does not actually mention the fleet. He furthermore showed that any early data from *Ratiaria* and the naval connection implied through the site's name can be related to legionary movements.

⁵⁶⁰ For a discussion of literary references to Julio-Claudian naval activity on the lower Danube see note 12 above and Bounegru & Zahariade (1996), pp. 7&8. A Flavian creation is proposed by Gudea (2001), p. 13; Ivanov (1997), p. 511; Sarnowski (1987), pp. 263&264. See **Fig. 3.1** for stamped tiles that include this honorific.

⁵⁶¹ CIL XVI, 37. As fleet soldiers served 26 years at this point in time, this could *imply* the existence of a CLASSIS MOESICA in AD 66 at the very earliest. It is by no means *evidence* for its existence by AD 66, as this would necessitate that any discharges served the full term of their duties in the Moesian fleet. It is likely, however, that some soldiers from other fleets or units were transferred to the CLASSIS MOESICA upon its creation. As any years served in other units would have counted towards their full term of military service, the CLASSIS MOESICA could for example, have been established in AD 86, provided that the very first intake of personnel included soldiers who had already served in other units for 20 years. It is furthermore possible that soldiers who had not served a full 26 years may have been served with an honorary discharge as a special reward – for example in recognition of support for Vespasian in AD 69. See Pferdehirt (2002), p. 58; Gudea (2001), p. 22; Ivanov (1997), p. 511; Bounegru & Zahariade (1996), p. 9; Sarnowski (1987), p. 263.

⁵⁶² CIL IX, 3609; AE 1969/70, 595a; see Appendix III. See also Ivanov (1997), p. 511; Bounegru & Zahariade (1996), p. 9.

creation, as has been suggested⁵⁶³. Indeed, Kienast presented a convincing argument that the title FLAVIA was granted to the Moesian fleet in AD 86⁵⁶⁴.

The problems of the honorific FLAVIA have occupied so pre-eminent a role in studies of the CLASSIS MOESICA that its actual origins remain unclear⁵⁶⁵. Ivanov, however, produced an interesting model: accepting a naval presence on the Danube before the Flavian period, he argued that such vessels were not organized into a *classis*, but ran under the *praefecti* of the *portoria Ripa Thraciae* and *Ripa Danuvii* until AD 69/70⁵⁶⁶. AE 1960/70, 595a, identifying a *praefectus classis Moesicae et Ripa Danuvii*, could then be interpreted as dating to a stage of transition during the earliest stages of the CLASSIS MOESICA⁵⁶⁷.

While military diplomata show that the Moesian fleet was assigned to *Moesia Inferior* following the division of the province in AD 86⁵⁶⁸, current scholarship readily identifies permanent fleet bases throughout *Moesia Superior* and along the Black Sea littoral⁵⁶⁹. Had this been the case, it would have created similar administrative problems to those discussed with reference to the CLASSIS PANNONICA above, albeit on a smaller scale⁵⁷⁰.

It is generally assumed that the CLASSIS MOESICA was directly involved in the Dacian wars of the early 2nd century, although the only evidence for this comes in the form of naval scenes on Trajan's column in Rome⁵⁷¹. The remainder of the fleet's history and operations is

⁵⁶³ As suggested by Gudea (2001), p. 13. A reorganisation under Vespasian is put forward by Starr (1993), p. 132 and Condurachi (1974), p. 83.

⁵⁶⁴ Kienast (1966), p. 74. See also Bounegru & Zahariade (1996), p. 9; Strobel (1989), p. 17; Sarnowski (1987), p. 264.

⁵⁶⁵ Bounegru & Zahariade (1996), p. 8 state that "Il est difficile de préciser, au stade actuel de la documentation dont nous disposons, à quelle autorité furent subordonnées ces unités navales et comment furent elles organisées", despite later arguing that the fleet was established in AD 15, contrary to this very statement.

⁵⁶⁶ See Ivanov (1997), pp. 509&511: the organization of naval vessels into the CLASSIS MOESICA is to have occurred in the course of the wider reorganisation of the lower Danube frontier at this point.

⁵⁶⁷ See Appendix II; also Doroțiu-Boilă (1977). Ivanov's interpretation, however, is not without problems, as Reddé (1986), p. 407 argues that current data cannot prove the existence of the *portorium Ripa Thraciae* before the early 2nd century. Until an earlier date is proven, the above theory must therefore remain. See Saddington (1988) on *praefecti ripae* in general.

⁵⁶⁸ Ivanov (1997), p. 511; Starr (1993), p. 133.

⁵⁶⁹ Gudea (2001), p. 22; Ivanov (1997), pp. 511&512; Bounegru & Zahariade (1996), p. 19; Petrović (1991a). More critical, Reddé (1986), pp. 302-308.

⁵⁷⁰ See pp. 30/31 above.

⁵⁷¹ Starr (1993), pp. 133&134; Zahariade & Bounegru (1996), p. 35. Matei (1988) reconstructs an entire history of the fleet's involvement in Trajan's Dacian wars solely on the basis of plates from the column.

not generally understood, aside from its involvement in the conquest and control of Black Sea colonies⁵⁷². There is evidence that the CLASSIS MOESICA existed well into the third century: an inscription from *Tyras* was set up by a *miles classarius* in AD 214⁵⁷³ and the fleet is named as Κλασσης Φλαουιας Μυσικης Γορδιανης on a 3rd century inscription from *Tomis*⁵⁷⁴.

The identification of CLASSIS MOESICA bases is complicated by a number of factors: as with the chapter above, standard and extent of archaeological research vary significantly between modern countries in the study area. Some parts of the research area have furthermore been studied in significantly more detail than others in the course of regional research projects⁵⁷⁵. In addition to this, changes in the course of the Danube and serious erosion have affected several sites. This is particularly problematic in the Danube delta, where changes in the stream partly destroyed several sites and may well cover other, entirely unknown ones⁵⁷⁶.

Despite these problems, some attempts have been made to identify permanent bases of the Moesian fleet, but these rely heavily, if not solely, on historical data and unreliable source material. As with the CLASSIS PANNONICA, the assumption that sites identified as naval bases in the *Notitia Dignitatum* served as fleet bases during the Principate is commonplace⁵⁷⁷. In addition to this, a number of sites on the lower Danube are identified as permanent fleet bases solely because their names imply a naval association⁵⁷⁸. In view of these problems, the sites identified as CLASSIS MOESICA bases in current scholarship (**Fig. 3.2**) need to be reassessed in order to identify firm data from which to draw further conclusions on the history and development of the Moesian fleet, as discussed in Chapter I.

⁵⁷² See Bounegru & Zahariade (1996), pp. 15-22; Starr (1993), pp. 136&137.

⁵⁷³ AE 1990, 870. See discussion in Bounegru & Zahariade (1996), p. 22.

⁵⁷⁴ ISM II, 106. See Bounegru & Zahariade (1996), p. 21; Starr (1993), p. 137.

⁵⁷⁵ This is particularly evident in the Djerdap, where archaeological research was undertaken on a large scale prior to the construction of a hydro-electric dam. The detailed knowledge of this stretch of river is in stark contrast to other parts of *Moesia Superior*. See Gudea (2001), p. 38; Petrović (1991a), pp. 207-210; Petrović (1984); Petrović (1980).

⁵⁷⁶ For a discussion of these problems see Mitova-Džonova (1986), p. 504. The problems resulting from serious erosion are particularly evident at *Noviodunum*, see discussion below, pp. 115-118.

⁵⁷⁷ Bounegru & Zahariade (1996); Matei (1991); Mitova-Džonova (1986).

⁵⁷⁸ These are *Ratiaria* (see discussion below, pp. 101-103) and *Sexaginta Prista* (see discussion below, pp. 106&107). See also Ivanov (1997), pp. 512&513; Zahariade & Bounegru (1994), p. 37; Mitova-Džonova (1986), p. 507.

III.II SITES

1. MARGUM (Dubravica)⁵⁷⁹

The fortified Roman city of *Margum*, which can be identified with modern Dubravica on the basis of ancient geographical sources, dominates the confluence of the rivers Morava and Danube⁵⁸⁰. Visible remains form a 720m x 820m rectangle in the countryside, suggesting that *Margum* may have been a military site⁵⁸¹. Excavations in the late 1940s, however, did not produce any military finds⁵⁸². Arretine *sigillata* from the site indicates that *Margum* may have been occupied as early as the second half of the first century⁵⁸³.

While the main interest in the site lies in its possible identification as a production centre for a local type of *terra sigillata* called *Viminacium – Margum sigillata*⁵⁸⁴, it is not clear why it is frequently identified as a base of the CLASSIS MOESICA⁵⁸⁵. Indeed, the identification of *Margum* as a military site in general⁵⁸⁶ is highly problematic: while several stamped tiles from the site refer to a *castrum Margum*, these date to the fourth century. As such, they cannot be used in any argument for a military presence during the 1st-3rd centuries⁵⁸⁷. Any military association appears to be based on a remark by Kanitz, who took the rectangular plan and a reference in the *Notitia Dignitatum*, listing *Margum* as base of the

⁵⁷⁹ Site numbers in this chapter correspond with those used in the distribution maps, Figs. 3.2, 3.31, 3.32, 3.33, 3.34.

⁵⁸⁰ ItAnt 132,4; TabPeut VII,2. There are, however, some issues regarding the location of this site: The fort of *Margum* is situated on the Danube near the confluence the river *Margus* (Morava) and the Danube. The site of *Horreum Margi* (also known as *Horrea Margi*) also lies on the Morava – albeit significantly further south. The sites are frequently confused (e.g. Bounegru & Zahariade [1996] map 1, where *Horreum Margi* [2 on their map] is identified as a fleet base, even though there is no such evidence from the site). This is due to misinterpretations of the Antonine Itineraries and the Peutinger Tables. Mirković (1977) confuses the issue further by identifying the site at the confluence of the *Margus* and Danube as *Horreum Margi* (map p. 258). It must be noted, therefore, that the site discussed here is *Margum* on the Danube and not *Horreum Margi*, located further south on the Morava.

⁵⁸¹ Gudea (2001) p. 52, Bounegru & Zahariade (1996), p. 28.

⁵⁸² Mócsy (1970), pp. 144&5.

⁵⁸³ Bjelajać (1990), p. 191.

⁵⁸⁴ Rutkowski (1968), p. 22; Mirković (1986) p. 209; Bjelajac (1990) p. 200.

⁵⁸⁵ Viereck (1996); Reddé (1986).

⁵⁸⁶ Gudea (2001), p. 52.

⁵⁸⁷ Mirković (1986), p. 210.

classis Stradensis et Germensis, to imply a naval base at the site⁵⁸⁸. This entry in the *Notitia Dignitatum* appears to be the sole evidence for any arguments suggesting a CLASSIS MOESICA base at *Margum*⁵⁸⁹. While there is no direct evidence for the presence of the Moesian fleet, it must evidently be questioned whether *Margum* served any military purpose at all during the Principate.

2. VIMINACIUM (Kostolac)

Viminacium, the capital of *Moesia Superior*, is located on the right bank of the river Mlava near its confluence with the Danube and controlled an important junction of the Roman Danube Road⁵⁹⁰ (Fig. 3.3). As there are several visible remains, the fortress, civilian settlement and surrounding areas have a long history of antiquarian research⁵⁹¹. Regular investigations since 1977 have led to the excavation and detailed study of several cemeteries from the Roman to early medieval periods⁵⁹².

While such research shed light on many of the civic aspects of *Viminacium*, the military history of the site has been studied in far less detail, despite the visible remains of a rectangular fortification, extending to 443m x 385m⁵⁹³. Excavations in the late 19th century under Valtrović, as well as in 1902-03 under Vasić and 1957 under Pindić have provided some information regarding the history of this legionary fortress, which has two phases: the earliest is in earth and timber and has been dated to the late 1st century on the basis of south Gaulish *terra sigillata*⁵⁹⁴. Contexts associated with this phase yielded several lead pipes

⁵⁸⁸ Not. Dig. or. xli, 39; see also Mirković (1986), p. 210: “La présence d’un camp militaire romain à Margum n’a pas été archéologiquement confirmée, mais la forme strictement rectangulaire de la ville romaine, telle qu’elle apparaît sur le plan de Kanitz, est frappante...”, referring to Kanitz (1891).

⁵⁸⁹ For arguments suggesting *Margum* as a fleet base see Viereck (1996), p. 255; Petrović (1991a), p. 209; Bounegru & Zahariade (1996) rightly omit *Margum* from their 1st-3rd century fleet base map (Map 1) whilst including it for the 4th-6th century distribution (Map 2) – although misidentifying the actual site (see note 582).

⁵⁹⁰ Milošević (2002) p. 151, Gudea (2001), p. 53; ItAnt 133,2; TabPeut VII,2.

⁵⁹¹ For a discussion of the research history and further references see Mócsy (1970), pp. 145-158; see also Popović (1967).

⁵⁹² Milošević (2002) p. 151; Spasić-Djurić (2002).

⁵⁹³ According to Popović (1967), the “precise” measurements are 442,7m x 385,6m.

⁵⁹⁴ Bjelajac (1990), p. 24.

stamped by both LEG VII CLAVDIA and LEG III FLAVIA. The fortress was rebuilt in stone and garrisoned by LEG VII CLAVDIA, as shown by numerous inscriptions that refer directly to this legion and LEGVIICL stamped tiles that are found throughout the fortress in several styles. *Terra sigillata* associated with this second period ranges from the Trajanic period until the early 3rd century⁵⁹⁵. Gudea argues that LEG VII CLAVDIA was stationed at *Viminacium* from AD 56-57 onwards, although he does not provide evidence for this hypothesis⁵⁹⁶.

Several fragments of military diplomata, as well as one entirely preserved *constitutio*, have been found at *Viminacium*⁵⁹⁷. While all of these date post AD 92, they do not include references to the CLASSIS MOESICA. In fact, the fleet does not appear on a single diploma from *Moesia Superior*⁵⁹⁸. Nonetheless, Bounegru and Zahariade identify *Viminacium* as the upstream limit of the CLASSIS FLAVIA MOESICA's sphere of action from the 1st – 3rd century⁵⁹⁹. This theory is based on an inscription found at nearby *Naissus* (Niš), which identifies Lucius Cassius Candidus as a *miles classiarius*⁶⁰⁰. While this title and his position of *disces epibata* indicate a connection to a naval unit⁶⁰¹, he clearly served in LEG VII CLAVDIA rather than in the CLASSIS MOESICA⁶⁰². This suggests that the legion based at *Viminacium* may have sustained its own naval arm, but is clearly not evidence for the presence of the Moesian fleet.

Structural remains near *Viminacium* have been identified as a fortified harbour or landing place, but they have a *terminus post quem* of AD 542⁶⁰³ (Fig. 3.4). As such, their construction is probably related to building activity on the site of the civilian settlement and

⁵⁹⁵ Bjelajac (1990); see also Gudea (2001), p. 55.

⁵⁹⁶ Gudea (2001), p. 53.

⁵⁹⁷ On fragments see Dušanić (2001); Mirković (1999); Dušanić (1997); Mirković & Vasić (1986). The preserved diploma is discussed in Dušanić & Vasić (1977).

⁵⁹⁸ See discussion of CIL XVI, 37, note 561 above.

⁵⁹⁹ Bounegru & Zahariade (1996), p. 19. For further identifications of *Viminacium* as a CLASSIS MOESICA base see e.g. Viereck (1996), p. 255; Petrović (1991a), p. 27.

⁶⁰⁰ CIL III, 14567. See also Bounegru & Zahariade (1996), pp. 35&36; Sarnowski & Trynkowsky (1986), p. 539; Reddé (1986), p. 303.

⁶⁰¹ For a discussion of the rank of *disce(n)s epibata* see Viereck (1996), p. 246.

⁶⁰² Indeed, it is this reference to the garrison of *Viminacium* that leads to the suggestion that *Viminacium*, rather than the findspot *Naissus*, was used as a naval base.

⁶⁰³ Based on numismatic material from foundation trenches. Mirković (1999) p. 20.

the establishment of a *castrum* in the Justinianic period⁶⁰⁴. A late Roman naval presence is supported by the *Notitia Dignitatum*, which identifies *Viminacium* as a base of the CLASSIS HISTRICA⁶⁰⁵.

While there is evidence for a late Roman fleet base at *Viminacium*, naval activity during the Principate is attested by a single inscription suggesting a naval arm of LEG VII CLAVDIA. There is no evidence, therefore, that the CLASSIS MOESICA ever maintained a permanent base here.

3. NOVAE (Česava)

The auxiliary fort of *Novae* is located at the confluence of the river Česava and the Danube⁶⁰⁶. It has an earth and timber phase, dated to the first half of the 1st century AD on the basis of Claudian and Neronian coins. A destruction layer has been linked with Dacian incursions in AD 68-69, but there seems to be no evidence for this hypothesis. A second earth and timber fort dates to the second half of the 1st century AD. In the Trajanic period, a stone fort of roughly 150m x 150m was built by COHORS I MONTANORUM, as shown by a building inscription and several stamped tiles⁶⁰⁷. A limited number of tiles stamped by LEG VII CLAVDIA, based at nearby *Viminacium*, have also been found. These occur mainly in the *vicus*, located on the opposite side of the Danube in modern day Romania⁶⁰⁸.

Petrović has argued that the fort at Česava maintained harbour facilities of a type similar to the fortified landing site (*Lände-Burgus*) at Hajdučka Vodenica, but the photographs provided as evidence are of such poor quality that hardly anything can be identified on them⁶⁰⁹ (Figs. 3.5, 3.6): apparently, a wall with tower foundations at its end runs

⁶⁰⁴ Milošević (2002), p. 154.

⁶⁰⁵ Not. Dig. or. xli, 39.

⁶⁰⁶ ItAnt 281,1; TabPeut VII.

⁶⁰⁷ The size of this fort is far from clear: Gudea (2001), p. 63 lists five separate and published measurements. See also Gudea (2001), p. 64; Vasić (1990); Vasić (1987); Vasić (1982/83).

⁶⁰⁸ Gudea (2001), p. 64.

⁶⁰⁹ Petrović (1991a), p. 212.

down towards the river⁶¹⁰. A site plan by Gudea, based on sketches by Marsigli, also identifies structures on the river bank (Fig. 3.7). Even if the identification of these remains as a Roman landing site is accepted, it cannot be taken to imply a CLASSIS MOESICA base at Česava, as the Hajdučka Vodenica design of landing sites is late Roman. For a late Roman landing site at Česava to be proven, however, clearer evidence needs to be presented, as the site is not associated with a fleet in the *Notitia Dignitatum*: it is listed as the base of the AVXILIARES NOVENSES and a unit of MILITES EXPLORATOIRES⁶¹¹.

The only link between Česava and the CLASSIS MOESICA is a diploma dated to around AD 140 that lists the fleet as part of the *exercitus Moesicae Inferioris*⁶¹². This constitution, however, cannot be taken as evidence that the Moesian fleet maintained a base at Česava, as the fleet is only one of the units listed on it. As such, the diploma could have belonged to any soldier from any of the units mentioned on it. By virtue of its being proof of discharge from the army, anybody in possession of such a constitution would furthermore no longer have been a member of the CLASSIS MOESICA.

As the diploma is therefore of no use in an attempt to identify a permanent fleet base, the possible remains of a late Roman landing site provide the only evidence that could be used to argue for a naval presence at Česava⁶¹³.

4. DROBETA (Turnu-Severin)

Drobeta is one of the most studied sites in modern Romania⁶¹⁴. The Roman remains consist of a fort and the ruins of a Roman bridge usually seen as Trajan's Danube Bridge⁶¹⁵. This direct association with the emperor may well be one of the reasons for the intensity of

⁶¹⁰ Gudea (2001), p. 39 and Petrović (1991a), p. 209.

⁶¹¹ Not. Dig. or. xli, 23&34.

⁶¹² RMD 2, 106 = AE 2001, 1725; see also Vasić (1987), p. 122.

⁶¹³ There is, therefore, no reason to assume a CLASSIS MOESICA base, as suggested by e.g. Gudea (2001), p. 39; Petrović (1991a), p. 27.

⁶¹⁴ TabPeut VII; Mócsy (1970), pp. 116, 123, 166, 207.

⁶¹⁵ Gudea (2001), p. 81; Tudor (1965); Davidescu (1980).

research that has been carried out at this site⁶¹⁶. The first fort at *Drobeta* was constructed of earth and timber and has been dated to the Flavian period – though not on the basis of any published finds⁶¹⁷. Its plan is not known. A stone fort measuring 123m x 137.5m, which is situated on a level plateau on the left side of the Danube, was built to replace it in the Trajanic period⁶¹⁸.

The stone fort at *Drobeta* had extension walls that enclosed a stretch of the Danube bank, and have been interpreted as a ship landing site⁶¹⁹ (Fig. 3.8). On the basis of the alleged fortified port created by these walls, *Drobeta* has frequently been identified as a base of the CLASSIS MOESICA⁶²⁰. This particular means of fortifying a bank, however, is almost identical to the design found at late Roman Hajdučka Vodenica and observed at the late installation of Česava⁶²¹. It is not clear, therefore, whether the fortified bank at *Drobeta* may not in fact be a late Roman addition to the fort. This seems to be indicated by the plan published in Bounegru and Zahariade (Fig. 3.9), which shows the eastern extension wall to be joined to a projecting fan-shaped tower. This tower, however, is part of the Diocletianic/Constantinian fortress that replaced the Trajanic fortification⁶²² (Fig. 3.10). It is equally possible that the extension walls running down to the river may originally have been joined by a third wall to form an enclosed annexe⁶²³, but that this third wall has been eroded by the Danube (Fig. 3.11). Despite these problems, Bounegru and Zahariade use *Drobeta* as an example of a ‘typical’ riverine harbour of the CLASSIS MOESICA⁶²⁴.

⁶¹⁶ For a complete history of excavations and further references see Gudea (2001), pp. 81-85.

⁶¹⁷ Florescu (1967), p. 145; Gudea (2001), p. 83.

⁶¹⁸ Tudor & Davidescu (1976).

⁶¹⁹ Gudea (2001), p. 82.

⁶²⁰ E.g. Gudea (2001), p. 81; Bounegru & Zahariade (1996), pp. 1, 10, 82; Petrović (1991a), p. 209.

⁶²¹ See pp. 93&94 above.

⁶²² For the dating of fan-shaped projecting towers in the Balkans in general and *Drobeta* in particular, see Southern & Dixon (1996), pp. 133-135. A later date for the extension walls may also be implied by the round end tower to the eastern wall implied by Gudea in Fig. 3.8, as round straddling corner towers are usually seen as an example of late 3rd/early 4th century military architecture (see Visy [2003b], pp. 112-114); Mackensen [1995], p. 101).

⁶²³ As frequently found in the region, for example at *Oescus* (see Ivanov [1997], p. 551), *Novae-Svistov* (see Ivanov [1997], p. 562 and *Nicopolis ad Istrum* (see Poulter [1999], pp. 4&5).

⁶²⁴ Bounegru & Zahariade (1996), pp. 82&93.

Four tiles stamped by the CLASSIS MOESICA have been found amongst those of other units at *Drobeta*⁶²⁵. In view of the sheer number of units supplying tiles for the building of the bridge and fort at *Drobeta*, however, a permanent base of the CLASSIS MOESICA cannot be suggested on the basis of only four stamped tiles. As there is no epigraphic material supporting the hypothesis of a fleet base at this site, the current identification of *Drobeta* as a base of the CLASSIS MOESICA is therefore by no means certain.

5. EGETA (Brza Palanka)

There are three Roman forts at the modern site of Brza Palanka, which has been identified as ancient *Egeta*⁶²⁶ (Fig. 3.12). These occupy elevated plateaus dominating the confluence of the Cerveni and Danube rivers. The earliest of the three forts has a typical rectangular plan with side lengths of 106m by 94m⁶²⁷. In view of its architecture, particularly its smaller size and the projecting round corner-towers, Fort II appears to date to the 3rd century⁶²⁸. Fort III must have been the latest fortification, with a triangular plan adapted to the requirements of local topography. There is no precise information on its size, as it has suffered severely from erosion⁶²⁹. To date, only Forts I and II have been partially excavated⁶³⁰. The former consists of an earth and timber phase, succeeded by a stone fort⁶³¹,

⁶²⁵ Other units include: COH I ANTIOCHENSIVM, COH III CAMPESTRIS, LEG I ITAL, LEG IIII FLAVIA FELIX, LEG V MAC, LEG VII CLAVDIA, LEG XIII GEMINA, COH I CRETVM, COH III BRITTONVM, COH II HISPANORVM, ALA GALLORVM ET PANNONIORVM; see Gudea (2001), pp. 83-85.

⁶²⁶ Also known as Aegeta – see Bounegru & Zahariade (1996), pp. 24, 25, 28, 85, 88; also known from ItAnt 218,3 and TabPeut VII.

⁶²⁷ These three forts are identified either as A, B and C (see Kanitz [1892]; Petrović [1984]) or I, II and III respectively (see Gudea [2001]; Petrović [1980]; Petrović [1986]). For the earliest (A/I), see Petrović (1984), p. 161: there is some disagreement as to its actual size. The above measurement is published both by Kanitz (1891) and Petrović (1984). Gudea (2002), however, presents two further measurements, namely that of Kondić (130m x 150m) and one by himself (140m x 150m). There is no conclusive discussion or presentation of evidence as to which of these measurements actually is accurate.

⁶²⁸ Petrović (1984), p. 161 cites Kanitz as giving side lengths of 54m x 26m. On p. 164, however, he states that the fort has side lengths of 84m x 33m. This discrepancy is not, however, given any discussion. For the second fort at Egeta, see Wilkes (2005), p. 211. On the dating of rounded corner towers, see note 624 above.

⁶²⁹ Petrović (1984), p. 161.

⁶³⁰ Petrović (1984).

⁶³¹ Gudea (2002), p. 87.

while the construction of Fort II, which was built in stone from the outset, has not been dated accurately⁶³².

The excavations at *Egeta* produced some datable finds: Arretine *sigillata*, Vespasianic and Domitianic coins. These are, however, of little use for dating the fortifications, as their context is not clear: Petrović uses them as dating evidence for Fort II⁶³³, while Gudea associates precisely the same finds with the stone phase of Fort I⁶³⁴. Tilestamps of both COHORS I CRETUM and LEG VII CLAVDIA have been found throughout Fort I⁶³⁵.

Despite the absence of any epigraphic evidence for the fleet, *Egeta* has been identified as a base of the CLASSIS MOESICA⁶³⁶. This identification rests on Petrović's hypothesis that parallel structures running towards the river may have been part of Roman docks⁶³⁷. The walls he reproduces on the basis of a plan by Kanitz could indeed be interpreted as part of a naval installation (Fig. 3.13). They are, however, clearly associated with Fort I, while Petrović links his proposed harbour remains with Fort III⁶³⁸. If associated with Fort III, they must be late Roman, as suggested by Bounegru and Zahariade who identify them as a late Roman to Byzantine harbour⁶³⁹. This theory is supported by the fact that the *Notitia Dignitatum* lists *Egeta* as base of the *praefectus Classis Histricae*⁶⁴⁰.

It is important, therefore, to identify whether the features on Kanitz' plan may in fact be interpreted as the remains of a 1st-3rd century harbour. This, however, is virtually impossible without further excavation, as no datable finds from this area have ever been published. As it is, the identification of a harbour solely on the basis of a 19th century plan can

⁶³² Petrović (1984), p. 165.

⁶³³ Petrović (1984), p. 165. The association of 1st century finds with a structure that appears to date to the 3rd century on the basis of its architecture, however, seems unlikely and is not adequately explained.

⁶³⁴ Gudea (2002), p. 87 – an argument that makes more sense in terms of the dating of the finds. It cannot be relied on, however, due to clear errors of site and finds association at other points in Gudea's study, as shown in the case of *Margum*, pp. 90&91 above.

⁶³⁵ Gudea (2002), p. 87.

⁶³⁶ Gudea (2001), p. 39; Petrović (1991a), p. 209.

⁶³⁷ Petrović (1991a), p. 210.

⁶³⁸ See Petrović (1986), p. 372: "Cette muraille est disposée perpendiculairement au lit du fleuve et descend rapidement du haut plateau (où l'on a identifié le castellum III de plan triangulaire flanqué de tours circulaires)".

⁶³⁹ Bounegru & Zahariade (1996), p. 85.

⁶⁴⁰ Not. Dig. or. xlii, 42.

at best be vague. It can therefore not be said with certainty whether harbour installations existed at *Egeta* during the Principate. Even if such facilities existed, however, there is no data to link them with the CLASSIS MOESICA. Indeed, frequent references to COHORS I CRETVM on stamped tiles and votive offerings from a sanctuary to *Iupiter Dolichenus*⁶⁴¹ suggest that this was probably the garrison of *Egeta*.

6. AQUAE (Prahovo-Kusjak)

None of the major works on the Roman Provincial fleets mention the site of Prahovo-Kusjak, even though it is one of the most important sites for any study of Roman use of the Danube and naval activity in the Balkans: the site of Prahovo-Kusjak has been identified as the Roman fort of *Aquae* and was excavated briefly in the late 1950s⁶⁴². The site of this auxiliary fort is still visible in the modern topography as an elevated rectangle of 840m x 485m⁶⁴³. The fort itself, however, was substantially smaller, as the elevated area is divided by a substantial man-made ditch⁶⁴⁴. The earliest phase, which has produced no datable finds, is of an earth and timber construction⁶⁴⁵. A second phase in stone can be dated to AD 99 on the basis of a building inscription which unfortunately fails to mention the garrison⁶⁴⁶. There are a number of tiles stamped by LEG XIII GEMINA⁶⁴⁷ as well as two funerary inscriptions mentioning a COHORS I CANTABRORVM and a COHORS III CAMPESTRIS⁶⁴⁸.

A naval base at *Aquae* has been suggested ever since the 1986-88 excavations at the site which discovered a Roman harbour and the remains of two Roman ships⁶⁴⁹. The remains of the harbour essentially consist of a long quay made out of ashlar, as well as a series of

⁶⁴¹ Mócsy (1974), p. 256; Vučković-Todorović (1964-65), p. 182.

⁶⁴² Gudea (2001), p. 89; for a reference to *Aquae* see also TabPeut VII.

⁶⁴³ Gudea (2001), p. 89; Jovanović (1996), p. 263; Mócsy (1970), p. 53.

⁶⁴⁴ Mócsy (1970), p. 53.

⁶⁴⁵ Gudea (2001), p. 89.

⁶⁴⁶ CIL III, 1642.

⁶⁴⁷ CIL III, 14599.

⁶⁴⁸ IJL III, 463; IJL III, 461.

⁶⁴⁹ For suggestions of a naval base at *Aquae* see Gudea (2001), pp. 27; Petrović (1991a), p. 209. Excavations at the site were carried out in the course of a large research project prior to construction of the Djerdap II dam: Petrović (1991a), p. 216; Petrović (1991b), p. 295.

columns mounted on stone platforms, which have been interpreted as mooring fastenings for ships⁶⁵⁰ (Fig. 3.14). Series of solid planks have been found together with the stone blocks of the quay, indicating that there may have been a wooden sheathing to protect moored ships from wear⁶⁵¹. Petrović argues that in addition to the quay, two parallel walls ran into the Danube and formed a protected harbour basin⁶⁵². This last hypothesis is somewhat unreliable, however, as it is only stated in one publication, and no supporting plans are provided.

During excavation of the harbour, wooden remains were identified as two Roman ships⁶⁵³ (Fig. 3.15). Unfortunately, post excavation conservation of these timbers has been somewhat rudimentary, making any interpretation of the remains difficult⁶⁵⁴. For this very reason, these highly interesting remains are only known through a brief note made at the 15th *Limeskongress* and a summarizing description with some interpretative attempts by a German specialist⁶⁵⁵. Bockius does not offer any interpretation of wreck one, stating merely that it “appears to be a bundle of planks connected to each other by iron clamps”⁶⁵⁶. He further argues that the two separate finds may be the same vessel, as the construction is very similar⁶⁵⁷. Ship 2 has been dated to the 2nd century as it was found overlying a Trajanic coin and associated with ‘a brooch’⁶⁵⁸. There is some disagreement regarding the construction

⁶⁵⁰ Petrović (1991a), p. 216; Petrović (1991b), p. 296. These columns have clear marks worn into them, apparently by ropes. These vary in height by about 1m, apparently indicating differing water levels in the Danube according to season.

⁶⁵¹ Petrović (1991b), p. 297.

⁶⁵² Petrović (1991a), p. 216.

⁶⁵³ Petrović (1991b), p. 297.

⁶⁵⁴ Bockius (2000), p. 169; it appears that the timbers have been treated with an ‘obscure substance’ that actually sped up their deterioration, rather than preserving them. Any interpretation is further hindered by the fact that there are no sketches or other means of reconstructing the original positions of individual timbers, which have been ‘conserved’ individually.

⁶⁵⁵ Petrović (1991b); Bockius (2000).

⁶⁵⁶ Bockius (2000), p. 169; the use of iron clamps is highly interesting, as it indicates that ship 2 from Prahovo-Kusjak combines both Mediterranean and North-European ship building techniques (see Bockius [2000], pp. 175 ff.).

⁶⁵⁷ It is equally possible that there are two separate vessels constructed in the same method. This seems more plausible as the two clusters of wood were found ca 40 metres away from each other (Petrović [1991b], p. 297). This does, however, mean that there is an entirely unpublished Roman ship at *Aquae* which cannot be identified further as it has not been studied and no photographs have been published.

⁶⁵⁸ Bockius (2000), p. 171 refers to this as a personal comment by Petrović, but does not elaborate on the type of brooch in question.

material of ship 2, originally identified as poplar, as one piece of it was studied in detail at the RGZM in Mainz and clearly identified as oak⁶⁵⁹.

While Prahovo produced the only finds of Roman ships in this region these cannot be linked to the CLASSIS MOESICA: Bockius' investigations clearly showed that the vessel studied was of a flat bottomed type. While it is impossible to reconstruct the hull shape accurately as the wood has been significantly contorted, the flat bottom and virtually rectangular cross-section show that ship 2 cannot have been a military vessel⁶⁶⁰.

As *Aquae* is situated at the lower end of the second of the Iron Gate gorges, it may well have been an important harbour for civilian shipping: the sheer rock faces of the Djerdap would have made mooring impossible (Fig. 3.16). Any vessels having to pass through the lower Djerdap could therefore have awaited favourable conditions for an upstream passage at *Aquae*⁶⁶¹. Considering the stream levels in the Djerdap – the Danube narrows from a width of more than 5km upstream of the two gorges to about 200m at their narrowest point – it seems equally possible that the different levels of rope marks in the 'mooring columns' from *Aquae* indicate the offloading of heavy cargoes from vessels attempting an upstream journey at the site. Such cargoes might then have been transported along the Djerdap road, making the ships' passage easier and safer⁶⁶² (Fig. 3.17).

⁶⁵⁹ Bockius (2000), p. 171.

⁶⁶⁰ Indicated by the use of rectangular chine-blocks, see Bockius (2000), p. 174.

⁶⁶¹ This may have included simple issues of timing such as waiting for daytime in order to pass through the Iron Gates in daylight. As the stream through the Iron Gate gorges before the building of hydroelectric dams was even more substantial than today, *Aquae* may furthermore have served as a safe harbour to sit out times when the Danube carried more water than usual (such as after heavy rainfalls), possibly making any passage unsafe if not impossible.

⁶⁶² It seems likely that the Djerdap road was also built for towing ships upriver, or to give extra control to vessels moving downstream by guide ropes held from the bank. While the building of this road was clearly a major engineering project that involved several legions and auxiliary units (as shown by several inscriptions [e.g. Fig. 3.18], LEG VII CLAUDIA and LEG III FLAVIA are mentioned directly in an inscription found near the *Tabula Traiani* [see Petrović [[1990]], p. 887]), there is no evidence for the CLASSIS MOESICA's involvement. See also Jordović (1996); Petrović (1990); Šašel (1973). The above suggestion would suggest that a similar harbour may have been located at the downstream end of the Upper Iron Gate gorge (e.g. *Diana* or *Drobeta*?), as well as the upstream ends of either gorge (e.g. *Dierna&Transdierna* and *Egeta* respectively?). Any such hypothesis could, however, only be proven by further research at the sites in question. This has probably become impossible due to the construction of two hydroelectric dams and consequent creation of large reservoirs in the region.

While Prahovo may therefore well have played a central role in Danube shipping during the Roman period, there is no evidence for an extended presence of the CLASSIS MOESICA at the site. Any suggestion of a fleet base at *Aquae* appears to rest solely on Petrović's unproven hypothesis of a strong naval presence throughout the entire Djerdap⁶⁶³.

7. RATIARIA (Arčar)

Scattered remains of Roman structures in the Kaleto area near the village of Arčar have been identified as the ancient military and civilian centre of *Ratiaria*, commonly argued to have been a base of the CLASSIS MOESICA, on the basis of an inscription referring to the *Colonia Ulpia Traiana Ratiaria*⁶⁶⁴. There are numerous epigraphic finds from the site, 14 of which can be associated with the Roman military⁶⁶⁵. None of these, however, mention the CLASSIS MOESICA or any naval ranks.

Despite a long cooperation project between the University of Bologna and the Bulgarian Academy of Sciences archaeological data from *Ratiaria* remains scarce. Apart from apparently late Roman fortification walls in the Kaleto area, no structures indicating a military presence have been discovered⁶⁶⁶. As Claudian and Neronian coins, as well as small finds, confirm continuous occupation throughout the 1st and 2nd centuries, however, an earlier fort at the site is generally assumed⁶⁶⁷. From the end of Trajan's Dacian Wars onwards, *Ratiaria* appears to have lost any potential military importance until the late Roman period, and became one of the most important civic centres in *Moesia Superior*⁶⁶⁸.

⁶⁶³ Petrović (1991a); Petrović (1991b).

⁶⁶⁴ CIL III, 14499. Discussions of *Ratiaria* can be found in Hosek & Velkov (1958), p. 32; Velkov (1966), p. 155; Velkov (1987), p. 7. *Ratiaria* is also referred to in ItAnt 219,3 and TabPeut VIII. For the identification of *Ratiaria* as a fleet base: Gudea (2001), p. 93; Bounegru & Zahariade (1996), p. 12; Sarnowski & Trynkowsky (1986), p. 537; Reddé (1986), p. 303.

⁶⁶⁵ The identified units are LEG IIII FLAVIA (CIL III, 6239), LEG XIII GEMINA (CIL III14646) and an ALA CLAVDIA (CIL III 14217). There are a number of tiles stamped by LEG III FLAVIA, LEG V MACEDONICA, LEG VII CLAVDIA, LEG XII GEMINA and COHORS I CRETVM (Gudea [2001], p. 94; Bollini [1980]). For a detailed discussion of civic and military inscriptions from *Ratiaria* see Ivanov (1987), esp. pp. 30&31.

⁶⁶⁶ Popova-Asenova & Atanasova (1987) pp. 85ff.

⁶⁶⁷ Gudea (2001), pp. 93

⁶⁶⁸ Gudea (2001), p. 94; Naidenova (1983), p. 251; Velkov (1966), p. 158

The *Notitia Dignitatum* refers to a *praefectus classis Ratiariensis*, which may explain the common identification of the site as a naval base to some extent⁶⁶⁹. Most publications on *Ratiaria*, however, argue that it must have been a fleet base in view of its name: as *Ratiaria* appears to be derived from *ratis*, meaning a raft or small type of vessel, it is believed to imply an important naval connection⁶⁷⁰. This theory, however, cannot be supported as the term *ratis* is not known to have been used in a military context. Even if the town's name was a direct reflection of its nature, therefore, this need by no means have been military. Indeed, the *Althiburbus* mosaic from Tunisia, which illustrates various types of ships, includes a *ratis sive ratiaria*⁶⁷¹ (Fig. 3.19). The vessel depicted, however, is little more than a simple rowing boat similar to the *musculus* type. As such, the name *Ratiaria* can hardly be taken to imply a permanent presence of the CLASSIS MOESICA.

Some scholars have argued for a CLASSIS MOESICA base at *Ratiaria* as early as AD 12 on the basis of two passages in Ovid⁶⁷². Upon critical evaluation, however, it emerges that Ovid does not actually mention *Ratiaria* by name. Velkov, who developed this theory, assumed that the point of departure of the naval expeditions discussed by Ovid was *Ratiaria* solely on the basis of the etymological considerations discussed above⁶⁷³.

In view of the above discussion, it is important to note that, despite significant efforts, an Italian team tasked with finding Roman harbour facilities at *Ratiaria* as part of the Italo-Bulgarian cooperation project was unable to do so. Instead, they suggested a hypothetical location based solely on topographic considerations⁶⁷⁴.

⁶⁶⁹ NotDig Or. 42, 43.

⁶⁷⁰ Bounegru & Zahariade (1996), p. 21; Velkov (1966), p. 157; Giorgetti (1983), p. 21.

⁶⁷¹ The mosaic originates in the *frigidarium* of the House of the Muses at *Althiburbus*, and is now located in the Bardo museum, Inv. Tun. 576.

⁶⁷² Ovid, *Ex Ponto* IV, 7.27 and IV, 9.75 discuss the campaigns of Vitellius and L. Pomponius Flaccus, who sailed up the Danube with flotillas to attack the Delta cities of Aegyssos and Troesmis. See Bounegru & Zahariade (1996), p. 14; Velkov (1966), p. 156.

⁶⁷³ Velkov (1966), p.156. Even if these two naval expeditions were to have left from *Ratiaria*, however, there is no reason to link these flotillas to the CLASSIS MOESICA unless it can be proven that the unit actually existed as early as AD 12.

⁶⁷⁴ Brizzi (1984), p. 83

Evidently, none of the arguments for a naval base at *Ratiaria* stand up to critical analysis. As there is no evidence for a naval presence at the site other than a reference in the *Notita Dignitatum*, there is therefore no reason to believe that *Ratiaria* ever served as a base of the CLASSIS MOESICA.

8. DIMUM (Belene)

While *Dimum* is referred to in the Antonine Itineraries⁶⁷⁵, its location is subject to some discussion: while some scholars locate it between the modern cities of Svistov and Rusé in Bulgaria⁶⁷⁶, the actual site of *Dimum* is on a Danube island near modern Belene, west of Svistov⁶⁷⁷ and is argued to be one of the main bases of the CLASSIS MOESICA⁶⁷⁸. While the site's location on an island may suggest a naval unit as garrison, there is little in the archaeological record to support such a claim: apparently, surface surveys at the site during the 1970s identified the remains of wharves and workshops for the refitting of ships, as well as harbour installations⁶⁷⁹. The sources cited to support this claim, however, mention no such evidence⁶⁸⁰, and the only archaeological evidence is that of a Constantinian fortress⁶⁸¹. Earlier fortifications are assumed on the basis of numismatic finds from the Flavian period and solitary 1st century *terra sigillata* and amphorae, but no associated structures have been found⁶⁸².

The only published 'evidence' for naval installations are a number of apparently man-made canals which have been identified as so called *plateypegiis*, and are argued to have

⁶⁷⁵ ItAnt 225,3.

⁶⁷⁶ Bounegru & Zahariade (1996), Map 1.

⁶⁷⁷ Ivanov (1999), p. 507; Ivanov (1997), p. 554; Mitova-Džonova (1994); Mitova-Džonova (1986).

⁶⁷⁸ Mitova-Džonova (1994), p. 52 Mitova-Džonova (1986), p. 506.

⁶⁷⁹ Mitova-Džonova (1994), pp. 52.

⁶⁸⁰ See Mitova-Džonova (1986), p. 505 with further references. Bounegru & Zahariade (1996), p. 14 write that "on **suppose avoir existé** plusieurs installations portuaires, des canaux pour le refuge des navires, même des chantiers navals de réparations.", suggesting that they were also unable to find any evidence for Mitova-Džonova's theory.

⁶⁸¹ Ivanov (1999), p. 507; Ivanov (1997), pp. 554&555.

⁶⁸² For a discussion of small finds see Mitova-Džonova (1994), pp. 54&55 + appendix, pp. 61ff.

served as docks for the building, repair and sheltering of vessels of the CLASSIS MOESICA⁶⁸³. It is by no means certain, however, that these canals were indeed man-made, or that they are Roman. The author furthermore states that they are located in a swamp⁶⁸⁴. It seems plausible, therefore, that the canals simply served as regular waterways or were part of a drainage system, rather than being part of an elaborate naval infrastructure.

A passage in Theophylactus Simocatta, stating that ships were constructed at a site called *Securisca*, has also been taken as evidence for a naval presence at *Dimum*⁶⁸⁵. As *Dimum* cannot simply be equated with the nearby site of *Securisca*, despite Mitova-Džonova's best attempts to do so, however, this argument is clearly flawed. Even if *Dimum* could be read for *Securisca*, however, it cannot be assumed that a site which saw ship construction in the 7th century was necessarily a naval base during the Principate.

9. NOVAE (Svistov)

Over the past decades, the legionary fortress at *Novae* has been extensively excavated by Polish Archaeologists⁶⁸⁶. It appears certain that the camp was the base of LEG I ITALICA, although the site has frequently been listed as a base of the CLASSIS FLAVIA MOESICA⁶⁸⁷. The fortress, measuring 485m by 365m has two main phases⁶⁸⁸: the earlier earth and timber phase is dated to the Flavian period, replaced by a stone phase in the early 2nd century AD, after which the fortress remained occupied without major changes until the mid 3rd century AD⁶⁸⁹. The site has been identified as the base of LEG I ITALICA on the basis of numerous stamped tiles and inscriptions from the site⁶⁹⁰.

⁶⁸³ Mitova-Džonova (1986), p. 506.

⁶⁸⁴ Mitova-Džonova (1986), p. 506.

⁶⁸⁵ Mitova-Džonova (1994), p. 58.

⁶⁸⁶ Donevski (1997); Dyczek (1997); Sarnowski (1996); Donevski (1996); Sarnowski & Trykowski (1986).

⁶⁸⁷ Bounegru & Zahariade (1996), pp.10&11; Viereck (1996), p. 255.

⁶⁸⁸ Donevski (1997), p. 332.

⁶⁸⁹ Donevski (1996), p. 202; Donevski (1997), p. 332.

⁶⁹⁰ For a full discussion see Kolendo (2001).

The identification of *Novae* as a naval base rests on a number of structures on the Danube beach that have been identified as a harbour⁶⁹¹ (Fig. 3.20): three parallel sets of walls at a right angle to the river bank have been interpreted as the remains of ship-sheds⁶⁹² (Fig. 3.21). As Sarnowski does not provide accurate plans or precise measurements, however, this identification remains unproven. A connection with some form of naval installation remains likely as the structures are situated between the legionary fortress and the river Danube. Nearby, a long stone structure runs into the river. Sarnowski identifies this as a driveway for carts and wagons to unload ships⁶⁹³. Stone ashlar found in the river Dermen Dere have been identified as traces of a breakwater or quay (Fig. 3.22), while a ditch fortified with shoed oak posts is identified as a wharf or dock structure⁶⁹⁴ (Fig. 3.24).

None of the structures presented as a harbour are convincing in themselves and their interpretation is mere conjecture. Indeed, Sarnowski himself states that his so-called breakwater may be nothing more than a cargo of stones dropped from a ship and never recovered⁶⁹⁵. The fact that there are numerous remains, however, all of which are dated to the 1st-3rd century on the basis of associated surface material does suggest that there was some degree of naval activity at this site in the Roman period⁶⁹⁶.

This hypothesis is strengthened by a number of tiles from *Novae*: these have been marked with a stamp in the shape of a ship and read LEG I ITAL (Fig. 3.24). These stamps have been taken as evidence that the legion from *Novae* had its own vessels⁶⁹⁷. It is therefore reasonable to assume that the structures found in the river and on the beach at *Novae* may indeed be the remains of a Roman harbour. They do not, however, allow for the clear identifications of the structures suggested by the excavator.

⁶⁹¹ Sarnowski (1996), p. 197.

⁶⁹² Sarnowski (1996), p. 197.

⁶⁹³ Sarnowski (1996), p. 197.

⁶⁹⁴ Sarnowski (1996), p. 198. The shoed oak posts are described as similar to known Roman bridge posts.

⁶⁹⁵ Sarnowski (1996), p. 197.

⁶⁹⁶ Sarnowski (1996), p. 196.

⁶⁹⁷ Sarnowski (1996), pp. 199&200; Sarnowski & Trynkowski (1986).

While a degree of naval activity may be postulated at *Novae*, any such theory must focus on the concept of the legion stationed here sustaining its own naval arm, as there is some circumstantial evidence for this. There is no evidence, however, that *Novae* ever was used by the CLASSIS MOESICA.

10. SEXAGINTA PRISTA (Rusé)

Ancient sources use several different names for the site of *Sexaginta Prista*: permutations include *Sexsanta Prista* or simply *Prista*, as well as *Sexaginta Pristis*⁶⁹⁸. *Sexaginta Prista*, however, is by far the most common in epigraphic sources and generally used in modern scholarship⁶⁹⁹. The site is frequently identified as an important base of the CLASSIS MOESICA⁷⁰⁰. As it lies beneath the modern city of Rusé, however, archaeological investigations have been few and unsystematic, and have to date discovered no more than a corner of a late Roman fortification with walls running off towards the south and west⁷⁰¹. Several numismatic finds date this structure to the second half of the 3rd/early 4th century⁷⁰². There may well have been a predecessor fort from the first century onwards, as an inscription indicates a military presence at *Sexaginta Prista* in the Flavian period⁷⁰³.

Due to the current state of archaeological research, interpretations of the site rest mainly on historical and etymological considerations. Similar to the arguments for a fleet base at *Ratiaria*, it is generally agreed that, as *πριστις* is the Greek term for a type of military vessel, the site's name 'Sixty Warships' is an indication of its having been a naval base⁷⁰⁴.

⁶⁹⁸ Stanchev (1987), p. 231; Bounegru & Zahariade (1996), Map 1.

⁶⁹⁹ See also TabPeut VIII,2; ItAnt 222,3.

⁷⁰⁰ Bounegru & Zahariade (1996), p. 14; Reddé (1986), p. 304.

⁷⁰¹ Ivanov (1999), p. 510; Ivanov (1997), p. 582. Excavations at Rusé are, however, currently taking place. As such it is to be hoped that more useful material regarding the archaeology of *Sexaginta Prista* will be available in the near future.

⁷⁰² Stanchev (1987), p. 236.

⁷⁰³ Stanchev (1987), p. 236.

⁷⁰⁴ E.g. Bounegru & Zahariade (1996), p. 14; Stanchev (1987), p. 232; Condurachi (1974), p. 87; Velkov (1964), p. 106. Sarnowski (1987), p. 265 refutes this thesis, arguing that the name is more likely to refer to a river crossing by a legion, or similar one-off event, rather than a permanent base of the CLASSIS MOESICA.

While etymological arguments alone cannot be used to identify a naval base, there is some reliable evidence from *Sexaginta Prista* that may suggest a connection to the fleet. Sarnowski mentions an inscription which was found at the village of Svalenik near Rusé and published by Angelov in 1950⁷⁰⁵. If the suggested reading, identifying Lucius Mucius as a *miles classarius* is accepted, this might indeed imply that the soldier in question was a soldier of the CLASSIS MOESICA⁷⁰⁶. *Milites classarii*, however, are also known to have served in infantry units, although these are usually referred to on the inscriptions⁷⁰⁷. In addition to this, Lucius Mucius could also have served in any other of the Roman fleets, although this may be considered unlikely. While the inscription suggests some connection to a naval unit at *Sexaginta Prista*, it can therefore not be identified as definitely referring to a soldier of the CLASSIS MOESICA. Indeed, the vicinity of the base of LEG I ITALICA, which may have had its own naval detachment, could suggest that Lucius Mucius may have belonged to that legion⁷⁰⁸.

11. DUROSTORUM (Silistra)

Roman *Durostorum* was the base of LEG XI CLAUDIA, which is mentioned in a number of inscriptions and ‘thousands of stamped tiles’⁷⁰⁹. LEG I ITALICA and LEG V MACEDONICA also appear on stamped tiles from Silistra, albeit far less commonly⁷¹⁰. There is a degree of contention regarding the actual organization of the site which comprises a legionary fortress, a late Roman fortification, extensive *canabae* and a *municipium*⁷¹¹: Excavations have uncovered a wall, corner tower and some interior buildings in the south-western corner of the legionary fortress⁷¹². Parts of the *canabae* have also been excavated, and small finds, as well

⁷⁰⁵ Sarnowski (1987), p. 265. See Appendix III.

⁷⁰⁶ Angelov originally read *miles cohortis Lucensium* or *Lusitanorum*. This, however, places the inscription at a significant distance from the nearest known station of these units. See Sarnowski (1987), p. 265.

⁷⁰⁷ See, for example, the discussion of a *disces epibata* from *Viminacium* on p. 92 above.

⁷⁰⁸ See discussion of *Novae* pp. 104-106 above.

⁷⁰⁹ Donevski (1990a), p. 239; see also Donevski (1976).

⁷¹⁰ Donevski (1990a), p. 239.

⁷¹¹ Donevski (1990b); Donevski (1990a), p. 239 ff.; Culică (1978); Velkov (1960a), p. 214.

⁷¹² Donevski (1990a), p. 237.

as coins, indicate continuous occupation from the 2nd to 6th centuries AD⁷¹³. The *municipium*, however, has not been located, and there is considerable discussion regarding its precise position⁷¹⁴.

A 60m long wall with a width of 2m, constructed of pinkish rubble aggregate with an ashlar facing on its river side, has been interpreted as evidence for a dock or quay at *Durostorum* and given rise to the identification of the site as a base of the CLASSIS MOESICA⁷¹⁵ (Fig. 3.25). The wall, however, is clearly associated with late Roman features and contains *spolia* built into its core. It must therefore be seen as part of a hastily constructed defensive system dating to the late Roman period⁷¹⁶. As the “harbour installations” Bounegru and Zahariade refer to – without providing references or actual evidence – have since been identified as parts of a late Roman fortress, there is no evidence to support their claim of a naval base at *Durostorum*⁷¹⁷.

The only remaining argument for a permanent fleet presence at the site is the hypothesis that, as vexillations of LEG XI CLAVDIA have been found at *Histrus*, *Tomis*, *Tyras*, *Olbia* and *Chershonesus*, the legion based at *Durostorum* must have operated in conjunction with the CLASSIS MOESICA and therefore have shared a base⁷¹⁸. As Bounegru and Zahariade themselves admit, however, it is entirely possible that LEG XI CLAVDIA maintained its own naval detachment⁷¹⁹. Even if the CLASSIS MOESICA did transport parts of the legion on a regular basis, however, this need by no means imply that it maintained a permanent base at *Durostorum*.

⁷¹³ Donevski (1990a), p. 239.

⁷¹⁴ Donevski (1990a), p. 243; Poulter (1983), p. 80.

⁷¹⁵ Donevski (1990a), p. 244. For *Durostorum* as a naval base see Bounegru & Zahariade (1996), p. 14; Viereck (1996), p. 255

⁷¹⁶ Ivanov (1997), p. 589; Donevski (1990a), p. 244.

⁷¹⁷ Bounegru & Zahariade (1996), p. 14; Ivanov (1997), Fig. 46.

⁷¹⁸ Bounegru & Zahariade (1996), p. 15.

⁷¹⁹ Bounegru & Zahariade (1996), p. 15.

12. AXIOPOLIS (Cernavoda - Hinog)

Axiopolis, identified as a base of the CLASSIS MOESICA in several studies, has seen little excavation⁷²⁰. While a 2nd-3rd century fort at the site incorporates reused stone from an earlier structure, this need not have been of a military nature. The site is known primarily from late Roman literary references⁷²¹: the *Notitia Dignitatum* lists it as a base of *milites superuentores* and seat of the *praefectus ripae legionis secundae Herculiae cohortis quintae ped. inferioris*⁷²².

Although neither of these references directly refers to a fleet, Bounegru and Zahariade identify *Axiopolis* as a permanent base of the CLASSIS MOESICA during the Principate, stating that “*l’existence des aménagements portuaires à Axiopolis n’est pas encore entièrement confirmée*”⁷²³. This seems to imply that such harbour facilities have at some point been suggested. As Bounegru and Zahariade do not provide any references to such a discussion, however, it is not possible to reconstruct their argument. Ceramic evidence from *Axiopolis* shows that the site was established as early as the 3rd/2nd century BC, although the majority of finds date to the 6th century AD⁷²⁴. Nothing is known of the interim period, leaving it unclear whether the site was even occupied during the Principate.

The only evidence for a naval presence at *Axiopolis*, which also shows that the site was occupied during the Severan period, is a dedication to Iulia Domna set up by *nautae universi Danvvii*⁷²⁵. While it is not known whether these sailors were connected to the CLASSIS MOESICA, their subordination to an imperial legate, Lucius Faustinianus, rather than a praefect of the Moesian fleet, makes any such link highly unlikely.

⁷²⁰ The site is listed in It Ant 224,2; TabPeut VII, 3. It is identified as a naval base in Gudea & Zahariade (1997), p. 78; Bounegru & Zahariade (1996), p. 15; Matei (1991), p. 150. Apparently, some excavation was carried out at the site in the late 19th century (1895/96 and 1899) under P. Polonic. This discovered a Roman settlement and Byzantine fortress. See <http://www.cimec.ro/Arheologie/Digitalarchives/5Sites/CetateaAxiopolis/M.htm>.

⁷²¹ On the archaeology of *Axiopolis* see Gudea & Zahariade (1997), p. 78. For a detailed discussion of literary references see Matei (1991), p. 150 note 55.

⁷²² Not. Dig. or. xxxix, 21&30.

⁷²³ Bounegru & Zahariade (1996), p. 15.

⁷²⁴ Barnea (1960), p. 79.

⁷²⁵ CIL III, Supp.1, 7485. See Bounegru & Zahariade (1996), p. 15.

13. CAPIDAVA

The late Roman fort at *Capidava* has been under excavation for over 80 years⁷²⁶. The standing remains have been dated to the 3rd or early 4th century on architectural grounds⁷²⁷. Several inscriptions and a large volume of stamped tiles mention LEG I ITALICA, LEG XI CLAVDIA, LEG V MACEDONICA, LEG II HERCVLIA and COHORS I GERMANORVM⁷²⁸. Romanian scholars currently assume that the first fort at the site was built by LEG XI CLAVDIA and LEG V MACEDONICA in the Trajanic period. The latter of these is supposed to have garrisoned the fort until AD 167, when it was replaced by a vexillation of LEG I ITALICA. COH I VBIORVM and COH I GERMANORVM are to have supplemented the garrison from the Trajanic wars to AD 143 and AD 143 – 248 respectively⁷²⁹. This historic development is not supported by any archaeological evidence and rests solely on the basis of stamped tiles and historical conjecture. As such, its validity is somewhat questionable.

While the CLASSIS MOESICA does not appear on any inscriptions or stamped tiles from *Capidava*, the site has frequently been identified as a fleet base⁷³⁰. This is due to the discovery of a large wall made from material similar to Vitruvius' *hydraulic cement* that runs parallel to the Danube⁷³¹ (**Fig. 3.26**). Despite being damaged to an extent that makes any accurate identification difficult at best, this 61m long structure has repeatedly been identified as a mooring quay for vessels of the CLASSIS MOESICA⁷³².

Even if the thesis of a Roman quay at *Capidava* is accepted there is no reason why this should imply that the fortress was a base of the CLASSIS MOESICA. The garrison may well have sustained naval vessels of its own, or any quay may simply have existed to offload supplies and goods for the fort.

⁷²⁶ Florescu (2001); Florescu (1958).

⁷²⁷ Namely that there are square and U-shaped towers, as well as fan-shaped corner towers. See plan in Matei (1987), Plate LXVIII.

⁷²⁸ Gudea & Zahariade (1997), p. 79; Florescu (1958), p. 257.

⁷²⁹ For a detailed history and further literature see Gudea & Zahariade (1997), p. 79.

⁷³⁰ Gudea & Zahariade (1997), p. 79; Bounegru & Zahariade (1996), p. 15; Matei (1991), p. 151.

⁷³¹ Matei (1991), p. 151.

⁷³² E.g. Bounegru & Zahariade (1996), p. 15; Matei (1991), p. 151; Florescu (1958), p. 17. See also http://www.cimec.ro/Arheologie/Capidava_en/descrie.htm.

14. CARSIUM (Harsova)

The scarce archaeological remains at Harsova have been identified as a fort known from ancient itineraries on the basis of an inscription referring to *Carsium*, dated to AD 272⁷³³. The only published archaeological remains are those of a 140m long wall that has been dated to the late 3rd century⁷³⁴. Apparently, excavations have discovered an earlier fort with three phases, dating to the 1st – 3rd centuries, although to date these have not been published⁷³⁵. The theory of earlier forts at the site is, however, supported by epigraphic material implying the presence of either ALA II HISPANORVM ARAVCORVM or ALA I GALLORVM FALVIANA⁷³⁶. As there is no published archaeological or epigraphic evidence to suggest any form of naval activity at *Carsium*, it is unclear why the site has been identified as a base of the CLASSIS MOESICA in past studies⁷³⁷.

15. TROESMIS (Iglița)

Troesmis has been termed “one of the main Roman military centres on the lower Danube”⁷³⁸: two Roman forts have been proven archaeologically, while epigraphic material attests the presence of *canabae*, as well as a further civilian settlement⁷³⁹. In Ptolemy’s Geography, *Troesmis* is identified as base of LEG V MACEDONICA⁷⁴⁰. If the identification with Iglița is correct a legionary fortress remains to be discovered as both identified forts are late Roman and could not have accommodated an entire legion even if combined⁷⁴¹. Despite this significant archaeological interest in the site, there have been virtually no excavations of the

⁷³³ CIL III, 12465. For references to *Carsium* see ItAnt 224,4; TabPeut VII,4.

⁷³⁴ Gudea & Zahariade (1997), p. 79.

⁷³⁵ Gudea & Zahariade (1997), p. 79.

⁷³⁶ ISM V, 94-114; see also Zahariade et al (1981), p. 259.

⁷³⁷ Bounegru & Zahariade (1996), p. 15.

⁷³⁸ Gudea & Zahariade (1997), p. 80; Doroțiu.Boilă (1972), p. 134.

⁷³⁹ ItAnt 225,2; TabPeut VII,3; Doroțiu.Boilă (1972), p. 137.

⁷⁴⁰ Ptol. Geogr. III,10.5.

⁷⁴¹ Gudea & Zahariade (1997), p. 80; the eastern fort is a rectangle of ca. 120m x 145 while the western fort is of a trapezium shape measuring 150 m x 80m/100m. It is possible, however, that only part of LEG V MACEDONICA was ever based at *Troesmis*. This would mean that an undiscovered fort, rather than a legionary fortress, must exist around Iglița.

forts; the current state of research relies almost solely on air photographs and surface observations⁷⁴². As the aerial photographs concentrate on late Roman features, however, little detail is known about the earlier remains, dated to the 2nd/3rd centuries on the grounds of historical considerations⁷⁴³.

The majority of the epigraphic material from *Troesmis*, most of which was found in the 19th century, is connected to the civilian population, although LEG V MACEDONICA and LEG I ITALICA are frequently mentioned on inscriptions and stamped tiles⁷⁴⁴. *Troesmis* has been identified as a base of the CLASSIS MOESICA on the basis of two kinds of evidence: while an allegedly man-made canal, discovered during topographic studies in the late 19th century, can hardly be taken as evidence for a prolonged fleet presence⁷⁴⁵, a CLFLM stamped tile forms a direct connection to the Moesian fleet⁷⁴⁶. A single stamped tile, however, can hardly be taken as proof of a permanent fleet base⁷⁴⁷ – especially not in view of the significantly larger numbers of tiles stamped by LEG V MACEDONICA and LEG I ITALICA.

16. BARBOȘI

The fort at Barboși lies at the confluence of the rivers Siret and Danube, controlling the river approach to the Danube from an elevated position on the so-called Tirighina promontory. The site has been studied mainly in the early 20th century, but sporadic excavations have been carried out in recent years⁷⁴⁸. The fort appears to have four phases, dating from the reign of Trajan until the 4th century⁷⁴⁹.

⁷⁴² Gudea & Zahariade (1997), p. 80; Simion (1980); sporadic archaeological investigations have taken place in the civilian settlement.

⁷⁴³ Gudea & Zahariade (1997), p. 80.

⁷⁴⁴ ISM V, 146, 176, 216; see also Doroșiu-Boilă (1972), p. 135ff. There is also a stamped tile of ALA I PANNONIORVM: ISM V, 214; see also Gudea & Zahariade (1997), p. 80.

⁷⁴⁵ See argument in Doroșiu-Boilă (1972), p. 135.

⁷⁴⁶ ISM V, 217; Barnea & Stefan (1974), p. 21.

⁷⁴⁷ As has been argued by Gudea & Zahariade (1997); Bounegru & Zahariade (1996), p. 11. For a more sceptical appraisal see Reddé (1986), p. 304.

⁷⁴⁸ Parvan (1913/14), pp. 99ff.; for more recent excavations see Gudea & Zahariade (1997), p. 81.

⁷⁴⁹ Gudea & Zahariade (1997), p. 81; Petculescu (1982), p. 253; Gostar (1980), pp. 72&73.

Barboși has been identified as a base of the CLASSIS MOESICA in several recent studies as more than 55 of its stamped tiles have been found here⁷⁵⁰. Several types of stamp occur throughout the site, indicating a regular supply of building materials to the site over a period of time⁷⁵¹. This need not, however, imply that there was a permanent detachment of the CLASSIS MOESICA at Barboși, as the site also produced a large number of tiles stamped by LEG V MACEDONICA, LEG I ITALICA and COH II MATTIACORVM⁷⁵². In view of the absence of any epigraphic data indicating a fleet presence or archaeological evidence for naval activity, the CLFLM stamped tiles from Barboși can therefore only be seen as part of a wider supply of building materials. As such, the data from Barboși does suggest that the site was located in the CLASSIS MOESICA's general sphere of operations.

17. DINOGETIA (Garvan)

Excavations at *Dinogetia* have been ongoing since 1939⁷⁵³. While there has been some debate as to the identification of the site in the past, Parvan's original identification on the basis of the Antonine Itineraries has by now been generally accepted⁷⁵⁴. The site is situated on a rocky promontory which turns into an island during high water levels⁷⁵⁵.

The fortifications at *Dinogetia* have been dated to the late 3rd/early 4th century on the basis of their U-shaped towers and fan shaped corner towers⁷⁵⁶. 2nd – 3rd century pottery and inscriptions recovered during excavations of civilian structures outside the fortress, however, show that the site must have been occupied during the Principate⁷⁵⁷. While it has been

⁷⁵⁰ For tiles with fleet stamps see Sanie (1996), pp. 142ff.; Matei (1992), p. 154; ISM V, 308; Parvan (1913-14), Plate IX, Fig. 1. For identifications of Barboși as a CLASSIS MOESICA base see Gudea & Zahariade (1997), p. 81; Bounegru & Zahariade (1996), p. 11; Matei (1992), p. 154; Reddé (1986), p. 304.

⁷⁵¹ Sanie (1996), Fig. 9, Fig. 10.

⁷⁵² For summaries see Gudea & Zahariade (1997), p. 81 and Sanie (1996), pp. 142ff.

⁷⁵³ Torbatov (1999), p. 271.

⁷⁵⁴ ItAnt 225,5. See also Ștefan (1958).

⁷⁵⁵ Barnea (1986), p. 447.

⁷⁵⁶ Matei (1991), p. 154; Barnea (1966), Fig. 1; Mitrea et al (1957), p. 209.

⁷⁵⁷ Gudea & Zahariade (1997), p.80 ; Chișvasi-Comșa et al (1959), p. 650.

suggested that such an occupation may have been military, there is no archaeological evidence to support this⁷⁵⁸.

Several stamped tiles have been discovered at *Dinogetia*, naming LEG V MACEDONICA, LEG I ITALICA, COH II MATTIACORVM, COH I CILICVM and including one with a CFLM stamp⁷⁵⁹. These have not only been used to argue for an earlier military installation at *Dinogetia*, but also led to the identification of the site as a base of the Moesian fleet⁷⁶⁰. As it is not clear whether there even was a fort at *Dinogetia* during the Principate, however, one tile stamped by the fleet can hardly be taken as proof of a permanent CLASSIS MOESICA base.

18. ALIOBRIX (Orlovka)

The site of *Aliobrix* occupies an elevated position on the left bank of the Danube, facing the presumed CLASSIS MOESICA headquarters at *Noviodunum*. Aside from a visible rectangular enclosure that is littered with stamped tiles and ceramic remains, there is no archaeological evidence from the site that dates to the Roman period⁷⁶¹. As such, the identification of this enclosure as *Aliobrix* rests solely on an interpretation of Ptolemy's Geography⁷⁶². While a recent study states that there is no archaeological evidence from Orlovka, it appears that systematic excavations did take place in the 1960s⁷⁶³. These recovered solitary fragments of 1st century pottery and 2nd/3rd century amphorae amongst large quantities of pre-Roman material⁷⁶⁴.

⁷⁵⁸ Torbatov (1999), p. 271.

⁷⁵⁹ Gudea & Zahariade (1997), p. 80; Matei (1991), p. 154. There actually is only one CLFLM stamped tile, published in ISM V, 263.

⁷⁶⁰ Gudea & Zahariade (1997), p. 80; Bounegru & Zahariade (1996), p. 11; Matei (1991), p. 154.

⁷⁶¹ Gudea & Zahariade (1997), p. 81; Gostar (1967), p. 987.

⁷⁶² Ptol. Geogr. III 10,7

⁷⁶³ Gudea & Zahariade, (1997), p. 81: "Although there is no archaeological evidences (sic!), the existence of an early fort seems beyond any doubts (sic!). [...] There are only square plan buildings at the surface with stamped bricks". This statement, however, is at odds with the fact that Gostar clearly wrote a report on archaeological research carried out at the site in the 1960s (see Gostar [1967], p. 987).

⁷⁶⁴ Gostar (1967), p. 989-991.

A number of stamped tiles from *Aliobrix* show that building material for the fort was supplied by LEG V MACEDONICA, LEG I ITALICA and the CLASSIS MOESICA⁷⁶⁵. The latter have frequently been taken as proof that *Aliobrix* was a permanent base of the Moesian fleet⁷⁶⁶. While the evidence would not be sufficient to identify a fleet base at any other site – clearly several units also contributed building materials in similar quantities to the Moesian fleet – this argument may be swayed by the location of *Aliobrix*. As the site is located directly across the river from the alleged main base of the CLASSIS MOESICA it must be considered as a possible bridgehead fort. As such, *Aliobrix* could hypothetically have served as a naval base, provided it can be proven that the headquarters of the CLASSIS MOESICA actually were located at *Noviodunum*.

19. NOVIODUNUM (Isaccea)

Noviodunum, a Roman fort on the Danube near Constanța in modern Romania, has long been regarded as the headquarters of the CLASSIS MOESICA⁷⁶⁷. While the site has been excavated in the 1950s, the results of this research are limited, as heavy erosion due to changes in river levels and the Danube bed has destroyed most structures near the water line⁷⁶⁸ (**Fig. 3.27**), a problem that would clearly have affected any existing evidence for harbour structures. On the basis of numismatic evidence, the 1950s excavations established that *Noviodunum* was occupied from the 1st century until well into the Ottoman period⁷⁶⁹. Within this timeframe, three phases of Roman occupation have been identified, none of which have been dated by firm evidence. Substantial walls and projecting semi-circular towers measuring up to 10m across, however, suggest that phases 2 and 3 are late Roman (**Fig. 3.28**). The latter is

⁷⁶⁵ Gostar (1967), p. 991.

⁷⁶⁶ Gudea & Zahariade (1997), p. 81; Bounegru & Zahariade (1996), p. 11.

⁷⁶⁷ Bounegru & Zahariade (1996), p. 11; Viereck (1996), p. 255, Starr (1993), p. 135; Reddé (1986), pp. 305&619.

⁷⁶⁸ Barnea & Mitrea (1959).

⁷⁶⁹ Barnea, Cernovodeanu & Preda (1957), p. 173.

confirmed by a large number of late Roman and Byzantine coins that have been associated with phase 3⁷⁷⁰.

While past research projects at *Noviodunum* could not identify any military structures dating to the Principate, several hypocausts have been excavated. These produced a large number of CLASSIS MOESICA stamped tiles that clearly belong to an earlier period of the site than the late Roman remains discussed above, but cannot be dated precisely⁷⁷¹. Since 2000, a joint research project of the Institutul de Cercetari Eco-Muzeale Tulcea, University College London and the University of Southampton has been carrying out further research at *Noviodunum*⁷⁷². While research to date has mainly involved field surveys and the creation of a 3D model of site topography, the 2006 season identified a high density of 1st-3rd century finds in an area between the locations 'Telita' and 'Posta'⁷⁷³. A trial trench in 2007 not only produced small finds dating to the Principate but also a number of tiles stamped by military units, including the CLASSIS MOESICA. With the prospect of further excavation in the coming years it is to be hoped that the 1st-3rd century development of *Noviodunum* will soon be better understood. In view of the current state of research at *Noviodunum*, however, no structures dating to the Principate can be identified. As such, it must be concluded that the only currently identifiable structures of a military nature at the site are late Roman and any evidence for a naval presence that may have existed is likely to have been lost due to erosion.

As such, the identification of *Noviodunum* rests on a large number of CLFLM stamped tiles, as well as three inscriptions that indicate naval activity. Only one of these, however, refers directly to the CLASSIS MOESICA: a sarcophagus found at *Noviodunum* bears a long dedication, which includes two references to a praefect of the Moesian fleet, Postumus⁷⁷⁴. While ISM V, 273 does not refer directly to the CLASSIS MOESICA, the fact that it was

⁷⁷⁰ Barnea (1977), p. 108.

⁷⁷¹ Barnea & Mitrea (1959), p. 470.

⁷⁷² Lockyear et al (2005/6); see also <http://www.ucl.ac.uk/archaeology/project/noviodunum>.

⁷⁷³ See <http://www.ucl.ac.uk/archaeology/project/noviodunum/2007rep/2007-English-lores.ppt>, slide 5.

⁷⁷⁴ ISM V, 281; see Appendix III. See also Gamberale (1989).

dedicated to the *Domino et Dominae* by the crew of the *liburna armata* is a certain indicator of a naval connection – even if not necessarily that of the Moesian fleet. The same is true of AE 1992, 1498, which was set up to *Iovi Optimo Maximo et Genio loci* by a *trierarchus*, Caius Candidus Germanus. This inscription is a further direct indicator of naval activity in that it names a naval rank, but fails to specify his unit. As the latter two inscriptions are dedications, they cannot be used as reliable indicators of a fleet base. The epigraphic record alone is therefore as unreliable as the current archaeological situation in that it fails to prove current theories that suggest not merely a permanent base, but the headquarters of the CLASSIS MOESICA at *Noviodunum*.

Aside from the recent find mentioned above, tiles stamped by the Moesian fleet have been found throughout the site of *Noviodunum*. These occur in several types, indicating that the Moesian fleet supplied the site with building materials over an extended period of time. It is not clear, however, whether the CLFLM stamped tiles were produced locally or brought to the site from elsewhere⁷⁷⁵. The identification of *Noviodunum* as a base of the CLASSIS MOESICA on the basis of three inscriptions (two of which do not necessarily have to be related to the Moesian fleet) and a number of CLFLM stamped tiles is made more difficult by the fact that the site also produced several tiles stamped by LEG V MACEDONICA, LEG XI CLAVDIA and LEG I ITALICA⁷⁷⁶, as well as inscriptions referring to soldiers of LEG XI CLAVDIA⁷⁷⁷ and LEG I ITALICA⁷⁷⁸. Indeed assuming that no established fleet base ever existed at *Noviodunum*, both stamped tiles and inscriptions of the fleet could easily be explained: if CLFLM stamped tiles were regularly brought to the site by vessels of the CLASSIS MOESICA, just as building materials were evidently supplied by two legions, it would not be unlikely that the crews of these vessels occasionally set up dedicatory inscriptions⁷⁷⁹. Indeed, as there is evidence for

⁷⁷⁵ Zahariade, Mușețeanu & Chiriac (1981), p. 256.

⁷⁷⁶ See Zahariade (1999); Barnea (1988).

⁷⁷⁷ ISM V, 276.

⁷⁷⁸ ISM V, 271.

⁷⁷⁹ See discussion of epigraphic data, pp. 25&26 above.

soldiers and building material of LEG I ITALICA at *Noviodunum*, there is a possibility that the two inscriptions not referring to the CLASSIS MOESICA may in fact relate to the naval detachment of this legion that has been suggested above rather than the Moesian fleet⁷⁸⁰.

With neither harbour nor associated military structures, and no reliable epigraphic data to suggest a permanent fleet presence, the identification of *Noviodunum* as headquarters of the CLASSIS MOESICA is therefore less than secure. While any thesis of the site as a fleet base must therefore remain hypothetical to some extent, the fact that finds related to the fleet are concentrated around this site and nearby *Aliobrix* does suggest that a permanent base of the CLASSIS MOESICA is to be found somewhere in this region. A positive identification of a naval base, however, will only be possible on the basis of further research.

20. AEGYSSUS (Tulcea)

The site of *Aegyssus* was first occupied in the Latène period, and developed as an *emporion* during the Hellenistic period⁷⁸¹. The Greek colony was known to the Romans, as indicated by several references in Latin literature from the early 1st century AD⁷⁸². *Aegyssus* is furthermore included in the Antonine Itineraries⁷⁸³, implying that it was a Roman city during the Principate. This is supported by ceramic and numismatic finds as well as stamped tiles, all of which date to the 2nd and 3rd centuries⁷⁸⁴. Various inscriptions of soldiers from LEG I IOVICA, LEG V MACEDONICA and a VEXILLATIO ARGYSSENSIS indicate a military presence at *Aegyssus* during this period⁷⁸⁵. Despite some excavation, however, no Roman structures pre-dating the 4th century AD have been found to date⁷⁸⁶.

⁷⁸⁰ See discussion of *Novae*, pp. 104-106 above.

⁷⁸¹ Opaît (1977), p. 310.

⁷⁸² Gudea & Zahariade (1997), p. 81; Matei (1991), p. 155; Ovid, *Ex Ponto* I, 8.13; IV, 7.21&53.

⁷⁸³ ItAnt 226.2.

⁷⁸⁴ Gudea & Zahariade (1997), p. 81.

⁷⁸⁵ ISM V, 286-289, see also Matei (1991), p. 155

⁷⁸⁶ Gudea & Zahariade (1997), p. 81.

Aegyssus has been listed as a fleet base by some scholars, but there is some debate regarding this identification as it rests primarily on a number of CLFLM stamped tiles allegedly found at *Aegyssus* which have never been published⁷⁸⁷. The *Notitia Dignitatum* identifies *Aegyssus* as the seat of a *praefectus ripae*, which may be another reason for the hypothesis of a naval base at the site⁷⁸⁸. As there are no military structures from the Principate and the existence of tiles stamped by the CLASSIS MOESICA remains unproven, the identification of *Aegyssus* as a base of the Moesian fleet cannot be upheld.

21. HALMYRIS/SALMORUS (Murighiol/Independența)

The fort at Independența, initially studied primarily on the basis of aerial photography, has been associated with a base identified as *Salmorus* in the Antonine Itineraries and also known as the Greek *Halmyris*⁷⁸⁹. The earliest archaeological discovery in the area was a coin hoard recovered in 1909 which contained coins dating from the 3rd – 6th centuries. It is not clear, however, whether this hoard is to be seen in direct connection with the fortification at the site⁷⁹⁰. The substantial walls and horseshoe-shaped projecting towers of this fortress, as well as the fact that its layout is clearly adapted to local topography, suggest that it is a late Roman construction⁷⁹¹.

Excavations from 1981-1990, provided evidence that the site served as a military base from as early as the 1st century AD⁷⁹². Historical arguments suggest that the site continued into the 7th century, but there is no archaeological evidence to support this claim⁷⁹³. The site appears to consist of four main phases: a pre Roman settlement followed by military

⁷⁸⁷ Gudea & Zahariade (1997), p. 81; Reddé (1986), p. 305.

⁷⁸⁸ Not.Dig. or. xxxix, 34; *praefectus ripae legionis promae Ioviae cohortis quintae pedaturae inferioris, Aegisso*.

⁷⁸⁹ ItAnt 226.1; see Ștefan (1984), p. 310.

⁷⁹⁰ Iliescu (1974).

⁷⁹¹ Zahariade (1991), 313-316; Ștefan (1984), p. 310.

⁷⁹² Gudea & Zahariade (1997), p. 82; Zahariade et al (1987), p. 97.

⁷⁹³ Suceveanu & Zahariade (1987), p. 87.

occupation from the 1st-early 3rd century AD, including rebuilding in the mid 2nd century, which in turn was superseded by a later fortress occupied from the 3rd – mid 7th century⁷⁹⁴.

Ceramic finds confirm that the site was occupied during the 1st and 2nd centuries; usually these are associated with the remains of wooden structures on the southern side of the later defences, which are therefore seen as early earth and timber fortifications. This theory, however, is not supported by the archaeological record⁷⁹⁵. Indeed, some scholars have argued that any 1st century occupation of *Halmyris* must have been primarily civilian in nature⁷⁹⁶.

A stone fort of about 2.58 ha was constructed in the 2nd century and a large civilian settlement of about 10ha developed to the west of it⁷⁹⁷. To date, this has not been excavated⁷⁹⁸. Despite apparently being built in the 2nd century, the fort does not conform to the rectangular layout usually found in forts of this period, but has a trapezoidal shape that is adapted to local topography, as usually found in the late Roman period⁷⁹⁹. The coin series from the excavations centre on the 4th-6th century, indicating that this was the main period of occupation at *Independenta*⁸⁰⁰.

A number of inscriptions have been found at the site, indicating various units at different points in time. During the Principate, LEG I ITALICA, LEG V MACEDONICA and LEG XI CLAVDIA are attested as vexillations on an altar and through various dedications and tombstones of individual soldiers⁸⁰¹. Six further inscriptions confirm that the site was occupied from the 1st – 3rd centuries, but do not mention any military units⁸⁰².

Several studies identify *Halmyris* as a fleet base, even though there is no evidence for naval activity at the site⁸⁰³: while a harbour has been presumed and theoretical locations have

⁷⁹⁴ Zahariade, et al (1987), p. 97.

⁷⁹⁵ Zahariade, et al (1987), p. 99; see also Zahariade & Phelps (2002), p. 235.

⁷⁹⁶ Zahariade & Phelps (2002), p. 235.

⁷⁹⁷ Zahariade & Phelps (2002), p. 235.

⁷⁹⁸ Zahariade & Phelps (2002), p. 236.

⁷⁹⁹ Gudea & Zahariade (1997), p. 82.

⁸⁰⁰ Opait (1988), p. 483.

⁸⁰¹ See Zahariade (1990), pp. 259ff.

⁸⁰² Published and discussed in Zahariade (1990).

⁸⁰³ E.g. Bounegru & Zahariade (1996), Map 1; Viereck (1996), p. 255.

been proposed, there is no evidence to support this claim⁸⁰⁴. *Independența* is associated with the CLASSIS MOESICA on the basis of inscriptions which refer to a *vicus classicorum*⁸⁰⁵. Eight such votive inscriptions have been dated from AD 136 to AD 200 on the basis of stylistic grounds⁸⁰⁶. While the only *classis* known to have operated regularly in *Moesia Inferior* at this point in time is the CLASSIS MOESICA, however, it is not clear why the presence of a civilian settlement termed a *vicus classicorum* need necessitate a naval base at the site.

22. ODESSUS (Varna)

Odessus, an important Greek colony on the Black Sea coast, became a major city in the Roman period⁸⁰⁷. The Roman remains at the site consequently include baths, frescoes, mosaics and all the usual features and finds associated with a well preserved Roman city⁸⁰⁸.

Odessus has frequently been identified as a base of the CLASSIS MOESICA, presumably on the assumption that because the site was a major trade harbour, it must also have been used by the Moesian fleet⁸⁰⁹. While the city is known to have been an important port in the Roman Empire, there is no evidence that it had any military character⁸¹⁰. Nonetheless, there has been significant interest in Roman naval activity at *Odessus* because of an inscription recording a shipwreck in the harbour itself⁸¹¹. Underwater investigations at the site, however, failed to identify either a Roman shipwreck or Roman port facilities, merely noting the presence of submerged harbour facilities dating to the 17th century⁸¹².

⁸⁰⁴ Gudea & Zahariade (1997), p. 82.

⁸⁰⁵ Zahariade & Phelps (2002), p. 236; Gudea & Zahariade (1997), p. 82; Bounegru & Zahariade (1996), p. 11; Matei (1991), p. 156; Zahariade (1991), p. 314; Zahariade (1990), p. 259.

⁸⁰⁶ Zahariade & Phelps (2002), p. 236; Zahariade (1991), p. 314.

⁸⁰⁷ ItAnt 228,3; TabPeut VII,3. See also Nawotka & Wasowicz (1998), p. 262; Velkov (1960b), p. 339.

⁸⁰⁸ Velkov (1960b), p. 340.

⁸⁰⁹ Viereck (1996), p. 255.

⁸¹⁰ Preshlenov (2002), p. 240; Gudea & Zahariade (1997), p. 87.

⁸¹¹ Di Stefano Manzella (1999).

⁸¹² Tonceva (1994), p. 144.

23. CALLATIS (Mangalia)

Callatis was founded as a Greek colony and continued to be occupied until well into the late Roman period⁸¹³. A variety of inscriptions show that it was an important administrative centre for the province of *Moesia Inferior* during the Principate, a fact reflected in references to the site in ancient geographic sources⁸¹⁴. The importance of the city in the 1st-3rd centuries AD can furthermore be seen from the substantial defensive wall that enclosed *Callatis* in this period⁸¹⁵.

Tiles stamped by LEG V MACEDONICA occur throughout the site, indicating that it must have been involved in construction work at the city⁸¹⁶. Stamped tiles were also found in underwater surveys of *Callatis*' Roman harbour⁸¹⁷. While these investigations produced a plan of the harbour, this is mainly conjectured and of little use for the purpose of identifying detailed aspects of harbour design⁸¹⁸ (Fig. 3.29). Indeed, it appears that most of the structures identified are actually of Greek origin, and are only presumed to have continued in use during the Roman period⁸¹⁹.

The identification of *Callatis* as a naval base rests solely on the fact that the site was a major harbour on the black sea⁸²⁰. There is no evidence for any prolonged presence of the CLASSIS MOESICA at the site, however, making such arguments purely conjectural.

24. TOMIS (Constanța)

Established as a Greek colony on the Black Sea, *Tomis* became capital of the province of *Moesia Inferior*, in the Roman period⁸²¹. This is reflected in several references to the site in

⁸¹³ Avram (2001), p. 612; Ionescu & Georgescu (1998), pp 205; Doroțiu-Boilă (1971).

⁸¹⁴ Strabo, Geogr. VII,6; Ptol. Geogr. III,3. See also Gudea & Zahariade (1997), p. 86; Pippidi (1969).

⁸¹⁵ Gudea & Zahariade (1997), p. 86.

⁸¹⁶ Gudea & Zahariade (1997), p. 86.

⁸¹⁷ Scarlat (1973), p. 549.

⁸¹⁸ Preda (1991); Scarlat (1973).

⁸¹⁹ Scarlat (1973), p. 549.

⁸²⁰ Bounegru & Zahariade (1996), p. 1.

⁸²¹ Matei (1989a), p. 39; Stoian (1961), p. 233.

ancient literature, as well as its appearance in the major ancient geographies⁸²². Numerous finds such as statues, funerary monuments and the standing remains of public buildings show that *Tomis* was a thriving urban centre during the Principate⁸²³. Impressive late Roman fortifications remain standing to this day. Unfortunately, this means that earlier phases of the city's defences have seen little or no study⁸²⁴. The epigraphic record, however, shows that two auxiliary cohorts, COHORS VII GALLORVM and COHORS I CILICVM were based at *Tomis* at some point during the 1st-3rd century and a *statio beneficiariorum* existed at the site⁸²⁵.

As a major coastal town, *Tomis* had an important harbour. This has been studied to some extent, but while the results appear impressive, they are largely hypothetical: there is no evidence for the large harbour with breakwaters and ship-sheds that is alleged⁸²⁶. The archaeological record from *Tomis* does, however, reflect a distinct nautical element: Several fragments of 1st-3rd century anchors have been found in the waters around *Tomis*⁸²⁷. One of the most famous Roman small finds from Constanța is a strigil with graffiti of two ships (**Fig. 3.30**). This has been studied in detail, including attempts to identify the type of vessel depicted. While Matei's particular interpretation is by no means conclusive, the ships depicted are clearly not military vessels⁸²⁸.

Tomis has frequently been identified as a base of the CLASSIS MOESICA⁸²⁹. This theory is based not so much on its position as provincial capital and the discovery of a single CLFLM stamped tile, but on two inscriptions referring to the Danube fleet⁸³⁰: One of these refers to a

⁸²² ItAnt 227,3; TabPeut VII, 4; see also Gudea & Zahariade (1997), p. 86.

⁸²³ Stoian (1961), Figs. 9-14.

⁸²⁴ Gudea & Zahariade (1997), p. 86.

⁸²⁵ ISM II, 190 & 192.

⁸²⁶ Matei (1989a).

⁸²⁷ For detailed studies see Cosma (1975); Cosma (1974); Cosma (1973).

⁸²⁸ Matei (1989a), p. 52.

⁸²⁹ Starr (1993), p. 159 note 34: rather interestingly, Starr discounts the site as a fleet base in his main text, but in listing bases of the fleet, it is shown as one of the most important bases (see p. 169, note 42); Matei (1989a), pp. 53&54 and Viereck (1996), p. 255 argue that *Tomis* was the main base of the CLASSIS FLAVIA MOESICA; more critical: Reddé (1986), p. 264.

⁸³⁰ ISM II, 199.

praefect of the CLASSIS MOESICA at *Tomis* under the Gordian emperors and is thus one of the latest extant references to the fleet⁸³¹, while the other attests a veteran of the fleet⁸³².

The evidence related to the CLASSIS MOESICA – although far more substantial than at any other Black Sea port – is not sufficient to prove a permanent fleet base at *Tomis*: While a single stamped tile can hardly be seen as conclusive, the inscription of the veteran does not state where he served. The occurrence of an inscription referring to a praefect of the CLASSIS MOESICA at the provincial capital, on the other hand is hardly surprising: it would indeed be strange if he had not passed through the capital city of the province he was stationed in at some point during his career. As such, the evidence from *Tomis* may suggest that the CLASSIS MOESICA frequented this harbour, but cannot be taken as evidence for a permanent naval station at the site.

25. (H)ISTRUS (Histria)

Histrus, another city founded as a Greek *emporion*, remained occupied until the Byzantine period⁸³³. Its importance as an urban centre in the Roman period is reflected in several references in ancient geographic sources, as well as the substantial fortifications that are still visible today⁸³⁴. Two separate fortification systems are known, the earlier one, with two phases, dating from the 1st/2nd to 3rd century AD, the later late Roman⁸³⁵. Several units are represented on inscriptions from *Histrus*. These include COH II HISPANORVM ARAVACORVM as well as LEG I ITALICA and LEG XI CLAVDIA⁸³⁶.

Histrus was an important naval centre in the Roman period. This is shown by a coin issue of Severus Alexander minted at *Histrus* that depicts a lighthouse, highlighting the

⁸³¹ ISM II, 106. See also note 574 above.

⁸³² CIL III, 7552; see Appendix III.

⁸³³ Höckmann (2001/02), p. 169; Avram (2001), pp. 594ff.; Gudea & Zahariade (1997), p. 85; Suceveanu (1990), p. 233.

⁸³⁴ Strabo, Geogr. VII,6.1.

⁸³⁵ Gudea & Zahariade (1997), p. 85.

⁸³⁶ ISM I, 273, 278, 292, 302.

importance of the site's harbour⁸³⁷. In view of this perceived importance of the harbour at *Histrus* extensive archaeological investigations have been carried out in the city's harbour. These focussed on an area where an ancient quay had allegedly been identified at low water in the 1950s, and employed modern technology such as sonar equipment in order to trace ancient structures⁸³⁸. Divers recovered ashlar of the same stone as was used in the Greek Acropolis of *Histrus*, indicating that the identified 'quay' was, in fact, an artificial structure⁸³⁹. Further research, however, established that the structure in question was not in fact a quay, but a very early perimeter wall of the Acropolis itself. Arguments for extensive Roman harbour facilities have been proposed nonetheless: the only evidence presented, however, is the lighthouse depicted on the city's coinage: topographic considerations based on this image form the basis for the hypothetical reconstruction of an entire port facility⁸⁴⁰.

In spite of these problems, *Histrus* has frequently been identified as a base of the CLASSIS MOESICA⁸⁴¹. This theory appears to be based primarily on the assumption that an important harbour existed at *Histrus*. A direct reference to the Moesian fleet, however, is given by a funerary inscription that refers to a *trierarchus* of the CLASSIS FLAVIA MOESICA⁸⁴². There are a number of problems with the identification of *Histrus* as a naval station on the basis of this inscription: one important factor is that the inscription was set up for the deceased *trierarchus* by his wife, and does not include the usual formula of *hic situs est*. As such, it is not certain that the fleet soldier actually died at *Histrus*. A second point is that the beginning of the line identifying him as a *trierarchus* is missing from the inscription. It may

⁸³⁷ Gudea & Zahariade (1997), p. 85.

⁸³⁸ Höckmann (2001/02), p. 173; Höckmann, Peschel & Woehl (1996-98).

⁸³⁹ Höckmann (2001/02), p. 176.

⁸⁴⁰ Höckmann (2001/02), p. 182; Höckmann (2001), pp. 173ff.

⁸⁴¹ Gudea & Zahariade (1997), p. 85; Bounegru & Zahariade (1996), p. 15; Viereck (1996), p. 255; Starr (1993), p. 159, note 34; Reddé (1986), p. 265; the latter two rely on 2 inscriptions to argue for the site as a fleet base. One of these, however, was not found at *Histrus*, but at *Buteridava* (AE 1919, 14=ISM II, 360).

⁸⁴² AE 1927, 60; see Appendix III.

well be possible, therefore, that he was actually identified as *ex* or *vet trierarchus*⁸⁴³. In this case, the inscription need have no bearing on any bases of the CLASSIS MOESICA whatsoever.

26. BUTERIDAVA (Mihai Viteazu)

The only evidence that can be used to link *Buteridava* to the CLASSIS MOESICA is an inscription found here in the early 20th century⁸⁴⁴. It refers to a *praefectus* of the Moesian fleet, Vindius Verenianus, who set up boundary stones to delineate the territories of two settlements. It has been presumed that the *classis* referred to is the CLASSIS MOESICA, as it was the only established fleet operating in this area during this time on a regular basis. While the inscription is of interest in that it highlights a task one may not have presumed to be part of a fleet praefect's jurisdiction, it cannot be taken as evidence for a fleet base, particularly as *Buteridava* actually is an inland site.

27. TYRAS (Bilhorod-Dnistrovs'kyy)

The Greek colony of *Tyras* is situated on the right bank of the Dnjestr near the river's mouth⁸⁴⁵. It appears that the Romans developed the site into a military base, as archaeological investigations showed that the original fortifications of the civilian settlement are Hellenistic, but were upgraded substantially in the 1st century AD, with the inclusion of a fort inside the civilian settlement⁸⁴⁶. Small finds from the site show that it was occupied from the 1st to the 3rd century⁸⁴⁷. A large number of stamped bricks and inscriptions from the fort mention LEG I ITALICA, LEG V MACEDONICA, LEG XI CLAVDIA, a COHORS I HISPANORVM VETERANORVM QVINGENARIA and a COHORS I CILICVM⁸⁴⁸.

⁸⁴³ E.g. CIL XII, 681 from Arles; see Appendix IV.

⁸⁴⁴ AE 1919, 14; see Appendix III. See also Suceveanu (1992), p. 205.

⁸⁴⁵ Gudea & Zahariade (1997), p. 84.

⁸⁴⁶ Ptol. Geogr. III,10.8; Strabo Geogr. VII, 3.16.

⁸⁴⁷ Gudea & Zahariade (1997), p. 84.

⁸⁴⁸ Gudea & Zahariade (1997), p. 84.

Tyras has frequently been identified as a base of the Moesian fleet⁸⁴⁹, an interpretation that rests on two inscription set up by fleet soldiers⁸⁵⁰. This identification, however, is not without problems: AE 1995, 1350 cannot be taken as evidence for a permanent base of the CLASSIS MOESICA as the *medicus duplicarius classis Flavia Moesiaca* who dedicated it together with Lucius Papirius Olympticus, a *medicus vexillationis*, wishes a centurion of LEG I ITALICA well. These references indicate a vexillation made up from various units under the control of LEG I ITALICA; as such, the inscription can not be seen as an indicator for a regular base of the Moesian fleet. While AE 1990, 870 was set up by a soldier with a naval rank in AD 214, the inscription does not actually refer to the CLASSIS MOESICA. As it has been shown above that it was possible for naval personnel to be attached to units other than *classes*, this inscription can therefore not be taken as evidence for a fleet base at *Tyras*⁸⁵¹.

28. OLBIA (Parutino)

Olbia was initially a Hellenistic settlement, situated near the mouth of the Bug on the right bank of the river. As it is mentioned in several geographic texts of the 1st to 3rd century, it appears that the site was continually occupied from the Hellenistic to the Roman period⁸⁵². Tilestamps and inscriptions of LEG XI CLAUDIA, LEG V MACEDONICA, LEG I ITALICA and COHORS VI ASTVRVM provide further evidence for a Roman presence at the site⁸⁵³.

It is unclear why the site has been interpreted as a fleet base⁸⁵⁴, as there is no evidence to suggest this. While it might be argued that the CLASSIS MOESICA was required to transport and supply any garrison of *Olbia*, it has frequently been shown in this study that the established Roman fleets were not the only units engaged in naval activity. As such, any unit

⁸⁴⁹ Bounegru & Zahariade (1996), p. 11; Viereck (1996), p. 255.

⁸⁵⁰ AE 1995, 1350; AE 1990, 870; See Appendix III. See also Bounegru & Zahariade (1996), p. 117.

⁸⁵¹ This is particularly true as the other naval inscription from the site implies that CLASSIS MOESICA personnel at *Tyras* may have been there as part of a joint operation with LEG I ITAL, a unit that probably supported its own naval detachment, and therefore also *milites classiarii*.

⁸⁵² Strabo Geogr. VII,3.17, for more references see Gudea & Zahariade (1997), p. 84.

⁸⁵³ Gudea & Zahariade (1997), p. 84.

⁸⁵⁴ Bounegru & Zahariade (1996), p. 15; Viereck (1996), p. 255, also mentioned in Reddé (1986), p. 264, although he does not believe there was a fleet base at this site.

base at *Olbia* may well have been capable of meeting its own transport and supply requirements.

29. CHERSONESUS TAURICA (Sebastopol)

The city of *Chersonesus Taurica* was the main Roman centre on the Crimean peninsula. It was occupied from the 1st to the 3rd century AD and is referred to in several of the ancient geographies⁸⁵⁵. There has been some excavation at the site, but current understanding of the Roman settlement is far from complete. It has been established that the site had a substantial wall in the Roman period, enclosing an area of about 38ha, but this has not been investigated in enough detail to identify phases or provide dates⁸⁵⁶.

The city has frequently been identified as an important CLASSIS MOESICA base⁸⁵⁷. The evidence on which this theory is based is solely epigraphic, as the Moesian fleet, amongst other units, is frequently mentioned in inscriptions from this site⁸⁵⁸: the most interesting of these is a dedicatory inscription set up by a *trierarchus* of the CLASSIS MOESICA⁸⁵⁹. It is unique as it states that the fleet soldier in question is acting *sub cura Fl(avi) Sergiani Sosibi / trib(uni) mil(itum) (l)eg(ionis) I Ital(icae)*. In other words, while he was in *Chersonesus* as part of the CLASSIS MOESICA, he was part of a detachment of units under the overall command of an officer of LEG I ITALICA. It is not clear whether the same applies to the other three fleet soldiers identified on inscriptions from *Chersonesus Taurica*: while Gaius Valerius Vale(ns?) dedicated an altar to Jupiter, interestingly mentioning his ship, the *liburna sagitta*⁸⁶⁰, the other two fleet soldiers known from the Crimea actually died there, one of them after 20 full years of service⁸⁶¹.

⁸⁵⁵ Strabo, Geogr. VII,3.18; see also Gudea & Zahariade (1997), p. 83.

⁸⁵⁶ Gudea & Zahariade (1997), p. 83.

⁸⁵⁷ Bounegru & Zahariade (1996); p. 12; Viereck (1996), p. 255; Starr (1993), p. 136; Reddé (1986), p. 262.

⁸⁵⁸ For a discussion of all epigraphic evidence from *Chersonesus Taurica* see Gudea & Zahariade (1997), p. 83.

⁸⁵⁹ CIL III 14214; see Appendix III.

⁸⁶⁰ AE 1967, 429; see Appendix III.

⁸⁶¹ AE 1967, 431; AE 1967, 432 ; see Appendix III.

It seems ironic that one of the least studied sites, should produce the largest number of inscriptions associated with the CLASSIS MOESICA: while the epigraphic data suggests that a detachment of the Moesian fleet may have been based at *Chersonesus Taurica* for an extended period, if not permanently, any such thesis cannot be backed up with supporting evidence. It is, however, highly interesting to note that the vessels and soldiers of the CLASSIS MOESICA based in the Crimea appear not to have been acting as an autonomous unit, but as part of a larger force under the command of LEG I ITALICA from *Novae*⁸⁶².

30. MONTANA (Mihailovgrad/Montana)

The Roman Fort at *Montana* is located in the interior of *Moesia Inferior*, in a strategic location controlling the Petrohan pass⁸⁶³. A number of inscriptions and stamped tiles indicate a Roman military presence, but this is not fully understood⁸⁶⁴. While a fort has been located at a short distance from the river Ogosta, this cannot seriously be considered as a fleet base in view of the site's distance from the frontier as well as any other potential naval bases⁸⁶⁵.

Montana has been associated with the CLASSIS MOESICA because of a unique inscription: AE 1987, 867 states that the Moesian fleet, together with detachments of LEG I ITAL and LEG XI CLAVDIA, was involved in an animal hunt to provide circus spectacles⁸⁶⁶. Clearly, the inscription must be interpreted in the context of this specific event; the fort at *Montana* appears to have served as a temporary base for the hunt. The inscription cannot, therefore, be used to suggest a permanent station of the Moesian fleet at *Montana*⁸⁶⁷.

⁸⁶² For various discussions of the history of naval activity and Roman sites along the Black Sea littoral and Crimea during the Principate see Sarnowski (2006); Sarnowski et al (2005); Sarnowski (2005); Klenina (2005); Treister & Vinogradov (1993).

⁸⁶³ Gudea & Zahariade (1997), p. 89.

⁸⁶⁴ For detailed discussion see Gudea & Zahariade (1997), p. 89; Bérard (1989).

⁸⁶⁵ Besides which, the notion that a fleet might be used to control a mountain stream in order to safeguard a mountain pass, whilst based in a fort that is actually situated on a hill, seems faintly ridiculous.

⁸⁶⁶ AE 1987, 867; see Appendix III.

⁸⁶⁷ Especially so, as there are no further epigraphic references to the CLASSIS MOESICA from the interior of the province. See also Velkov & Alexandrov (1988), pp. 273ff.

III.III DISCUSSION

The preceding review of evidence has shown that a number of sites identified as bases of the CLASSIS MOESICA in current scholarship produced no data or only circumstantial evidence to support such hypotheses. As with the CLASSIS PANNONICA, many sites are assumed to have been naval stations during the 1st – 3rd centuries solely on the basis of references to naval units in the *Notitia Dignitatum*. While the disparity between the number of fleet bases in current scholarship (Fig. 3.2) and that of sites that produced reliable evidence for a fleet presence is not as stark as that in the previous chapter, it is nonetheless clear that current research has frequently been overly liberal in the interpretation of unclear data.

Epigraphic evidence for the CLASSIS MOESICA (Fig. 3.31)

As can be seen from Fig. 3.31, an evaluation of epigraphic data referring to the Moesian fleet produces a very different picture from that based on current scholarship (Fig. 3.2). While no sites produced sufficient epigraphic data to allow for a possible identification as a station of the CLASSIS MOESICA, it is interesting to note that, in contrast to the evidence from *Pannonia*, this survey identified four sites with inscriptions listing naval ranks without reference to the CLASSIS MOESICA, as well as one site where a marine was clearly associated with a legion.

The inscription from *Viminacium* (2) can have no bearing on a discussion of CLASSIS MOESICA bases, as the *disces epibata* is listed as a soldier of LEG VII CLAVDIA⁸⁶⁸. The naval inscriptions from *Sexaginta Prista* (10), *Axiopolis* (12) and *Halmyris* (21) also fail to identify the CLASSIS MOESICA⁸⁶⁹.

⁸⁶⁸ See p. 92 above.

⁸⁶⁹ See discussions above: for *Sexaginta Prista*, p. 107; for *Axiopolis*, p. 109; for *Halmyris*, p. 121.

While a single funerary inscription could never be sufficient evidence for a permanent fleet base, the inscription from *Histrus* (25) cannot be used here as it was not set up by a fleet soldier and specifies neither whether the deceased *trierarchus* actually died at *Histrus* nor whether he was a serving soldier when he died⁸⁷⁰. The inscription from *Buteridava* (26) cannot identify a fleet base either, as it merely records a fleet commander's intervention in a local boundary dispute. It is interesting to note, however, that the resolution of such disputes evidently formed part of the duties of a *praefectus classis Moesicae*⁸⁷¹. The inscription from *Montana* (30), finally, can clearly not contribute to any discussion of fleet bases, as it merely records the participation of a fleet detachment in a *venatio* for wild circus animals. It is not clear, however, whether such hunts formed part of regular duties for the CLASSIS MOESICA or whether the *venatio* at *Montana* was a one-off event⁸⁷².

The two CLASSIS MOESICA inscriptions from *Tomis* (24) are not sufficient to argue for a fleet base at the site. While the inscription mentioning a veteran of the fleet does not state where he actually served, it cannot be assumed that he was based at *Tomis* merely because a funerary inscription dedicated to him was set up there. The presence of a fleet praefect in the provincial capital, as indicated by ISM II, 106, is hardly surprising and need not imply a permanent detachment of the CLASSIS MOESICA at *Tomis*⁸⁷³.

The epigraphic data from *Tyras* (27) alone can be of no consequence for the identification of naval bases: AE 1995, 1350 states that the *medicus duplicarius* of the fleet was actually attached to a vexillation which appears to have been commanded by a centurion of LEG I ITALICA. AE 1990, 870, on the other hand, was set up by a *miles classiarius* whose unit is not given. While he may well have been a marine of the CLASSIS MOESICA, the hypothesis of a joint vexillation between the Moesian fleet and LEG I ITAL makes it equally possible that he was a soldier from this legion, which is believed to have maintained its own

⁸⁷⁰ See p. 125 above.

⁸⁷¹ See p. 126 above.

⁸⁷² See p. 129 above.

⁸⁷³ See p. 123&124 above.

naval squadron⁸⁷⁴. It is possible, therefore, that the inscriptions from *Tyras* indicate little more than a landing site of expeditionary forces moving along the Black Sea littoral and into the Crimea.

The epigraphic evidence from *Noviodunum* (19) has traditionally been used to identify the site as the headquarters of the CLASSIS MOESICA, although this is not actually reflected by the three naval inscriptions found here: these mention a praefect of the CLASSIS MOESICA, a *trierarchus* and a *liburna* called *Armata*. Only the inscription referring to the praefect, however, actually mentions the Moesian fleet. As such, the data is not sufficient to prove a CLASSIS MOESICA station at *Noviodunum*⁸⁷⁵.

Chersonesus Taurica (29) produced the most naval inscriptions of all sites investigated. While the epigraphic data is not conclusive, the two funerary inscriptions for marines who died in active service suggest an extended presence of the CLASSIS MOESICA on the Crimea. Yet this site must be treated with care in view of CIL III 14214, which states that the *trierarchus* of the Moesian fleet was under the command of a military tribune of LEG I ITALICA. As such, it appears that CLASSIS MOESICA presence in at *Chersonesus Taurica* must be seen in the context of a detachment from various units, rather than as a permanent and established fleet base⁸⁷⁶.

As with the CLASSIS PANNONICA, the epigraphic record alone is evidently insufficient to positively identify any bases of the Moesian fleet. The survey above has, however, revealed an interesting fact, namely that in the Black Sea littoral, inscriptions referring to the CLASSIS MOESICA commonly occur in the same contexts as LEG I ITALICA inscriptions. The two inscriptions identifying vexillations commanded by officers of this legion furthermore indicate that a number of combined operations appear to have taken place.

⁸⁷⁴ See p. 127 above.

⁸⁷⁵ See pp. 116&117 above.

⁸⁷⁶ See pp. 128&129 above.

Tiles stamped by the CLASSIS MOESICA (Fig. 3.32)

The survey of data from the lower Danube has shown that stamped tiles of various units travel widely throughout the two *Moesiae*. While not directly relevant to the CLASSIS MOESICA, it is particularly interesting to note that combinations of tiles stamped by LEG I ITAL, LEG V MACEDONICA, LEG XI CLAVDIA and COHORS I CILICVM have been found at 11 of the 29 sites studied⁸⁷⁷. As all of these are located either in *Moesia Inferior* or along the Black Sea, it is tempting to propose the existence of a centrally organised distribution network for the supply of building materials in Lower Moesia. Any such thesis would, however, require dedicated research solely on the distribution of stamped tiles, and not merely an aside in a study attempting to identify bases of the CLASSIS MOESICA⁸⁷⁸.

In view of the above observation, however, the distribution of CLFLM stamped tiles as shown in Fig. 3.32 is all the more striking. While – with the exception of *Drobeta* – tiles of the Moesian fleet only occur in *Moesia Inferior*, they are by no means spread throughout the province but cluster in the Danube delta⁸⁷⁹. The tiles from *Drobeta* (4) do not fit into this model, but four tiles can hardly be taken as evidence for a prolonged fleet presence⁸⁸⁰. A fair explanation for their occurrence at *Drobeta* may be the construction of the Danube Bridge under Trajan, in which the CLASSIS MOESICA is likely to have been involved. In view of the scale of this project, it would not be surprising if the Danube fleet, like so many units from the region, had supplied building materials. As all three are individual specimen, the CLFLM stamped tiles from *Troesmis* (15), *Dinogetia* (17) and *Tomis* (24) cannot be used to argue for permanent fleet bases at either of the sites⁸⁸¹.

⁸⁷⁷ *Durostorum, Capidava, Troesmis, Barboși, Dinogetia, Aliobrix, Noviodunum, Aegyssus, Halmyris, Tyras, Olbia.*

⁸⁷⁸ See also Karavas (2005), pp. 189.

⁸⁷⁹ A solitary CLFM stamped tile has been found at *Horia* in Romania (ISM II, 241). This is not discussed in the site notes above as it is an isolated find. It is furthermore not clear if it stems from a primary or secondary context. As such, this find cannot impact on the discussion above. See also Poulter (1983), pp. 83.

⁸⁸⁰ See p. 96 above.

⁸⁸¹ See discussions above: *Troesmis*: pp. 112; *Dinogetia* p. 114; *Tomis* p. 123.

Unfortunately, the numbers of stamped tiles from *Aliobrix* (18) and *Aegyssus* (20) have not been published⁸⁸². It is furthermore not clear how many types of stamp exist at each of these sites. In view of their position at the centre of the cluster of sites with CLFLM stamped tiles, however, it seems likely that the CLASSIS MOESICA supplied these forts with building materials on a more or less regular basis. For the purposes of this study, however, they cannot indicate more than a general delineation of the Moesian fleet's immediate sphere of influence.

The only sites with significant numbers of stamped tiles are *Barboşi* (16)⁸⁸³ and *Noviodunum* (19)⁸⁸⁴. While the quantities found at these sites are far smaller than those from fleet sites in Britain or Germany, they are remarkable amongst finds of fleet tiles on the lower Danube. As several types of stamp have been found at both sites, a prolonged supply of tiles may be surmised. In view of the above observations regarding the general distribution of stamped tiles in *Moesia Inferior* it appears unwise to assume the existence of a permanent naval base solely on the basis of CLFLM stamped tiles. The general distribution of CLASSIS MOESICA tiles, however, indicates that the Moesian fleet must have operated in the Danube delta on a regular basis.

Direct evidence for naval activity (Fig. 3.33):

The distribution of archaeological data related to naval activity as seen on Fig. 3.33 clearly shows that there is significantly more evidence of this kind along the lower Danube than in the Pannonian provinces. Nonetheless, the majority of sites with identifiable archaeological remains of harbours or ships still date to the pre-Roman or late Roman periods. Neither the Greek harbour installations at *Histrus* (25) nor the late Roman features at *Viminacium* (2), *Novae* (3), *Drobeta* (4) *Egeta* (5) and *Durostorum* (11) can be used in a discussion of 1st-3rd century naval bases. The existence of numerous late Roman harbour

⁸⁸² See discussions above: *Aliobrix* p. 115; *Aegyssus* p. 119.

⁸⁸³ See p. 113 above.

⁸⁸⁴ See p. 116 above.

installations is hardly surprising in view of the frequent references to naval units on the Danube in the *Notitia Dignitatum* and various codices⁸⁸⁵, while it is only natural that an important Greek colony, basing its very existence on the importance of trade with the motherland, would have possessed a flourishing harbour.

The harbour of *Odessus* (22) need not be taken into account in this study, as the only identified harbour remains have nothing to do with the Roman period at the site⁸⁸⁶. While harbours at *Callatis* (23) and *Tomis* (24) are referred to in literary sources, they have not been identified archaeologically.

On an archaeological basis, therefore, only *Aquae* (6), *Novae* (9) and *Capidava* (13) may be identified as possible fleet stations of the Principate. The harbour at *Aquae* was clearly an important shipping centre. The apparent lack of military design in the ship(s) found here, as well as its important position as a transshipment point before the Iron Gate gorges, however, may indicate that the harbour was primarily civilian in nature⁸⁸⁷.

A military harbour at *Novae* is indicated by several data sets, although none of them are conclusive. Even if the identification of these remains as a 1st-3rd century harbour is accepted, however, it must be associated with LEG I ITALICA rather than with the CLASSIS MOESICA. After all, there are a number of reasons for suggesting that this legion had a naval detachment, whereas there is no evidence to indicate a presence of the Moesian fleet at *Novae*⁸⁸⁸.

The identification of the structure found at *Capidava* as a quay rests primarily on its construction of hydraulic cement. The sole presence of a quay in a fort on a river, however, does not necessitate that the site was used as a fleet base. As such, the CLASSIS MOESICA could

⁸⁸⁵ See p. 8 above.

⁸⁸⁶ See p. 121 above.

⁸⁸⁷ See pp. 98&99 above.

⁸⁸⁸ See pp. 105&106 above.

only be assumed to have been based at Capidava in view of strong supporting epigraphic evidence or tilestamps, of which there is none⁸⁸⁹.

Evaluation of evidence for the CLASSIS MOESICA (Fig. 3.34)

As with the Pannonian fleet, there is little resemblance between the plot of fleet bases identified in current scholarship (Fig. 3.2) and the distribution of actual evidence for the CLASSIS MOESICA as shown in Fig. 3.34: Only two sites produced enough evidence to suggest an extended fleet presence, and there is no evidence for naval activity during the Principate at 14 out of 29 currently identified 'fleet bases'. Indeed, five sites currently assumed to have been bases of the Moesian fleet produced no evidence for a naval presence whatsoever⁸⁹⁰. This clearly reflects the ready acceptance of circumstantial evidence for naval bases or uncritical repetition of earlier theses amongst scholars of naval activity on the lower Danube.

This survey therefore identified only two sites, *Noviodunum* (19) and *Tomis* (24), with enough evidence to suggest bases of the CLASSIS MOESICA. A number of other sites (*Callatis* (13), *Troesmis* (15), *Barboși* (16), *Dinogetia* (17), *Aliobrix* (18), *Aegyssus* (20), *Tyras* (27) and *Chersonesus* (29)) produced some evidence indicating a fleet presence, but current data is not sufficient to enable concrete statements.

The evidence from the two sites identifiable as fleet bases, however, does not include archaeological data: While a stamped tile and two inscriptions were found at *Tomis* (24), this is not enough evidence to actually suggest a fleet base here⁸⁹¹. It does suggest, however, that vessels of the CLASSIS MOESICA reached the provincial capital of *Moesia Inferior* in the course of their duties. This seems hardly surprising in view of the fact that the CLASSIS MOESICA was part of the army of this province, as shown by military diplomata and the general distribution of fleet evidence (see Fig. 3.34). One of the most striking results of the survey above affects the

⁸⁸⁹ See p. 110 above.

⁸⁹⁰ *Margum, Ratiaria, Dimum, Carsium & Olbia*.

⁸⁹¹ See discussion, pp. 122-124 above.

'headquarters' of the CLASSIS MOESICA: the assumption that *Noviodunum* (19) was the main base of the Moesian fleet is generally accepted as a fact⁸⁹², although the evidence does not actually support it. In view of the three inscriptions and numerous CLFLM stamped tiles, there can be little doubt that *Noviodunum* lay in an area under direct control of the Moesian fleet. There is no evidence, however, that the hypocausts and other structures dating to the 1st-3rd century are part of a fortification. Indeed, no published finds suggest a military presence at *Noviodunum* during the Principate. While it is to be hoped that the next seasons of the *Noviodunum* Project will manage to clarify this situation, the current state of publication does not justify the generally accepted identification of the site as headquarters of the CLASSIS MOESICA⁸⁹³.

Provided that the presence of CLFLM stamped tiles at *Drobeta* (4) is explained as above⁸⁹⁴, the distribution of fleet related evidence is highly interesting: There is no evidence for operations of the CLASSIS MOESICA outside the province of *Moesia Inferior*, with the exception of two sites along the Black Sea littoral and on the Crimea. It has been shown above, however, that the CLASSIS MOESICA evidence from these sites may be related directly to expeditionary vexillations made up from the Moesian fleet and LEG I ITALICA. This survey has therefore shown that the CLASSIS MOESICA actually operated within a significantly smaller sphere of activity than had hitherto been suggested. As such, any conflicts of responsibility, as discussed by current scholarship on the basis of the presumption that operational duties of the CLASSIS MOESICA extended across *Moesia Inferior* and *Moesia Superior*, need not actually have existed⁸⁹⁵.

The evidence from the lower Danube furthermore indicates clearly that not only fleets used ships on the Danube. While a *miles classarius* is proven to have been attached to LEG VII CLAVDIA at *Viminacium*, the ship-shaped stamped tiles from *Novae*, as well as potential

⁸⁹² See note 767 above.

⁸⁹³ See p. 118 above.

⁸⁹⁴ See p. 133 above.

⁸⁹⁵ see p. 88 above.

harbour installations at the site, can be seen as indicators that this legion, too, supported a naval detachment.

The presence of ships that were not attached to the CLASSIS MOESICA on the Danube, however, is of direct relevance for the early history of the fleet. As it seems unlikely that the CLASSIS MOESICA was established in the Julio-Claudian period, but left no identifiable evidence until the late Flavian period, it seems more likely to have been a Flavian creation⁸⁹⁶. The existence of small flotillas attached to legions or auxiliary units, however, could explain the frequent references to Julio-Claudian naval activity in literary sources without necessitating the existence of an established fleet at this time.

Although it does not provide any data to re-evaluate the early history of the CLASSIS MOESICA, the survey above shows a further disparity between current views and actual evidence related to fleet: it is generally assumed that the CLASSIS MOESICA played an active part in the Dacian wars, but there is nothing to support this thesis apart from the 4 stamped tiles from *Drobeta*. Indeed the evidence discussed above implies that the Moesian fleet was primarily engaged in the Danube delta and Black Sea littoral, rather than the Danube in *Moesia Superior*, during the 2nd century.

While many aspects of the CLASSIS MOESICA and its development remain unclear, it remains to be hoped, therefore, that new research and the current *Noviodunum* project in particular will discover more fleet related evidence and so provide further data for the study of these problems.

⁸⁹⁶ See pp. 87&88 above.

CHAPTER IV

THE CLASSIS GERMANICA

IV.I INTRODUCTION

Ancient literary sources provide significantly more detail for naval activity on the Rhine than the Danube⁸⁹⁷. Whether this is a blessing, as suggested by Starr⁸⁹⁸, or a curse, as implied by Reddé⁸⁹⁹, is difficult to say: while various sources provide detailed information about naval developments, often detailing even numbers of ships, such references are frequently problematic and, interpreted literally, have led to highly improbable interpretations of the CLASSIS GERMANICA and its operations⁹⁰⁰. The large volume of scholarship that these sources have generated can furthermore prove counterproductive rather than helpful: a number of hypotheses, established during the early stages of historical research, have been repeated so often that they are now assumed to be facts and, in turn, used as support for the original theory⁹⁰¹.

Starr connected the establishment of the CLASSIS GERMANICA with a passage in Florus that states that Drusus *Bonam et Gesoriacum pontibus iunxit classibusque firmavit*⁹⁰². While it is unclear how Bonn in Germany and Boulogne in France, the sites identified as *Bona* and *Gesoriacum*, could have been “joined with bridges”, he used this statement to argue that the

⁸⁹⁷ A summary of literary evidence for naval campaigns on the Rhine can be found in note 13, above.

⁸⁹⁸ Starr (1993), p. 141: “On turning to the Rhine we have at last the flesh and blood of intimate detail, and for the first century at least we know more about the history and geographical basis of the Rhenish fleet than for any other squadron of the Empire, not excepting the great Italian fleets”.

⁸⁹⁹ Reddé (1986), pp. 290&291: “Rédigeant son chapitre sur la flotte de Germanie, C. Starr croyait pouvoir de la CLASSIS GERMANICA étaient bien supérieures à celles des autres escadres. En réalité, là comme ailleurs, l’examen des sources ne permet pas de résoudre toutes les difficultés”.

⁹⁰⁰ Gechter (1987), p. 114, for example, uses a reference in Tacitus (see note 13) to argue that the CLASSIS GERMANICA consisted of 1000 vessels. On p. 115, however, he goes on to state that the vessels the fleet used were mainly *liburnae*, which he identifies as *biremes* with a crew of 44 rowers, 4 sailors and 16 marines, and a few larger *triremes*. Clearly, however, the thesis that the CLASSIS GERMANICA was a permanent fleet comprising more than 64.000 men and was therefore larger than ten entire legions must be seen as wholly unrealistic.

⁹⁰¹ A good example of such a circular argument is that Starr (1993), p. 142 suggested that *Mogontiacum* and *Vetera* may have been fleet bases during the Augustan occupation solely on the basis that the rivers *Main* and *Lippe* would have provided useful routes along which to base any advance into Germany (which has since been proven to be the case, although there is no evidence that the CLASSIS GERMANICA played any part in this). Bollini (1977), pp. 105-108, in turn, takes Starr’s reference to Augustan naval bases at *Mogontiacum* and *Vetera* (for which there is no evidence) as proof that the CLASSIS GERMANICA must have been established between 12 and 9 BC.

⁹⁰² Florus, *Epitomae Tito Livio Bellorum Omnium* II, 30.26.

German fleet was an Augustan creation, established between 12 and 9 BC⁹⁰³. Despite some criticisms that the reference was unclear and not fully understood and therefore unreliable⁹⁰⁴, this thesis remained largely unchallenged until the early 1990s⁹⁰⁵. Saddington then showed that none of the early sources actually refer to the CLASSIS GERMANICA and used inscriptions of this fleet to argue that it cannot have been established before the Claudian period⁹⁰⁶. This caused a reappraisal of literary data which has led to the current theory that the German fleet may have been created out of Augustan expeditionary forces following the defeat of Varus and subsequent Roman withdrawal to the Rhine in AD 9⁹⁰⁷.

As several direct references, as well as a military diploma⁹⁰⁸, prove the existence of the CLASSIS GERMANICA during the later 1st century⁹⁰⁹, debates regarding its creation are not as wide-ranging as those of the Danube fleets. It is generally agreed, for example, that the honorific PIA FIDELIS in its full title initially read PIA FIDELIS DOMITIANA and was granted by Domitian after the revolt of Saturninus in AD 89⁹¹⁰. The development of the CLASSIS GERMANICA during the 1st century is nonetheless not fully understood. Tiles stamped CAG seem to indicate that the fleet carried the honorific AVGVSTA for a certain period of time, but it is not clear when or for how long⁹¹¹. Some scholars argue that it is evidence for the Augustan creation of the CLASSIS GERMANICA, while Starr suggests that it is a sign of Flavian reorganization, probably under Vespasian⁹¹².

⁹⁰³ Starr (1993), p. 141. See also discussion on Bonn below, pp. 192-193.

⁹⁰⁴ Reddé (1986), p. 211.

⁹⁰⁵ E.g. Viereck (1996), p. 254; Böcking (1987), pp. 102&112; Bollini (1977), p. 105.

⁹⁰⁶ Saddington (1990a), p. 229 argues that the earliest evidence for the existence of the CLASSIS GERMANICA is literary and dates to the reign of Nero. He does suggest, however, that a Claudian establishment is implied by CIL XII, 2412 (See Appendix IV), see also discussion of Saddington's theses in Chapter I, pp. 20&21 above.

⁹⁰⁷ Konen (2000), p. 464; Pferdehirt (1995), p. 38. Starr (1993), p. 144 interpreted this event as leading to a reorganization of the fleet, rather than its creation. Reddé (1986), p. 293, however, argues that it can only have been established under Tiberius, as there is no reliable evidence for its earlier existence.

⁹⁰⁸ Dated to AD 98, see Eck, MacDonald & Pangerl (2002), p. 234.

⁹⁰⁹ E.g. during the Batavian revolt, see note 16 above.

⁹¹⁰ The DOMITIANA having been removed in AD 96 as part of the general *damnatio memoriae*. See Konen (2000), p. 344; Viereck (1996), p. 255; Starr (1993), pp. 146&147; Böcking (1987), p. 101; Bollini (1977), p. 108. The honorific PIA FIDELIS DOMITIANA was granted to all troops in *Germania* that remained loyal to the Emperor during the AD 89 revolt (see Eck, MacDonald & Pangerl [2002], p. 235).

⁹¹¹ Böcking (1987), p. 101. For examples of the types of stamp used by the CLASSIS GERMANICA see **Fig. 4.1**.

⁹¹² Starr (1993), p. 146.

The epigraphic record for the CLASSIS GERMANICA is significantly more substantial than that of the Danube fleets and finds of stamped tiles are far more common. It may therefore appear that the history and development of the German fleet are far better understood than those of the CLASSIS PANNONICA and CLASSIS MOESICA. Although this impression is certainly given by current literature on the CLASSIS GERMANICA, it is not actually the case⁹¹³: aside from the generally accepted thesis that the headquarters of this fleet were located at Cologne-Alteburg⁹¹⁴, the epigraphically proven fact that its command was centenary (and as such evidently deemed by Rome to be more important than the praefectures of the Danube fleets)⁹¹⁵ and the fact that it belonged to the *exercitus Germaniae Inferioris* following the division of the province in AD 90⁹¹⁶, evidence for the history and development of the CLASSIS GERMANICA is relatively limited.

This did not, however, stop Starr from postulating that the German fleet's primary *raison d'être* in the 2nd century was to regularly patrol the entire Rhine and the North Sea coast of *Germania Inferior*, to which end it maintained bases "spaced at regular intervals from Colonia Agrippinensis to Noviomagus"⁹¹⁷. The suggestion that the German fleet was in charge of frontier control on the Rhine has led several scholars to suggest that the CLASSIS GERMANICA maintained bases all along the Rhine to Mainz⁹¹⁸. While some of these studies clearly have no basis in any form of evidence, the thesis that the CLASSIS GERMANICA

⁹¹³ For summarizing articles that appear to present a complete history of the CLASSIS GERMANICA see Böcking (1987); Gechter (1987); Bechert (1982), pp. 70&71.

⁹¹⁴ Konen (2000), p. 465; Pferdehirt (1995), p. 40; Starr (1993), p. 144; Böcking (1987), p. 102; Gechter (1987), p. 114; Reddé (1986), p. 291; Bechert (1982), p. 70. See also discussion below, pp. 185-191.

⁹¹⁵ See Pferdehirt (2002), p. 57; Pferdehirt (1995), p. 37.

⁹¹⁶ As shown on three military diplomata (dating to AD 98, 127 and 152) that mention the CLASSIS GERMANICA; see Eck, MacDonald & Pangerl (2002), pp. 231-234.

⁹¹⁷ Starr (1993), p. 150; on p. 147 he furthermore argues that the CLASSIS GERMANICA is to have maintained a series of permanent bases, each commanded by a *trierarchus*, along the Rhine and across the Rhine delta.

⁹¹⁸ Viereck (1996), pp. 254&255; Bollini (1977), p. 108; Rougé (1975), p. 146. See also discussion in Konen (2000), p. 180, who argues that there is no evidence for CLASSIS GERMANICA activity outside *Germania Inferior* (an argument backed by Höckmann [1998c], p. 335; Starr ([1993], p. 144; Reddé (1986), p. 569; Ellmers (1983), p. 509).

maintained a series of bases along the Rhine in *Germania Inferior*, as well as in the Rhine delta is by now widely read as fact⁹¹⁹ (Fig. 4.2).

Several inscriptions and a large number of CGPF stamped tiles, found throughout *Germania Inferior*, indicate that the CLASSIS GERMANICA was directly involved in building activity at several sites and provided large quantities of building material all over the province. It has therefore been suggested that during the 2nd century, when there was no imminent military threat on the Rhine, the fleet was required to engage in *opera publica*⁹²⁰.

Geographical factors such as severe erosion as encountered on the lower Danube certainly affect any data from the great delta areas of the Rhine, Meuse and Scheldt. Changes in river course, however, have actually had a positive effect on data regarding the CLASSIS GERMANICA: several frontier forts originally situated on the Rhine are now situated far from the course of the river, making detailed excavations possible⁹²¹.

Differences in quality and quantity of archaeological research between modern countries, seen as problematic for any interpretation of evidence on the Danube, do not pose a major problem for sites of the CLASSIS GERMANICA, as the Netherlands, Belgium and Germany all have exemplary records in this respect. Indeed, the main problem for this study lies in the opposite, namely that the amount of data that has to be studied to verify or disprove current scholarship and establish a reliable archaeological basis, as identified in Chapter I, is substantial⁹²². The presence of a significant amount of archaeological data that can be related to the fleet, however, does mean that any conclusions regarding the CLASSIS GERMANICA can be significantly more refined than those reached for the Danube fleets.

⁹¹⁹ Even Konen, who is more critical than most other studies in this respect, argues that the CLASSIS GERMANICA maintained several smaller squadrons at all major river confluences of the Rhine in *Germania Inferior* (see Konen [2000], pp. 465&466).

⁹²⁰ Starr (1993), p. 151; Bechert (1982), p. 70.

⁹²¹ See site discussions below, e.g. Velsen (pp. 144ff); Woerden (pp. 159-161) and Vleuten de Meern (p. 161).

⁹²² While Konen's detailed and comprehensive study of the CLASSIS GERMANICA alleviates this problem to some degree, the following discussion of sites is still significantly more substantial than the preceding ones. See Konen (2000).

IV.II SITES

1. CASTELLUM FLEVUM (Velsen)⁹²³

The site of Velsen is situated on the Oer- Ij, the northernmost arm of the Rhine, about 20km west of the modern city of Amsterdam⁹²⁴. Two separate Roman forts, identified as Velsen I and II, have been excavated since the late 20th century⁹²⁵. In the past, research has focussed on Velsen I – which has the more complicated and longer history⁹²⁶. Current scholarship believes that the site was established around AD 15/16 and abandoned by AD 39⁹²⁷. Due to the presence of extensive harbour-works as well as possible ship-sheds, Velsen has long been seen as a fleet base⁹²⁸.

The fort **Velsen I** has been fully excavated since the early 1970s. Excavations identified six periods of occupation, which have been grouped into three main periods (with subphases 1a-c and 2 a&b)⁹²⁹. While periods 1 and 2 are about 1ha, the size of the fort is increased to 2 ha in period 3⁹³⁰. There has been some discussion regarding the dating of Velsen I, with recent studies arguing that it was in use from either AD 15-30 or 16-28⁹³¹. Accurate archaeological models of the different phases at Velsen are problematic as all periods appear to lack interior structures. Furthermore, due to heavy erosion of the site over the centuries, only the bottom 40cm of the defensive ditches, as well as the bases of postholes remain⁹³².

⁹²³ Site numbers in this chapter correspond with those used in the distribution maps, Figs. 4.2, 4.22, 4.23, 4.24, 4.25.

⁹²⁴ Bosman (1999a), p. 303; Bosman (1999b), p. 91; Bosman (1995), p. 89.

⁹²⁵ de Weerd (2003), p. 189.

⁹²⁶ Bosman (1995), p. 89 – it is not unlikely, however, that this is due to the fact that more excavations have been carried out at Velsen I and the site's history is thus much better known than that of Velsen II.

⁹²⁷ Bechert & Willems (1995), p. 99, the early date being the establishment of Velsen I, the later the abandoning of Velsen II.

⁹²⁸ Bechert & Willems (1995), p. 99; Morel (1991), pp. 159ff.; Morel (1986), p. 206.

⁹²⁹ Bosman (1999a), p. 303; Bosman (1995), p. 89.

⁹³⁰ Bechert & Willems (1995), p. 99.

⁹³¹ Morel (1991), p. 164; Morel (1986), p. 200; see also Konen (2000), p. 282.

⁹³² Bosman (1999c), p. 245.

The earliest period at Velsen I appears to have been a temporary fortification consisting of a simple palisade and a ditch. These remains have been reconstructed to form a triangular plan (Fig. 4.3). The long side of the triangular enclosure ran parallel to the river bank, enclosing 178m of the riverside⁹³³. Due to the significant erosion, however, the evidence for this phase is not conclusive⁹³⁴. These structures were superseded by a permanent earth and timber fortification on a slightly extended but still roughly triangular plan (Period 2)⁹³⁵. While the earliest period fort at Velsen I appears not to have had any interior structures, some building remains associated with Period 2 have been discovered⁹³⁶. These have been interpreted as a bath-house and a double ship-shed⁹³⁷.

The final period of Velsen I is known on the basis of an earth and timber wall as well as V-shaped defensive ditches⁹³⁸ indicating a trapezoidal plan⁹³⁹. The ship-sheds of Period 2 must have been destroyed for its construction as a road ran through their earlier position in Period 3. Double ship-sheds were now constructed along a new orientation⁹⁴⁰. This development, as well as the creation of an entirely new river revetment, indicate a change in harbour design, and thus possibly in the use of the harbour of Velsen I⁹⁴¹. The defensive ditches of Period 3, as well as the bottom layers of the harbour, contained several hundred Roman tent-pegs⁹⁴². Similar finds are also recorded for the earliest Period of Velsen I⁹⁴³. In view of the absence of interior structures that could be interpreted as barracks, it seems likely that Velsen I was only ever occupied by units in tents, and never adopted a permanent appearance.

⁹³³ Morel (1991), p. 164.

⁹³⁴ Morel (1986), p. 202.

⁹³⁵ Morel (1986), p. 202.

⁹³⁶ Bosman (1999c), pp. 246 ff.

⁹³⁷ Bosman (1999b), p. 93.

⁹³⁸ Bosman (1999a), p. 303.

⁹³⁹ Morel (1986), p. 210.

⁹⁴⁰ Bosman (1999b), p. 93.

⁹⁴¹ Morel (1986), p. 210, see also extended discussion of the harbour facilities below.

⁹⁴² Bosman (1999a), pp. 303 & 305.

⁹⁴³ Morel (1986), p. 202.

A number of wells are associated with Velsen I⁹⁴⁴. These contain a number of graffiti, but none indicate the garrison⁹⁴⁵. The wells at Velsen contained skeletons, which have been dated to the Tiberian period on the basis of associated military equipment and coins⁹⁴⁶. Further skeletal remains have been discovered in the Roman harbour. The final phase of Velsen I furthermore produced 517 Roman slingshots⁹⁴⁷. As these observations clearly indicate a violent end involving a battle, the end of Velsen I has traditionally been associated with the revolt of the *Frisii* in AD 28⁹⁴⁸.

It is on the basis of this historical deduction that the site has been associated with *Castellum Flevum*, which is mentioned by Tacitus as being heavily besieged during the Frisian revolt⁹⁴⁹. While this theory is supported by the pottery, which indicates that occupation of Velsen I ended before AD 35, a coin of Caligula found in the final period of the fort cannot be reconciled with it. This has led Dutch archaeologists to believe that the site may have been reoccupied briefly for the construction of nearby Velsen II in AD 39/40⁹⁵⁰.

The harbour of Velsen I is of particular interest for this study, as it is one of the few positively identified Roman military harbours in North-Western Europe. Initially, it was little more than a small loading jetty and it is usually assumed that during this earliest phase ships were drawn up onto the river bank⁹⁵¹. While it appears that Velsen I did not have any interior buildings, it soon developed significant harbour-works. At the centre of a 178 metre long enclosed section of the river bank a platform, protected by two moles, juttied out into the river.

⁹⁴⁴ Morel & Bosman (1989), p. 168.

⁹⁴⁵ Bosman (1999a), p. 303.

⁹⁴⁶ Bosman (1999a), p. 303; while Morel originally saw these skeletons in connection with fighting at Velsen during the Frisian revolt, Bosman argues that they are an indicator of potable water poisoning in the course of a systematic abandonment following these problems.

⁹⁴⁷ These have been studied typologically and divided into 5 groups which are distinct in that they show a gradual decline in the amount of material and care used in their construction. See Bosman (1999a), p. 303; Bosman (1999b), p. 92.

⁹⁴⁸ Bosman (1999a), p. 305.

⁹⁴⁹ Bosman (1999a), p. 303; Tacitus *Annales* IV, 72-74.

⁹⁵⁰ Bosman (1999b), p. 95; for Velsen II see discussion below.

⁹⁵¹ Morel (1986), p. 202.

A third jetty, located further east, completed an artificial harbour with two separate basins⁹⁵². It is interesting to note that the 2m wide moles jutting out from the artificial platform are constructed according to Vitruvius' description on how to construct underwater structures by using 'hydraulic cement' – with the exception that in the case of Velsen the moles are filled with clay⁹⁵³.

The two calm water basins created by this harbour design appear gradually to have silted up. This caused the design to be altered so that the west and north pier – jutting into the river from the platform – as well as the eastern pier were turned into jetties⁹⁵⁴. With water passing underneath these jetties, the 'harbour basins' of Velsen I could no longer provide calm water, but the silting process appears to have been stopped⁹⁵⁵. Another means to counteract silting was the creation of jetties attached to the eastern and western moles, which furthermore provided new deep water berths at Velsen⁹⁵⁶. In period 2b, an artificial harbour was created on the north bank of the Oer-Ij. While it is not clear whether this served any military purpose, Morel would like to see it as a predecessor type to the later bridge-head harbours commonly found on the Danube⁹⁵⁷.

Two hall-like structures, belonging to phases 1c and 2c, have been identified in the western harbour sector of Velsen I on the basis of post-holes. They measure 6m by 20 m and do not parallel any known interior structures of forts⁹⁵⁸. As the structures consist of rows of posts with no extra supports, they are not substantial enough to have been *horrea*. The suggestion that they may have been *contubernia* can be discounted as there are no internal subdivisions. On the basis of comparison with Greek examples from the Mediterranean,

⁹⁵² Morel (1991), p. 164.

⁹⁵³ Morel (1986), p. 208.

⁹⁵⁴ Morel (1986), p. 210.

⁹⁵⁵ Morel (1986), p. 206.

⁹⁵⁶ Morel (1986), p. 210.

⁹⁵⁷ Morel (1991), p. 164.

⁹⁵⁸ Morel (1986), p. 205.

Morel proposed that the structures were used as ship-sheds⁹⁵⁹. This interpretation, however, is problematic as there is no evidence, other than a solitary reference to a single *trireme* in Tacitus⁹⁶⁰, that Mediterranean style vessels ever were employed on the Rhine. Indeed, the majority of ship finds from the region have indicated that vessels used in the Roman period had a constructional history of their own that was an interesting blend of Celtic and Mediterranean ship-building techniques⁹⁶¹. As such, ship-shed sizes from the Greek cultural sphere can hardly be taken as concrete proof that structures with similar measurements housed warships in the north-westernmost Roman provinces⁹⁶². While it is convincing to argue that the fort's position in waterlogged terrain and in enemy territory necessitated ship-sheds in order to keep warships dry and operational, the two structures' identification as ship-sheds is not proven beyond doubt⁹⁶³. It has nonetheless been widely accepted for want of a better explanation. It is on the basis of these 'ship-sheds' that the western harbour section of period 1c-2b has been termed a 'military harbour': warships were apparently drawn onto the bank in this sector and could then be 'stored' in the ship-sheds⁹⁶⁴.

As the identification of the two structures in phases 1c-2b as ship-sheds rests on the need for ship-sheds at Velsen if it was a naval base, their identification may be supported by a structure associated with period 3 of Velsen 1. This final period of the fort has only two permanent interior structures. One of these has been identified as a bath-house⁹⁶⁵. The other, however, has similar measurements to the 'ship-sheds' of the earlier phases in that it is of the same construction, the same length and twice as wide. Furthermore, its changed orientation

⁹⁵⁹ Morel (1986), p. 205 finds that the ship-sheds at *Thurii* and *Sounion* are "almost the same length as the examples at Velsen". The measurements of examples at *Piraeus*, *Oeniadai* and *Apollonia*, however, differ drastically from those of the Velsen structures. See also discussion of Haltern, where Morel similarly identifies ship-sheds, below, pp. 180&181.

⁹⁶⁰ See note 13 above.

⁹⁶¹ Konen (2000), 189-243; Höckmann (1998c), pp. 323-346; Pferdehirt (1995), pp. 7-40.

⁹⁶² A problem which he realizes himself (Morel (1986), p. 205). As there are some concordances, however, Morel is happy to disregard this issue in view of the positive results of his study.

⁹⁶³ Morel (1986), p. 205

⁹⁶⁴ Konen (2000), p. 284; Morel (1991), pp. 162&164; Morel (1986), p. 206.

⁹⁶⁵ Bosman (1999c), p. 246 ff.

mirrors the changes in harbour design of this period⁹⁶⁶. It seems, therefore, that structures of 6m x 20m (or 12m x 20m) were clearly connected to the harbour of Velsen throughout its history as a permanent base. As such, it seems likely that they were ship-sheds, although this cannot be proven conclusively⁹⁶⁷.

The fort **Velsen II** is located about 1 km west of **Velsen I**. With research focussed on the understanding of the earlier fort, little excavation has been undertaken at Velsen II. Investigations in 1964 and 1970 appear to have excavated a fortified bank in the form of rows of posts along a loop of the Oer-Ij⁹⁶⁸. Remains of worked timbers, pulleys, oars, ropes and blocks of pitch seem to underline the theory of a Roman harbour at Velsen II⁹⁶⁹. As few structures were discovered at the site, Velsen II was initially believed to have been a marching camp. In view of the large number of associated finds, however, a permanent base at the site seems likely. Numismatic finds and Claudian *terra sigillata* indicate a date range from AD 40-50⁹⁷⁰. This is supported by dendrochronological dates gained from worked timbers found in the harbour, which have been identified as possible traces of ship repairs at Velsen II⁹⁷¹. As the coin series from Velsen II indicates an end between AD 43 and 47⁹⁷², it is currently believed that the fort was occupied from around AD 39 to 47⁹⁷³.

It is interesting that, while to the modern scholar Velsen I seems the more important site in view of the concentration of archaeological research, this does not appear to reflect historical reality. The majority of Roman small finds from the area around Velsen I and II date to the occupation of the later fort⁹⁷⁴. Indeed, the nearby ritual site at Velsbroek B6 produced a large quantity of military equipment finds. As these are of Claudian date, they

⁹⁶⁶ Bosman (1999b), p. 93.

⁹⁶⁷ For a very critical assessment regarding the interpretation of the structures in question see also Rankov (2008), pp. 61, 64&65.

⁹⁶⁸ Bosman (1995), p. 89.

⁹⁶⁹ Konen (2000), p. 288.

⁹⁷⁰ Constandse-Westermann (1982), p. 135.

⁹⁷¹ Morel & de Weerd (1980), p. 475.

⁹⁷² de Weerd (2003), p. 190.

⁹⁷³ Bosman (1995), p. 91.

⁹⁷⁴ Vons & Bosman (1988), p. 3.

must be associated with Velsen II⁹⁷⁵. As such, it appears that Velsen II had significantly more influence on the surrounding area in the Roman period than its predecessor, contrary to current understanding of the two sites.

While the significant harbour-works at the Velsen forts, as well as their location, clearly indicate a naval connection, it is doubtful whether the traditional interpretation of the site as a base of the CLASSIS GERMANICA is justified. For Velsen II to have been a fleet base, the German fleet must have been in existence by the Claudian period at the latest. If Velsen I is to be considered a base of the CLASSIS GERMANICA, this unit would have had to exist before the reign of Caligula.

The only evidence for the German fleet from Velsen is problematic. It comes in the form of one tile bearing a CGPF stamp⁹⁷⁶. As shown above, one stamped tile alone cannot be indicative of a permanent base, but in this case it is even more problematic. As occupation of Velsen stops under Claudius, it is furthermore difficult to associate a clearly Flavian stamped tile with structures at the site. It is impossible to re-date an entire site on the basis of one stamped tile, leaving the conclusion that the CLASSIS GERMANICA tile is not connected with the early 1st century naval base at Velsen. Thus Velsen cannot be seen as a permanent base of the CLASSIS GERMANICA. Indeed, any association of the site with the fleet resting on its naval installations could only be postulated if other sites produced evidence that the German fleet was in operation well before AD 47.

2. ? – (Uitgeest / Dorregeest)

One CGPF stamped tile has been found at the hamlet of Dorregeest near Uitgeest in Northern Holland⁹⁷⁷. Similarly to Velsen, the site is located north of the established Roman frontier along the Oude Rijn. Excavations at Dorregeest in the early 1980s discovered various

⁹⁷⁵ Bosman (1995), p. 91.

⁹⁷⁶ Konen (2000), p. 409.

⁹⁷⁷ Konen (2000), p. 409.

traces of Roman occupation, mainly in the form of metal small finds. These included a bronze drinking vessel (flask?), a cheek plate of an unidentified helmet type and a bronze foot with lionhead decoration⁹⁷⁸. The most important find from the unidentified Roman site at Dorregeest is a coin hoard of 1302 denarii which date to the 2nd century. There are no structural remains⁹⁷⁹. While it is clear that Dorregeest was occupied in the Roman period, its identification as a fleet base is problematic, as it is based on a single CGPF stamped tile, which has not been published to date⁹⁸⁰.

3. LUGDUNUM (Katwijk)

The site of *Lugdunum* has been identified as a fleet base throughout literature on the German fleet and the Province of *Germania Inferior*⁹⁸¹. The presumed fort was situated on the south bank of the Oude Rijn that formed the Lower German frontier in the Roman period. It is believed that the now submerged site, situated about 2km out from the modern coastline, originally controlled the mouth of this branch of the Rhine⁹⁸². On the basis of this assumption, it has been identified as the Roman fort of *Lugdunum* known from the Peutinger Tables⁹⁸³.

The archaeological remains of the so-called ‘Brittenburg’ were recorded in the 16th century, when the site was still on dry land. A ‘plan’ of the – even then heavily eroded – fort survives in the form of a copper engraving by Abraham Ortelius (Fig. 4.4). Unfortunately, the engraving is of little use, as it appears that several Roman and non-Roman phases have been woven into one. A Roman fort may be indicated by the *horreum*-type buildings in the interior

⁹⁷⁸ The ROB excavations took place between 1980 and 1983, and were in part published in Vons (1987). See esp. p. 123.

⁹⁷⁹ Vons (1987), p. 123; 1186 of the coins could be identified, 60 were illegible. 56 have been left in the condition they were discovered - in the hope that future archaeological methods will provide a way to identify them. The identified coins date from Trajan to Commodus, with the majority (675) dating to the reign of Marcus Aurelius.

⁹⁸⁰ While Konen (2000), p. 409 lists the site as having produced one CGPF stamped tile, he states that this is due to an oral communication by Bogaers in 1993. The tile was allegedly found by the ROB during excavations in 1982 – but has not been published in the Vons report on the site.

⁹⁸¹ Bechert & Willems (1995), p. 23; Starr (1993), p. 148; Bechert (1982), p. 70.

⁹⁸² Bechert & Willems (1995), p. 96; Bogaers & Rüger (1974), p. 36.

⁹⁸³ TabPeut II 1/ 2.

of the structure. If the plan is reliable, however, the actual structures must be medieval, but may have been built with reused material from a Roman fort at the site⁹⁸⁴.

Rescue excavations at Katwijk Klein-Duin and in the nearby area have identified several villa-like buildings (known mainly from postholes), coins dating from the Antonine to the Severan period and pottery, which has been dated AD 100-250. As such, it appears likely that any Roman fort at Katwijk would also date to the 2nd/3rd century⁹⁸⁵. An inscription from Katwijk referring to COHORS I RAETORVM seems to support the theory of a Roman fort at the 'Brittenburg' in Katwijk⁹⁸⁶.

The identification of the presumed fort as a naval base rests on its topographic position at the end of the Lower German *limes* and the presence of CLASSIS GERMANICA stamped tiles. Starr states that stamped tiles of the fleet were found at Katwijk-Brittenburg, but it has since been established that three of these CGPF stamped tiles are modern forgeries⁹⁸⁷. Excavations since Starr's study have yielded three further CGPF stamped tiles; five are now associated with the 'Brittenburg', while one was found during excavations at Katwijk-Klein Duin⁹⁸⁸.

While a fleet base can hardly be identified solely on the basis of six stamped tiles, an inscription referring to a Raetian cohort makes the identification of Katwijk as fleet base even more problematic. This is particularly true as the CGPF stamped tiles form only a small proportion of the overall number of stamped tiles from the area around Katwijk, which also identify several other units⁹⁸⁹.

4. PRAETORIUM AGRIPPINAE (Valkenburg)

The village of Valkenburg is located halfway between Katwijk and Leiden on the south bank of the Oude Rijn. Archaeological research on the site has been carried out from

⁹⁸⁴ Bogaers & Rüger (1974), pp. 36&37.

⁹⁸⁵ Bogaers & Rüger (1974), p. 37.

⁹⁸⁶ CIL XIII, 8827.

⁹⁸⁷ Konen (2000), p. 410; Starr (1993), p. 148.

⁹⁸⁸ Konen (2000), p. 408; Beunder (1987), p. 210; Bogaers & Rüger (1974), p. 36.

⁹⁸⁹ de Poorter & Claeys (1989), p. 48.

1941 to 1953 and since 1962⁹⁹⁰. Apart from a Roman fort at Valkenburg village, believed to have been the *praetorium Agrippinae*, the sites of Valkenburg Woerd and Valkenburg Marktveld have also yielded Roman finds⁹⁹¹.

The fort appears to have developed in six phases, five in earth and timber and one in stone⁹⁹². Recent research, however, has shown that there may in fact be a seventh phase⁹⁹³. Despite earlier theories that Valkenburg was only occupied in the 50s AD⁹⁹⁴, it has been shown that a fort was established at the site as early as AD 39⁹⁹⁵. This correction of dates for Valkenburg has been possible on the basis of small finds from the site: these include a helmet of the Weisenau/Imperial Gallic type, as well as a *pugio* of Scott type A, dated to the Claudian period or earlier, both of which are associated with the earliest period of the fort⁹⁹⁶.

Period I of Valkenburg had an irregular shape with three gates. It was modified and enlarged in AD 42, with further changes dated to AD 47 and 69⁹⁹⁷. Two distinct destruction layers have been discovered in the earth and timber fort. They have been associated with events in AD 47 and 69 respectively, but these dates appear to rest primarily on historical considerations⁹⁹⁸. The fort was rebuilt in stone around AD 180 and remained in constant use until its end around AD 260. While it appears that two *horrea* were built at the site in the 4th century, any late Roman activity at Valkenburg is little understood at present⁹⁹⁹.

Although it was initially believed to have been a second military installation, the site at Valkenburg Woerd, 1km upstream from the fort, has now been identified as a civilian

⁹⁹⁰ van Giffen (1971), p. 88.

⁹⁹¹ Grane (2002); van Dierendonck (1997); Kempkens & Dolmans (1995); Sarfatij (1977), p. 159.

⁹⁹² van Giffen (1971), p. 88.

⁹⁹³ Bechert & Willems (1995), p. 95.

⁹⁹⁴ Sarfatij (1977), p. 162.

⁹⁹⁵ Grane (2002), p. 490; Kempkens & Dolmans (1995), p. 122; Constandse-Westermann (1982), p. 135.

⁹⁹⁶ See Kempkens & Dolmans (1995), p. 125; for a dagger typology see Scott (1985); van Giffen (1971), p. 88 mentions 100-120,000 datable small finds. This, however, was before excavations at the site were even completed.

⁹⁹⁷ Bechert & Willems (1995), p. 96.

⁹⁹⁸ van Giffen (1971), p. 88.

⁹⁹⁹ Bechert & Willems (1995), p. 96.

settlement. Small finds indicate that it was occupied from AD 42 - 240¹⁰⁰⁰. The earliest traces of occupation indicate a wharf or harbour at the site, which is believed to have been in use during the establishment and early phase of the Valkenburg fort. The harbour was soon abandoned and built over, as a civilian settlement grew around it. All known structures have the character of a *vicus*, contradicting theories of a second fort at Valkenburg Woerd¹⁰⁰¹.

Valkenburg Woerd was connected with the site known as Marktveld by a road, two sections of which have been excavated and dated dendrochronologically: the earlier dates to AD 39/40, the later to AD 123/4¹⁰⁰². It has since been shown, however, that the earlier date is in fact incorrect¹⁰⁰³. The Marktveld site was initially believed to have been the fort's cemetery, indicated by the discovery of about 145 Roman inhumations. Excavations from 1985-89, however, have shown that there also were several civilian structures at the site¹⁰⁰⁴.

Of particular interest is the discovery of a quay and extended river revetment at the Marktveld gully – a small subsidiary to the river Rhine. This small Roman harbour also contained two granaries measuring 30m x 9m, positioned right on the waterfront and surrounded by a small palisade¹⁰⁰⁵. Calculations regarding the capacity of these *horrea* have indicated that they could store enough grain to supply 1000 men for an entire year. As this capacity far exceeds the garrison of the Valkenburg fort, it seems plausible that the *praetorium Agrippinae* may have served as some form of supplies base¹⁰⁰⁶.

Charred grain and other material from the interior of the Marktveld *horrea* indicate that they were destroyed by fire at a time when they were full. It is not clear, however, whether this fire was accidental or connected to any acts of hostility¹⁰⁰⁷.

¹⁰⁰⁰ van Giffen (1971), p. 88; Sarfatij (1977), p. 159.

¹⁰⁰¹ Sarfatij (1977), pp. 164-166.

¹⁰⁰² van Dierendonck (1997), p. 547.

¹⁰⁰³ Grane (2002), p. 490. This does not, however, affect the dating of the fort at Valkenburg, as small finds have clearly shown that it must have been established around AD 40 (see above).

¹⁰⁰⁴ http://edna.itor.org/nl/oai/oai_addi/oai_addi/OAI:IVALMA:a00127.xml/; see also van Dierendonck (1997), p. 547.

¹⁰⁰⁵ van Dierendonck (1997), pp. 547&548; see also Sarfatij (1977), p. 162.

¹⁰⁰⁶ see van Dierendonck (1997), p. 548.

¹⁰⁰⁷ van Dierendonck (1997), p. 548.

In a second period of occupation at the Marktveld site, the quay was extended and a small fortlet of 44.5m x 38.8m established. The date for this rebuilding remains unclear, but the excavators agree that it is unlikely that the military occupation of the Marktveld site lasted beyond AD 100. The extension of the harbour in the late 1st century, coupled with the establishment of a small military post have in the past invited speculation that the site may have served as a military transshipment point for this part of *Germania Inferior*. Even if such an interpretation is accepted, however, this role did not last for long. Neither at the Marktveld site, nor at Valkenburg Woerd, is there any evidence for military occupation in the 2nd century. Instead, the sites appear to indicate strong native settlement influences¹⁰⁰⁸.

Nonetheless, the notion of a 1st century transshipment point has caused Valkenburg to be identified as a base of the CLASSIS GERMANICA in the past. This thesis is supported by the discovery of a CGPF stamped tile, as well as several EXGERINF stamped tiles¹⁰⁰⁹. The fleet tile, however, was actually discovered at Valkenburg Woerd¹⁰¹⁰. As such, it cannot be linked with the major harbour installations and possible transshipment base of the later 1st century at Valkenburg-Marktveld, as the Woerd site was a civilian settlement by the time the harbour had been extended.

5. MATILO – (Leiden Roomburg)

Excavations in the Roomburger/Meerburgerpolder area east of Leiden in the 1930s suggested a Roman fort at the site. Initial indications were followed up by geophysical investigations in the late 1960s that discovered a Roman fort of 82m x 100m, although in a slightly different location than that presumed by Holwerda in the 1930s¹⁰¹¹. The fort, known on the basis of its defensive ditches, numerous postholes, Roman masonry, architectural fragments and several bronze statuettes, is situated on the southern bank of the Oude Rijn

¹⁰⁰⁸ van Dierendonck (1997), pp. 548-553.

¹⁰⁰⁹ de Poorter & Claeys (1989), p. 48; van Giffen (1971), p. 88.

¹⁰¹⁰ Konen (2000), p. 409.

¹⁰¹¹ van der Kley (1970), p. 24; van der Klei [*actually*: van der Kley] (1964), p. 96.

south east of the point where the *fossa Corbulonis* would have met the Rhine in the Roman period. On the basis of the Peutinger Table this has been identified as ancient *Matilo*¹⁰¹².

As the fort is located at the northern terminus of the *fossa Corbulonis*, an artificial canal linking the Rhine and Meuse rivers, it is usually assumed that it was built around the time of construction of this artificial waterway – dated to AD 47 on the basis of historical sources¹⁰¹³. While the fact that the fort appears to be orientated towards the canal rather than the Rhine underlines its connection to the *fossa Corbulonis*, it does not necessitate construction at the same time as the canal¹⁰¹⁴. AD 47 can therefore be taken as a *terminus post quem*, rather than a *terminus ad quem* for construction of the fort at Matilo. A *tpq* of AD 47 is supported by small finds as well as the coin series, both of which provide a date range of AD 50-260¹⁰¹⁵. The main period of occupation seems to have been in the 2nd half of the second century, as fineware pottery (mainly Gaulish *sigillata* from Trier and Rheinzabern) clearly peaks in this period¹⁰¹⁶.

Three building inscriptions from the fort indicate rebuilding under Trajan by COH I LVCENSIVM PIA FIDELIS in 103/110 as well as under Septimius Severus by COH XV VOLVNTARIORVM CIVIVM ROMANORVM PIA FIDELIS in 196/198 and a NVMERVS EXPLORATORVM BATAVORVM in 205¹⁰¹⁷. Further units are attested on stamped tiles from the site: these include LEG XXX, LEG I MINERVIA ANTONINIANA and CGPF stamps¹⁰¹⁸. Unfortunately, the precise number of CLASSIS GERMANICA stamped tiles is unclear, with some scholars referring to a single CGPF stamped tile¹⁰¹⁹ and others mentioning ‘several’ examples¹⁰²⁰. While the precise history of the occupation of *Matilo* remains unclear it is

¹⁰¹² TabPeut II.2; see also Bogaers & Rüger (1974), p. 44.

¹⁰¹³ Bogaers (1974), p. 71; van der Klei [*actually*: van der Kley] (1964), p. 95.

¹⁰¹⁴ Bechert & Willems (1995), p. 93.

¹⁰¹⁵ For small finds see Bechert & Willems (1995), p. 93; a discussion of the coin series can be found in Bogaers & Rüger (1974), p. 44.

¹⁰¹⁶ van der Klei [*actually*: van der Kley] (1964), p. 100.

¹⁰¹⁷ Bechert & Willems (1995), p. 93; Bogaers & Rüger (1974), p. 44.

¹⁰¹⁸ van der Klei [*actually*: van der Kley] (1964), p. 99.

¹⁰¹⁹ Beunder (1987). pp. 207&210; Bogaers (1974), p. 71.

¹⁰²⁰ Bechert & Willems (1995), p. 93; de Poorter & Claeys (1989), p. 48.

evident, therefore, that units other than the CLASSIS GERMANICA also supplied building materials to the site and may, in the case of those epigraphically attested, have been garrisoned here¹⁰²¹.

6. NIGRUM PULLUM (Zwammerdam)

Zwammerdam is located at the confluence of the rivers Meije and the Rhine. As such, the Roman fort of *Nigrum Pullum* controlled an important access route into the swamps of Free Germany. The site has been excavated almost completely from 1968-71, identifying three separate phases of development: two in earth and timber measuring c. 1ha and a stone phase of about 1.2ha¹⁰²². The earliest fort at the site dates to AD 47-69. Very little remains of this phase apart from a substantial destruction layer associated with the Batavian revolt of AD 69¹⁰²³. The initial date of AD 47 is suggested on the basis of the restructuring of the Rhine armies under Corbulo, but cannot be proven on the basis of archaeological evidence. The second fort at Zwammerdam dates to AD 80 – 175 and measured about 1ha¹⁰²⁴. It was protected by a defensive double ditch and a 3.5m wide earth and timber rampart¹⁰²⁵. The third period of the fort at *Nigrum Pullum* was built in stone and is believed to have been constructed around or after AD 175, but there is no precisely datable evidence for this. Military occupation of the site ended with a purposeful destruction around AD 275¹⁰²⁶.

While the history of the garrison at *Nigrum Pullum* is not known, a fragmented tile found at the site has frequently been interpreted as a CGPF stamped fleet tile¹⁰²⁷. While it appears likely that this identification is accurate, the stamp cannot definitely be identified as

¹⁰²¹ Bogaers & Rüger (1974), p. 44. As such it is unlikely that the site ever served as a permanent base of the CLASSIS GERMANICA as suggested by Bechert (1982), p. 70.

¹⁰²² Bechert & Willems (1995), p. 91.

¹⁰²³ Bechert & Willems (1995), p. 91.

¹⁰²⁴ de Weerd (1977), p. 187.

¹⁰²⁵ Bechert & Willems (1995), p. 91.

¹⁰²⁶ Bechert & Willems (1995), p. 91: The date for construction of the stone phase is frequently associated with the restructuring of the Rhine fortifications under Didius Julianus, although this is purely speculative and based on his rebuilding of the nearby fortifications at Maldegem.

¹⁰²⁷ Beunder (1987), p. 207; Beunder (1986), p. 35 provides a detailed argument as to why this tile has been associated with the CLASSIS GERMANICA. See also de Poorter & Claeys (1989), p. 48; Konen (2000), p. 410.

reading CGPF. In any case, a single stamped tile can hardly be taken as conclusive evidence for an extended presence of the CLASSIS GERMANICA.

Substantial artificial works reinforced the riverbank to the north of the fort. It appears that they formed an artificial quay to facilitate the landing and loading/unloading of ships, constructed in the Flavian period. It was relocated twice in the course of the 2nd century owing to alterations in the river's course¹⁰²⁸. Six ships were found situated along this riverside quay in the early 1970s¹⁰²⁹: three of these were logboats while three were large Roman transport vessels of the *Prahm* type (Fig. 4.5). A steering oar was found in association with these¹⁰³⁰. The vessels were excavated from 1972 to 1974¹⁰³¹. Detailed study of the remains showed that the Zwammerdam vessels were of a type that had not been encountered before. Their method of construction aroused particular interest as the vessels are of a shell first construction with inserted ribs, whilst employing a variant of the local tradition of clinker construction – a particular shipbuilding technique that had not been encountered before in Roman vessels from the north-western Provinces¹⁰³². As the Zwammerdam barges are preserved to their full lengths, they are unique finds and important case studies for any typology of Roman ship building, clearly showing a combination of local and Mediterranean ship-building techniques¹⁰³³. The nearest comparable example of such a shipbuilding technique is found in the vessel from Ljubljana which seems to belong to the same line of 'shipbuilding technique evolution'¹⁰³⁴. Parallels can also be found in some constructional aspects of the vessels from Lake Nemi in Italy¹⁰³⁵.

¹⁰²⁸ de Weerd (1988), p. 188.

¹⁰²⁹ de Weerd (1988), p. 35.

¹⁰³⁰ Bechert & Willems (1995), p. 91; de Weerd (1988), p. 35.

¹⁰³¹ de Weerd (1977), p. 188.

¹⁰³² de Weerd (1994), p. 43; de Weerd (1977), p. 188.

¹⁰³³ de Weerd (1988), p. 35.

¹⁰³⁴ On the Ljubljana vessel see p. 69 above; see also de Weerd (1988), p. 43.

¹⁰³⁵ Höckmann (1988a).

The Zwammerdam vessels have been associated with late 2nd/early 3rd century contexts from the fort¹⁰³⁶. They may, therefore, have been bringing building material for the late 2nd century stone phase of the fort¹⁰³⁷. This theory is supported by some of the wood used in the vessels being the silver fir *Abies Alba Mill*. This tree is not native to the Netherlands, but frequently found in central and southern Germany¹⁰³⁸. As the army of *Germania Inferior* was involved in quarrying stones here, it is possible that the Zwammerdam vessels may have been built in central Germany for the purpose of transporting quarried stone to *Nigrum Pullum*. Such a thesis must, however, remain hypothetical.

While *Nigrum Pullum* has frequently been identified as a fleet base, this thesis must be revised¹⁰³⁹. There is an artificial landing quay, as well as actual Roman vessels, but nothing to indicate that either served a military purpose. Indeed, all evidence for naval activity at Zwammerdam can be explained as part of the supply chain of or building activity at the fort.

7. ? LAUR(I)UM (Woerden)

The modern town of Woerden has been associated with Roman *Laurium* on the basis of distances in the *Tabula Peutingeriana*¹⁰⁴⁰. A number of tiles stamped by COH XV VOLVNTARIORVM have been discovered at this site – both as surface finds and during excavations. While this unit is known to have been based in *Germania Inferior* from the Flavian period onwards – which would provide a rough date for the occupation of *Laurium* – it is not clear when or how long the unit was based at Woerden¹⁰⁴¹. An altar discovered during rescue excavations in 1988 indicates that under Antoninus Pius COHORS III BREVCORVM garrisoned *Laurium*¹⁰⁴². Again, it is unclear whether this was a temporary or permanent

¹⁰³⁶ de Weerd (1988), p. 35.

¹⁰³⁷ de Weerd (1977), p. 196.

¹⁰³⁸ de Weerd (1977), p. 196.

¹⁰³⁹ Reddé (1986), p. 295; Viereck (1996), p. 254.

¹⁰⁴⁰ Tab. Peut II.

¹⁰⁴¹ Haalebos (1986), p. 169.

¹⁰⁴² Bogaers (1994), p. 153.

occupation. The fort of *Laurium* itself has never been excavated¹⁰⁴³. Ongoing rescue excavations throughout the modern settlement, however, have provided so sound an understanding of the site's topography in the Roman period that both location and topographic situation of the fort may be deduced with some certainty¹⁰⁴⁴.

Excavations at Woerden from 1975-1982 identified a substantially reinforced riverbank which was evidently used as a quay to moor ships. This structure developed in six phases¹⁰⁴⁵: the earliest period of harbour works dates to the mid 1st century and can be identified on the basis of finds associated with a substantial destruction layer¹⁰⁴⁶. Around AD 80 an advanced river harbour was constructed. This is known on the basis of 10m of excavated river bank. Along this, a brushwood and rubble setting was placed in front of the actual riverbank to form an artificial quay. The quay itself was fixed to the natural river bank by means of several large wooden beams, connected to crossheads driven into the riverbed at an acute angle to provide stability. In terms of construction, this late 1st century quay therefore resembles that excavated at Xanten in the 1930s¹⁰⁴⁷. This method of quayside construction, however, appears to have been structurally unsound, as it was found in a collapsed state. Subsequent phases of the riverbank were therefore simplified and consisted solely of rows of beams driven into the river bed to reinforce its natural bank¹⁰⁴⁸.

Aside from harbour-works, rescue excavations at Woerden have so far discovered seven Roman cargo ships of the Prahm type, which are of a type similar to those discovered at Zwammerdam¹⁰⁴⁹ (Fig. 4.6). While new vessels continue to be discovered – indicating that

¹⁰⁴³ Bechert & Willems (1995), p. 87.

¹⁰⁴⁴ Haalebos (1986), p. 169.

¹⁰⁴⁵ Haalebos et al. (1996), p. 475; Haalebos (1986), p. 169; Bechert & Willems (1995), p. 87.

¹⁰⁴⁶ Usually assumed to be connected to the Batavian revolt of AD 69. See also Haalebos (1986), p. 169.

¹⁰⁴⁷ Unfortunately there is no way of identifying what the actual river-face of the quay looked like, as this lies outside the area that has been excavated. For a detailed discussion of this phase of the harbour see Haalebos (1986), p. 169.

¹⁰⁴⁸ Haalebos (1986), pp. 169&170.

¹⁰⁴⁹ Bockius (1996); Haalebos (1986), p. 171; NAVIS Ships 85, 86, 98 (see <http://www2.rgzm.de/Navis/home/frames.htm>). The 7th vessel was discovered in 2003 and is currently undergoing conservation and restoration at the *Museum für Antike Schifffahrt* in Mainz, preliminary publication pamphlet “Woerden, Romeinen, het fort en een schip” published by de Hingh and Hazenberg in 2003 at Leiden (ISBN 9080853410).

there must have been a significant amount of naval activity – there is no evident military connection¹⁰⁵⁰. As such, it appears that the Woerden ships and harbour may have served a merchant or supply role, which need not have been military.

8. (Vleuten de Meern)

The village of Vleuten de Meern is situated between Woerden and Utrecht and has produced Roman finds since the 16th century¹⁰⁵¹. Little is known about the site apart from small finds. The actual fort has recently been located by geophysical surveys and localized soundings¹⁰⁵². While small finds from the site are not sufficient to date the fort, some indication is given by a tile stamped by the COHORS I CLASSICA PIA FIDELIS DOMITIANA, which is particularly interesting as Vleuten de Meern is the only site to have produced any archaeological evidence for this unit. The COHORS I CLASSICA is known to have formed part of the army of *Germania Inferior* from AD 89 to 96 on the basis of a military diploma¹⁰⁵³. As Vleuten de Meern is the only site with any evidence for this unit, it seems likely that it was based here. There is no reason, however, to link this unit with the CLASSIS GERMANICA, as the diploma in question treats it as an independent unit separate from the German fleet.

9. TRAIECTUM (Utrecht)

Excavations at Utrecht have uncovered two extensive *vici*, as well as an auxiliary fort that has been identified as ancient *Traiectum*¹⁰⁵⁴. The fort and settlements are located on the south bank of the Rhine, although the course of the river in the Roman period cannot be reconstructed precisely¹⁰⁵⁵. Excavation at *Traiectum* took place in the 1930s and uncovered

¹⁰⁵⁰ Bechert & Willems (1995), pp. 87&88, the remains included significant amounts of grain (Dinkel?), hazelnuts and weeds – these indicated that the cargo originated from south of Gent.

¹⁰⁵¹ Bechert & Willems (1995), p. 85.

¹⁰⁵² Bechert & Willems (1995), p. 86.

¹⁰⁵³ Bechert & Willems (1995), p. 86.

¹⁰⁵⁴ Ozinga & de Weerd in Ozinga (1989), 37-63; Bechert & Willems (1995), p. 85.

¹⁰⁵⁵ Ozinga (1989), p. 165.

about 5% of the Roman fort, showing that the fort was established around AD 47 and had five separate phases¹⁰⁵⁶. The earliest phase was of earth and timber construction and measured 150 x 90m (1.17ha). While no end date could be provided for period I, its successor fort – which followed the same plan – was probably destroyed during the Batavian revolt in AD 69. The fort was rebuilt straight away, again in earth and timber (Phase III). At some point in the 2nd century the interior layout of *Traiectum* was modified significantly (Period IV). The fort was rebuilt in stone in the early 3rd century and enlarged slightly to cover an area of 150 x 130m (1.2 ha); it was finally abandoned around AD 275¹⁰⁵⁷.

While only a small proportion of the actual fort has been excavated, several hundreds of stamped tiles were found at Utrecht. These include stamps of various units, but none marked by the CLASSIS GERMANICA¹⁰⁵⁸. While the early garrison of *Traiectum* is not known, it is believed that from 88/89 to around 260 the fort was the base of COHORS II HISPANORVM¹⁰⁵⁹. As Utrecht is the only site in *Germania Inferior* to have produced tiles stamped by a Spanish cohort, this does, indeed, appear plausible.

10. FECTIO (Vechten)

The Roman fort at Vechten, situated on the south bank of an old Rhine arm known as the Kromme Rijn is the second richest Roman find spot in Holland – although it has only been partially excavated¹⁰⁶⁰. On the basis of the *Tabula Peutingeriana*, the site can be identified as ancient *Fectio*¹⁰⁶¹.

The earliest fort at Vechten was of earth and timber construction. While its date of construction was subject to historical speculation for a long time, it has been dated to AD 4/5

¹⁰⁵⁶ Ozinga (1989), pp. 162&164; Bechert & Willems (1995), p. 85.

¹⁰⁵⁷ Ozinga (1989), pp. 166&172; Bechert & Willems (1995), p. 85.

¹⁰⁵⁸ Viereck (1996), p. 255 nonetheless identifies the site as a permanent base of the CLASSIS GERMANICA.

¹⁰⁵⁹ There is some confusion as to which COH II HISPANORVM this actually is. While Bechert & Willems (1995), p. 85 argue that it was COH II HISPANORVM EQVITATA, Ozinga (1989), p. 167 suggests it must have been COH II HISPANORVM PEDITATA PIA FIDELIS.

¹⁰⁶⁰ Tymann (1996), p. 139; Bogaers & Rüger (1974), p. 62; Bechert & Willems (1995), p. 81.

¹⁰⁶¹ Tymann (1996), p. 139 TabPeut II refers to a site by the name of *Fletione*, this has, however, been identified as a spelling mistake. See also Bechert & Willems (1995), p. 81.

on the basis of numismatic evidence as well as Arretine *terra sigillata* in the 1990s¹⁰⁶². Excavations have identified three *horrea* as well as several ‘unidentified’ structures in the interior of the fort¹⁰⁶³. This was long believed to have been one of the bases for the Augustan occupation. This theory maintained that the area was a fortified rectangle open to the river that encompassed an area of around 4.5ha and was protected by a 4.5m wide V-shaped ditch and an earth and timber rampart¹⁰⁶⁴. It has been shown, however, that this is not accurate, and current scholarship is more guarded, stating that the size of the earliest military installation at Vechten is not known¹⁰⁶⁵.

The end of this first period of *Fectio* is indicated by a substantial destruction layer which is associated with the AD 69 Batavian revolt¹⁰⁶⁶. After the conflict, the terrain was artificially raised by 2m and the fort rebuilt along an irregular rectangle of 150 x 180m (ca 2.6ha)¹⁰⁶⁷. This second period was also built in earth and timber – a stone phase did not follow until the later half of the 2nd century. In this phase the plan of period 2 was retained, but the site was fortified by a stone wall and a 9.4m wide ditch¹⁰⁶⁸. The fort remained in operation until at least 274/5, indicated by a coin of Tetricus I¹⁰⁶⁹.

As historical interest in Vechten goes back as far as the 17th century, a large number of unstratified finds are known from the site. These include Roman military equipment, a lot of which is in private collections. Of particular note is a large collection of helmets that includes nine cavalry face helmets, as well as fragments of horse armour. These finds, which are indicative of a mounted garrison at *Fectio*, all date to the late 2nd /early 3rd century¹⁰⁷⁰.

¹⁰⁶² On the earlier date see Kalee (1969/70), p. 34; for the revised date see Bechert & Willems (1995), p. 81; Wynia & Polak (1991), p. 143.

¹⁰⁶³ Bechert & Willems (1995), p. 83.

¹⁰⁶⁴ Bogaers & Rüger (1974), p. 62; de Weerd (2003), p. 196.

¹⁰⁶⁵ Bechert & Willems (1995), p. 83.

¹⁰⁶⁶ Bechert & Willems (1995), p. 82.

¹⁰⁶⁷ Wynia & Polak (1991), p. 145; Bogaers & Rüger (1974), p. 62.

¹⁰⁶⁸ Bechert & Willems (1995), p. 82; Bogaers & Rüger (1974), p. 62.

¹⁰⁶⁹ Tymann (1996), p. 150. It should be noted that the coins series is unbroken from the very earliest period of *Fectio* until the final Tetricus I coin, indicating continuous occupation of the site.

¹⁰⁷⁰ Kalee(1989), pp. 193, 196 – 208, 217 – 219.

A cavalry garrison seems corroborated by numerous stamped tiles of mounted units found at Vechten¹⁰⁷¹. While the pre-Flavian garrison remains unclear, there are numerous stamps of COHORS II BRITTANIORVM MILLIARIA EQVITATA, COHORS I FLAVIA HISPANORVM EQVITATA and ALA I THRACVM¹⁰⁷². Amongst the stamped tiles from *Fectio*, only one has a CGPF stamp¹⁰⁷³.

There is, however, some indicator of naval activity at Vechten as there is evidence for a fortified river bank which indicates some form of harbour¹⁰⁷⁴. Rows of wooden posts have been found along a 500m stretch of the Kromme Rijn which appears to have been used as a landing area for ships or a quay. The structure has been dated to the Tiberian period, but appears to have suffered the same destruction as the fort¹⁰⁷⁵. A landing area was evidently required for the fort, however, as the riverside quay was rebuilt soon after the conflict and remained in operation throughout at least the 1st century as is indicated by associated fine ware finds¹⁰⁷⁶.

In 1893, a Roman ship was found at Vechten¹⁰⁷⁷ (Fig. 4.7). Due to the date of its discovery, research on this vessel is limited by the relatively poor state of documentation. There is no concrete evidence for a date of the vessel. The method of its construction, however, suggests that the vessel may have been a transport vessel. As it rests solely on the interpretation of old photographs, however, this identification must remain hypothetical¹⁰⁷⁸. A strong naval tradition is furthermore indicated by a pottery dish with a graffito of a Roman

¹⁰⁷¹ Bogaers & Rüger (1974), p. 62.

¹⁰⁷² Wynia & Polak (1991), p. 146. As the ALA I THRACVM is known to have been based in Britain until AD 124, it seems likely that the two mounted cohorts were based at Vechten before this date. Current Dutch scholarship believes that the Thracian ala garrisoned *Fectio* from AD 124 onwards. See also Kalee (1989), pp.219&220.

¹⁰⁷³ de Poorter & Claeys (1989), p. 48.

¹⁰⁷⁴ Bechert & Willems (1995), p. 83; Bogaers & Rüger (1974), p. 62.

¹⁰⁷⁵ Kalee (1969/70), p. 34.

¹⁰⁷⁶ Kalee (1969/70), p. 48.

¹⁰⁷⁷ Wynia & Polak (1991), p. 145; Bechert & Willems (1995), p. 82.

¹⁰⁷⁸ Wynia & Polak (1991), p. 145.

warship dating to the 2nd quarter of the 1st century AD, the earliest period of occupation at Vechten¹⁰⁷⁹.

The epigraphic record also reflects naval activity at *Fectio*, as an altar dedicated to local deities was set up by *nautae qui Fectione consistunt*¹⁰⁸⁰. It is not clear whether these sailors were military or civilian – although their being mentioned in conjunction with the citizens of Tongres may suggest the latter. Naval activity is furthermore attested by an altar set up by a *trierarchus*¹⁰⁸¹. In view of his praenomen and gentilium this monument seems to date to the first century, but this thesis can be tentative at best¹⁰⁸². A further inscription from Vechten is dedicated to Oceanus, Neptune and Rhenus, thus further underlining the nautical consciousness that was evidently present at the site¹⁰⁸³.

The different indications of naval activity at *Fectio* have led to the site's being identified as a base of the CLASSIS GERMANICA in various studies¹⁰⁸⁴. Aside from the single stamped tile, however, none of the evidence relates to the German fleet directly. While the *trierarchus* is likely to have belonged to the CLASSIS GERMANICA as it was the only naval unit in the province, this cannot be proven. Theories that the site was used as a naval base for the campaigns of Drusus can be discounted, as there is no archaeological evidence for any activity BC at *Fectio*. As the garrison for the post Flavian period seems to have been formed by mounted units, the ship and harbour at Vechten may well have to be seen as part of the fort's supply chain, rather than as indicators of a permanent base of the CLASSIS GERMANICA. It seems plausible that as the fleet supplied building materials for this site, possibly for its rebuilding in stone, the altar set up by the *trierarchus* may have been set up during one such supply shipment.

¹⁰⁷⁹ Bechert & Willems (1995), p. 82; Wynia & Polak (1991), pp. 132 & 145.

¹⁰⁸⁰ CIL XIII, 8815.

¹⁰⁸¹ CIL XIII, 12086a.

¹⁰⁸² Wynia & Polak (1991), p. 145.

¹⁰⁸³ Wynia & Polak (1991), p. 145.

¹⁰⁸⁴ Bechert & Willems (1995), p. 24; Tymann (1996), p. 139; Wynia & Polak (1991), p. 145; Bechert (1982), p. 70.

11. LEVEFANUM (Wijk bij Duurstede)

Wijk bij Duurstede was occupied continuously from the Iron Age to the Carolingian period¹⁰⁸⁵. The Roman period of the settlement, known as ‘De Horden’, was excavated from 1977-86 and dates to the 1st and 2nd century AD¹⁰⁸⁶. While the majority of ceramic data indicate that the site had a rural and native character, there are a considerable number of amphorae at the site. These date from AD 50 to 150/225 and clearly show a direct Roman influence¹⁰⁸⁷. A large number of Roman brooches from the ‘de Horden’ site furthermore underline that there must have been a direct Roman influence on the native settlement¹⁰⁸⁸.

This influence is believed to stem from an auxiliary fort, ancient *Levefanum*, which is thought to have been situated about 2km east of the ‘de Horden’ site near the modern village of Rijswijk¹⁰⁸⁹. Sand quarrying in the area produced numerous military finds including helmets, pottery and building materials, most of which date to the second century¹⁰⁹⁰. Amongst the finds are two tiles stamped PRIMACORT and CGPF. The first of these is interpreted as referring to COHORS I THRACVM, while the second clearly is a fleet tile¹⁰⁹¹. As it is not even clear whether there actually was a fort at Wijk, however, there is no reason to identify a permanent base of the CLASSIS GERMANICA at the site.

12. FORUM HADRIANI (Den Haag – Voorburg / Arentsburg)

Modern Rijswijk, Arentsburg, Voorburg and Monster are all located between modern Den Haag and Delft – the area of the presumed course of the Roman *Fossa Corbulonis*¹⁰⁹². Study of the site is difficult as the modern urban area around Den Haag offers various

¹⁰⁸⁵ Steenbeek (1983), p. 361.

¹⁰⁸⁶ Hessing & Steenbeek (1990), p. 26; van der Werff (1987), p. 153.

¹⁰⁸⁷ van der Werff (1987), p. 153, 154&166.

¹⁰⁸⁸ Van der Roest (1988), p. 142ff.

¹⁰⁸⁹ Bechert & Willems (1995), p. 81; van der Werff (1987), p. 167.

¹⁰⁹⁰ Bechert & Willems (1995), p. 81.

¹⁰⁹¹ de Poorter & Claeys (1989), p. 48; Beunder (1987), p. 210; Bechert & Willems (1995), p. 81; van Es & Verwers (1980).

¹⁰⁹² Bogaers (1964), p. 51.

interpretations of which modern location the Roman site should be identified with – the most common being Voorburg or Arentsburg, in some cases termed Voorburg – Arentsburg¹⁰⁹³.

Traditionally, it was believed that Roman Voorburg had a military character and was divided into two sections: the southern a harbour zone and the northern a fort. The entire site was seen as a large CLASSIS GERMANICA base near the North Sea¹⁰⁹⁴. This view rested primarily on an argument put forward by Holwerda on the basis of tiles stamped by the fleet, but has been reappraised since¹⁰⁹⁵. More than 20 CGPF stamped tiles were found in Voorburg¹⁰⁹⁶. While this seems a large number compared to the remainder of findspots, they are only a small fraction of the 218 stamped tiles found at Voorburg. The majority of these (162) are stamped EX GERM INF and have no direct connection to the fleet¹⁰⁹⁷. It seems clear, therefore, that the CLASSIS GERMANICA can only have acted as one of many suppliers of building material for the Roman site at Voorburg. Aside from stamped tiles and an earth and timber fortification with ditch, there is no indicator of a military occupation at Voorburg other than two altars set up by a centurion of LEG I MINERVA¹⁰⁹⁸. As such, there is little evidence to suggest a permanent military presence, let alone a fleet base, at Voorburg.

The theory that Roman Voorburg developed into a civilian site is supported by the fact that it produced the biggest monumental civic inscription in all of *Germania Inferior*¹⁰⁹⁹. Small finds indicate that the site was not occupied before AD 70, but was settled continuously until AD 260/70¹¹⁰⁰. There are four separate periods of occupation, dating to AD 70-85, 85-121, 121-end of 2nd century and late 2nd century – 260/70¹¹⁰¹. In view of the fact that there was a distinct change in the settlement around AD 121, the site has been identified as *Forum*

¹⁰⁹³ Buijtendorp (1988), p. 107.

¹⁰⁹⁴ Starr (1993), p. 147; Böcking (1987), p. 102; Bogaers (1971), p. 130.

¹⁰⁹⁵ Holwerda (1923); see also Bechert & Willems (1995), p. 23; Starr (1993), p. 148; Reddé (1986), p. 293; disproving this theory: Bogaers (1972); Bogaers (1971), p. 131.

¹⁰⁹⁶ Konen (2000), p. 409 identifies 22, whereas Bogaers (1972), pp. 320&321 refers to only 21 examples. See also Bogaers (1971), p. 131; de Poorter & Claeys (1989), p. 48; Beunder (1987), p. 210.

¹⁰⁹⁷ Bogaers (1971), p. 131.

¹⁰⁹⁸ CIL XIII, 1337; CIL XIII, 8809.

¹⁰⁹⁹ Bogaers (1971), p. 138; Buijtendorp (1987); Bogaers (1972), p. 323.

¹¹⁰⁰ Bogaers (1972), p. 325.

¹¹⁰¹ Buijtendorp (1988), pp. 107 – 111.

Hadriani, the main *civitas* of the *Cananefates*¹¹⁰². This *civitas* is known to have been established under Hadrian in 120/21 and received municipal status under Antoninus Pius or Marcus Aurelius¹¹⁰³. It is furthermore mentioned in the *tabula Peutingeriana* which provides a location roughly matching the situation of modern Voorburg¹¹⁰⁴. As the Roman site at Voorburg was a *civitas* and therefore primarily civilian in nature, it must be assumed that the CGPF stamped tiles were part of a general supply of building materials, as suggested above.

13. ? (Loosduinen – Ockenburg / Monster – Het Geestje)

The coastal findspots of Loosduinen – Ockenburg and Monster – Het Geestje have been identified as fleet stations on the basis of CGPF stamped tiles found during rescue excavations¹¹⁰⁵. The Loosduinen Ockenburg find is only a fragment of a tile that was discovered during 1962 rescue excavations¹¹⁰⁶. Three CGPF stamped tiles in three different styles are known from Monster¹¹⁰⁷. While this appears to indicate an ongoing supply of CLASSIS GERMANICA tiles, all three are surface finds without any further archaeological context. As such, they can only be used to support the general theory that the CLASSIS GERMANICA was able to exert control over the Dutch coastal areas, but do not identify any actual bases of the German fleet.

14. ? (Goedereede / Oostdijkerpolder)

Goedereede was initially identified as a Roman site in the 17th century¹¹⁰⁸. In 1618, a local historian recorded what he described as the remains of a Roman castle, stretching along the waterline. While any structural remains have since been eroded by the North Sea, Roman

¹¹⁰² Bogaers (1964), p. 46.

¹¹⁰³ Bogaers (1972), pp. 128&318.

¹¹⁰⁴ Bogaers (1972), p. 318; TabPeut. II.

¹¹⁰⁵ de Poorter & Claeys (1989), p. 48; Bogaers (1963), col. 3.

¹¹⁰⁶ Bogaers (1974), p. 77; Bogaers (1963), p. 1; see also Konen (2000), p. 409 for further discussion.

¹¹⁰⁷ Konen (2000), p. 409.

¹¹⁰⁸ Study of the site is made difficult in so far as it is frequently identified as “Goeree”, rather than Goedereede in literature. The two sites are, in actual fact, one and the same. See also Trimpe Burger (1973), p. 135; Konen (2000), p. 408.

coins and pottery are regularly found at Goedereede¹¹⁰⁹. On the basis of these finds an extensive survey was launched at the site in 1968/9. This identified traces of a substantial civic settlement ‘along a canalized navigation route’, as well as significant amounts of Roman pottery that provided a date range from AD 75 to the 3rd century¹¹¹⁰. It was also shown that Goedereede was the only site in Holland where charcoal deposits were systematically ‘mined’ in the Roman period¹¹¹¹.

Three stamped tiles were discovered during the survey in the late 1950s. One is stamped ONT CASSI and unlikely to be a military stamp at all. One example bears a retrograde EXGERINF stamp, and the final tile is usually identified as a CGPF stamped tile¹¹¹².

15. ? (Walcheren Noordstrand/Domburg)

As early as 1647, archaeological monuments have been observed on the northern coast of the island of Walcheren. The majority of finds and structural remains are Carolingian and date to the 7th and 8th century AD¹¹¹³. A Roman sanctuary to the goddess *Nehalennia* is now located offshore. Dredging and nets have brought up more than 200 inscriptions as well as significant amounts of building material. The sanctuary on the ‘Coljinsplaat’ must, therefore have been substantial¹¹¹⁴. Stylistically, the altars and dedicatory monuments can be dated to AD 190-240. Numismatic evidence in the form of surface finds, however, shows that the site saw Roman activity from AD 80-273¹¹¹⁵. The earliest Roman find from the Coljinsplaat area is a Dragendorff 29 sherd from Koudekerke¹¹¹⁶.

¹¹⁰⁹ Trimpe Burger (1973), p. 141; Trimpe Burger (1960/61), p. 202.

¹¹¹⁰ Trimpe Burger (1960/61), p. 202.

¹¹¹¹ Trimpe Burger (1960/61), p. 202.

¹¹¹² de Poorter & Claeys (1989), p. 48; Trimpe Burger (1973), pp. 136&141; the CGPF stamped tile is fragmented, as such its identification is by no means certain.

¹¹¹³ Jankuhn (1996), pp. 137, 143&144.

¹¹¹⁴ Stuart & Bogaers (2001), p. 14; van Heeringen (1996), p. 260; Trimpe Burger (1960/61), p. 195.

¹¹¹⁵ Jankuhn (1996), p. 137.

¹¹¹⁶ Trimpe Burger (1973), p. 135.

The various epigraphic monuments dredged up on the north shore of Walcheren frequently attest naval personnel in the form of *nautae* or *actores navium*¹¹¹⁷. All of these, however, clearly belong to a merchant context and have no connection to the CLASSIS GERMANICA. While the inscriptions indicate that the sanctuary on the Coljinsplaat was an important naval centre there is no evidence for any military presence¹¹¹⁸.

A number of tiles stamped by the German fleet have been found at Domburg, although their precise number is not clear: some studies identify six stamped tiles, others only two¹¹¹⁹. There may even be more CGPF stamped tiles from Walcheren, but their exact number and findspots are even less clear¹¹²⁰. While some archaeological evidence from the island of Walcheren does indicate direct influence of the CLASSIS GERMANICA, this is insufficient to suggest a prolonged fleet presence.

16. ? (Oostvoorne)

Work on a levee near Oostvoorne in the 1970s uncovered significant amounts of Roman pottery and tile¹¹²¹. Some of these included military stamped tiles, including one of the German fleet¹¹²². An account from 1752 furthermore identifies a fortification, now eroded by the sea, as Roman¹¹²³. This is supported by Roman building material in the form of Tufa blocks that have been reused in medieval buildings throughout the area¹¹²⁴. The presence of a possible Roman fort for which no concrete evidence remains and a single CGPF stamped tile, however, can hardly be sufficient to postulate a CLASSIS GERMANICA station at Oostvoorne, particularly as several tiles stamped by other units have also been found at the site.

¹¹¹⁷ Stuart & Bogaers (2001), pp. 36&37.

¹¹¹⁸ Trimpe Burger (1960/61), p. 201.

¹¹¹⁹ Trimpe Burger (1973), p. 140 argues for 6 tiles; van der Feen (1952), p. 151 only identifies 2.

¹¹²⁰ de Poorter & Claeys (1989), p. 48 stating that further CGPF stamped tiles were found at **Veere**, which is located on the NE coast of Walcheren, near Domburg.

¹¹²¹ Bogaers (1974), p. 71.

¹¹²² Konen (2000), p. 409; de Poorter & Claeys (1989), p. 48.

¹¹²³ Trimpe Burger (1973), p. 141; Bogaers (1974), pp. 71&71 with further references and discussion.

¹¹²⁴ Bogaers (1974), p. 72.

17. ? (Naaldwijk)

The site of Naaldwijk was excavated in the 1930s under the direction of J.H. Holwerda, who identified two separate periods – one indicating recent occupation, the other Roman. The Roman period appears to have consisted of two phases of structures surrounded by a flat-bottomed ditch, which may have been a fort¹¹²⁵. A number of finds have been associated with this occupation, including pottery and coins as well as military equipment such as a sword, chafe and several smaller pieces. In 1985, rescue excavations at Naaldwijk Tiendweg discovered a Roman cemetery that has been associated with the settlement at Naaldwijk. This can be dated to the later 2nd and early 3rd century AD on the basis of associated pottery¹¹²⁶.

The identification of Naaldwijk as a fleet base appears to rest solely on one CGPF stamped tile¹¹²⁷. It must be noted, however, that there is only a single CGPF stamp amongst significantly more PRIMCORS stamps¹¹²⁸. As such, the evidence supports the theory that the area known as the *Helinium* was within the sphere of influence of the CLASSIS GERMANICA, but does not indicate where a potential fleet base may have been located¹¹²⁹.

18. ? (Vlaardingen – Aalkeet)

While Vlaardingen is a site renowned mainly for its pre-Roman archaeology¹¹³⁰, the site is of interest for the Roman period as well. Dredging of the modern harbour has consistently produced Roman coins and pottery¹¹³¹, as well as a CGPF stamped tile¹¹³². The data from Vlaardingen does, therefore, underline that the German fleet appears to have

¹¹²⁵ Bogaers (1974), p. 77.

¹¹²⁶ Bult et al. (1988), pp. 118&124.

¹¹²⁷ Konen (2000), p. 409; de Poorter & Claeys (1989), p. 48; Bogaers (1974), p. 77.

¹¹²⁸ Konen (2000), p. 409.

¹¹²⁹ The *Helinium* includes Voorburg, Monster and Oostvorne.

¹¹³⁰ It is home to the widespread Vlaardingen culture; see van Beek (1977); Groenman-van Wateringe & Jansma (1969), p. 105.

¹¹³¹ Bogaers (1974), p. 76.

¹¹³² Konen (2000), p. 409; de Poorter & Claeys (1989), p. 48.

operated in the Rhine Delta, but fails to shed any light on whether there was a permanent base in this area.

19. (ULPIA) NOVIOMAGUS / BATAVODURUM (Nijmegen)

Nijmegen was the most important centre in the Dutch part of *Germania Inferior* and is one of the best understood sites in this province¹¹³³. Initially a military base for the occupation of Free Germany, the site became an auxiliary fort, *civitas*, legionary base and finally *municipium*¹¹³⁴. It has frequently been identified as a base of the CLASSIS GERMANICA, but such theories may need to be revised as the only evidence for the fleet is a single CGPF stamped tile¹¹³⁵. The history of the site and relative insignificance of one tile in view of the remainder of data from *Noviomagus* show that this cannot be taken to imply extended presence of the CLASSIS GERMANICA at Nijmegen.

The earliest military installation at Nijmegen was on the Hunerberg, the last permanently dry elevated position before the waterlogged Rhine delta area¹¹³⁶. A polygonal double legionary fortress of 42ha was constructed in earth and timber around 12 BC in a dominant position c. 40m above sea level¹¹³⁷. Its plan follows the local topography, making it a typical Augustan occupation fortress. The early Hunerberg fortress appears to have been replaced by a new base on the Kops Plateau around 10 BC¹¹³⁸.

Three consecutive Roman forts occupied the Kops Plateau from around 10 BC to AD 69/70¹¹³⁹. The first of these measured about 3.5ha and seems to have housed a mounted garrison, indicated by a multitude of cavalry related small finds such as horse harness

¹¹³³ Bechert & Willems (1995), p. 65.

¹¹³⁴ Haalebos (1999), pp. 382&383.

¹¹³⁵ For *Noviomagus* see Viereck (1996), p. 255; Starr (1993), p. 147; the stamped tile is published in de Poorter & Claeys (1989), p. 48.

¹¹³⁶ Haalebos (1999), p. 381.

¹¹³⁷ Bechert & Willems (1995), p. 65; Willems (1991), p. 210; Haalebos (1999), p. 384. The construction date is reached on the basis of finds of Aco beakers and Arretine Sigillata. See Haalebos (1999), p. 383.

¹¹³⁸ The actual date of abandonment is not entirely clear, although the chronological move from the Hunerberg to the Kops Plateau site can be proven archaeologically. See van Enkevort & Zee (1996), p. 192 and Bechert & Willems (1995), p. 66.

¹¹³⁹ van Enkevort & Zee (1996), p. 192.

fittings¹¹⁴⁰. The fort was extended to 4.5ha around AD 10, at which time a monumental *praetorium* and substantial officers' quarters were constructed. Evidence of vexillations from various legions have given rise to the thesis that at this time Nijmegen formed one of the command bases for the occupation of Free Germany¹¹⁴¹. From AD 10-20 several auxiliary forts were established around the Kops Plateau and the nearby Trajanusplein, until at some point between AD 30 and 50 the large *praetorium* was abandoned and one main auxiliary fort established on the Kops Plateau, which is believed to have been occupied by an ALA BATAVORVM¹¹⁴². While this fort appears to have survived the Batavian revolt of 69/70, it was purposefully abandoned after the conflict due to the creation of a fortress for LEG X GEMINA on the nearby Hunerberg¹¹⁴³. This Flavian legionary fortress was initially constructed of earth and timber, but rebuilt in stone around AD 89. While only about a third of the site has been excavated, it is well understood and appears to have measured about 16.5ha. The fortress was occupied until AD 120-130, at which point it was purposefully abandoned. There are no traces of any destruction¹¹⁴⁴.

Numerous inscriptions and stamped tiles provide the basis for a detailed understanding of the fortress' history. While LEG II ADIVTRIX appears to have constructed the fortress, it was quickly replaced by LEG X GEMINA. The other legions of *Germania Inferior* appear to have provided building materials for the site, as tiles stamped by LEG V and LEG XV (both based at Xanten) as well as LEG VI and LEG XVI (both based at Neuss) are frequently found. LEG X GEMINA occupied Nijmegen until AD 104, but the fortress appears to have continued to be

¹¹⁴⁰ van Enckevort & Zee (1996), pp. 192&196. As some of the cavalry equipment bears graffiti of soldiers carrying the *tria nomina* it may well be that these horsemen were in fact mounted legionaries rather than auxiliaries.

¹¹⁴¹ Bechert & Willems (1995), p. 66; more recently this theory has had a somewhat critical reception. See van Enckevort & Zee (1996), pp. 194-197.

¹¹⁴² Bechert & Willems (1995), pp. 66&67. The cavalry association rests on the discovery of 7 cavalry helmets, see van Enckevort & Zee (1996), p. 201.

¹¹⁴³ van Enckevort & Zee (1996), p. 202.

¹¹⁴⁴ Bechert & Willems (1995), p. 67; Bloemers (2002), pp. 74&75.

occupied sporadically. There is no evidence for a prolonged military presence after AD 125¹¹⁴⁵.

Aside from the military installation, Nijmegen was also a major civilian centre of the province. A central *civitas* of the Batavians was established here under Tiberius, but destroyed during the Batavian revolt¹¹⁴⁶. A civilian settlement developed around the legionary fortress and remained after the military abandonment in the early 2nd century. In the latter half of the 2nd century, it was awarded municipal status¹¹⁴⁷. The settlement covered an area of roughly 40ha and seems to have peaked in the late 2nd and early 3rd centuries, as indicated by small finds¹¹⁴⁸. A small number of finds indicate that occupation continued into the late Roman period, although this may be related to a 4th century military post at the site¹¹⁴⁹. While Nijmegen was a major military centre in the 1st century, it was evidently a legionary and auxiliary base. With the history of the site well understood, Starr's hypothesis of a CLASSIS GERMANICA base at the site remains unsubstantiated.

20. VETERA CASTRA (Xanten)

Modern Xanten was the site of the *Colonia Ulpia Traiana*, the second largest city of *Germania Inferior*, which was founded around AD 100 and existed until the 70s of the 3rd century¹¹⁵⁰. A number of studies identify Xanten as a base of the CLASSIS GERMANICA, a thesis first put forward by Starr in view of his interpretation of the Augustan occupation¹¹⁵¹.

Eighty-six marching camps from the Augustan period have been identified in the area around Xanten (-Birten) in aerial photographs taken during the 1960s and 70s¹¹⁵². Together

¹¹⁴⁵ Bechert & Willems (1995), pp. 68&69. For a detailed discussion of the occupation of the Hunerberg fort post AD 104 see Brunsting & Steures (1997), p. 323 and Steures & Brunsting (1995) for extended arguments.

¹¹⁴⁶ Bechert & Willems (1995), p. 67.

¹¹⁴⁷ Although there are scholars who argue that this may have been as late as the reign of Caracalla. For a detailed discussion of the arguments see Bogaers (1972), p. 312.

¹¹⁴⁸ Bogaers (1972), pp. 312-318.

¹¹⁴⁹ Bechert & Willems (1995), p. 69.

¹¹⁵⁰ Lenz (2001), p. 587; Gerlach (1989), p. 113.

¹¹⁵¹ Starr (1993), pp. 148ff; see also Böcking (1987), p. 102.

¹¹⁵² Scollar & Andrikopolou-Strack (1984), p. 381.

with 927 surface finds of Roman armour and cavalry equipment, two thirds of which date to the 1st century, these show that modern Xanten was an important military site in the early Roman period¹¹⁵³. This is hardly surprising, as the site controls the confluence of the Rhine and Lippe rivers, both main routes for the Augustan occupation campaigns.

A double legionary fortress (*Vetera I*) existed at the site from the Tiberian period onwards. There was an earlier fortification at the site, but its history remains uncertain as only one defensive ditch has so far been identified. The Tiberian earth and timber fortress was rebuilt in the Claudian period, when the first interior buildings were built with stone foundations (e.g. the *valetudinarium*)¹¹⁵⁴. Around AD 60, the double legionary fortress was again rebuilt and now covered 56ha. The outer wall was still of earth and timber construction, but all interior buildings had stone foundations¹¹⁵⁵. The Neronian fortress was destroyed in the Batavian revolt of AD 69 and not rebuilt. Instead, a new single legionary fortress (known as *Vetera II*) was constructed on a new site nearer the river by LEG XXII PRIMIGENIA. *Vetera II* appears to have been garrisoned until it was destroyed by Franks in the 3rd century¹¹⁵⁶.

Various remains of harbour works have been discovered at Xanten. Excavations in 1934/36 and 1974-77 uncovered harbour facilities along an old Rhine arm to the east of the later *colonia*. This consisted of wooden quays along the river frontage, the earliest of which have been dated dendrochronologically to the Claudian period¹¹⁵⁷. Further early harbour works have been discovered to the north of the later city. A harbour definitely existed in this area by AD 74/75, but may have been established as early as 45/46¹¹⁵⁸. It has been suggested that this harbour installation may have been used as a military harbour during the Neronian period, but this suggestion remains hypothetical¹¹⁵⁹.

¹¹⁵³ Precht (1999), p. 213.

¹¹⁵⁴ Bechert & Willems (1995), p. 50.

¹¹⁵⁵ Precht (1999), p. 213 ; Bechert & Willems (1995), p. 50.

¹¹⁵⁶ Bechert & Willems (1995), p. 50; see also <http://media.afg.hs-anhalt.de/Xanten/>.

¹¹⁵⁷ Precht (1999), p. 218; Leih (1994), p. 60; Böcking (1987), p. 102; Precht (1983), p. 29.

¹¹⁵⁸ Bridger (1999), p. 346 basing dates on previously unpublished results of dendrochronological investigations.

¹¹⁵⁹ Lenz (2001), p. 596.

Trial drilling in 1990, intended to identify the extent of the port area, led to detailed investigations. The project discovered a large artificial harbour basin with a 25m wide entrance towards the north-west. This led to a 40m wide shippable channel which, over a length of 450m connected the harbour basin with the river Rhine¹¹⁶⁰. Organic deposits indicated that this harbour was used as a rubbish dump by the late 1st century, although it was kept operational through artificial dredging until about AD 175, when the basin finally silted up¹¹⁶¹. The banks of the basin were fortified by three rows of 2.43m long wooden posts, sharpened and rammed into the ground. The area between the rows of posts was filled with reed cuttings and brushwood to add stability. Further wooden beams, discovered lying in a row and sloping down towards the river, probably represent a slipway¹¹⁶².

While these features, which developed out of the quays to the east of the city, seem to have formed the civilian port of the *colonia*, it is not clear what role the earlier harbour installations at Xanten played. Features predating the *Colonia Ulpia Traiana* in the area of the city have frequently been identified as an occupation period fleet base or fort¹¹⁶³. Recent work, however, established that the early features beneath the *colonia* cover an area of more than 10ha, and that there is no indication of any fortifications or military character. Current scholarship therefore identifies these structures as a civilian settlement attached to the earlier military centres which developed in the 30s AD and had its own trade and supply harbour¹¹⁶⁴.

If the early harbour installations formed part of a naval base, this would therefore have to be connected with the following features: outside the area of the later *colonia*, two V-shaped ditches, cut into a gravel layer, have been identified in 1993. The area that would have been enclosed by these ditches was heavy in slag remains that indicated high quality iron

¹¹⁶⁰ Leih (1994), p. 60.

¹¹⁶¹ Leih (1994), p. 61.

¹¹⁶² Leih (1994), p. 61.

¹¹⁶³ Starr (1993), p. 148f; Reddé (1986), pp. 296&297.

¹¹⁶⁴ Precht (1999), pp. 218-225; see also <http://media.afg.hs-anhalt.de/Xanten/>, sections on the early settlement beneath the later CUT.

working¹¹⁶⁵. Similar layers had been excavated beneath the amphitheatre of the city in 1982 and argued to belong to ‘a defended structure of sorts’¹¹⁶⁶. South east of this, excavations in 1986 produced another set of V-shaped ditches which appear to match those discovered in 1993¹¹⁶⁷. Bridger believes that these indicate one area of about 6ha, protected by V-shaped ditches and open to the river, in which high quality iron working took place¹¹⁶⁸. His interpretation of this area as a storage area for building materials to be used to establish the *Colonia Ulpia Traiana* appears realistic in view of the lack of any military finds.

The civilian nature of the later harbour facilities of Xanten appears to be indicated by two Roman ships found here (Figs. 4.8, 4.9). The first vessel was discovered in the Roman harbour of the *colonia* in 1991 and survives to a length of 15m. It is of a *Prahm* (*caudicaria?*) type, although of a slightly different construction than the Zwammerdam vessels¹¹⁶⁹. Dendrochronological dates from its timbers indicate that they were felled in AD 95¹¹⁷⁰. A second vessel, discovered in 1993 and dating to AD 275 +/-5, belongs to the final period of the site’s occupation when the artificial harbour was long out of use¹¹⁷¹. A 30m section of this vessel remains and shows that this, too, was a transport vessel of the *Prahm* type¹¹⁷².

As such, the only direct evidence for the CLASSIS GERMANICA from Xanten are 3 CGPF stamped tiles and one bearing a CG stamp, which is believed to be an obscure form used by the German fleet¹¹⁷³. Any thesis of these being evidence for a prolonged presence of the CLASSIS GERMANICA, however, is made difficult by their context. As the only definite fleet stamps were discovered just west of the *cardo maximus* in the centre of the civilian *colonia*,

¹¹⁶⁵ Bridger (1999), pp. 341&343.

¹¹⁶⁶ Bridger (1999), p. 244.

¹¹⁶⁷ Bridger (1999), p. 344, for a location of these sites see plan Bridger (1999), p. 345 (Fig. 4).

¹¹⁶⁸ Bridger (1999), p. 346.

¹¹⁶⁹ Böcking (1996), pp. 211&213; Berkel & Obladen-Kauder (1992); see also

<http://www2.rgzm.de/Navis/home/frames.htm>, Ship No. 124.

¹¹⁷⁰ Böcking (1996), p. 212.

¹¹⁷¹ Böcking (1996), pp. 214&215.

¹¹⁷² As the section discovered lacks any indications of a bow *or* stern section, the original ship must have been **at least** 35m in length.. See Böcking (1996), p. 214; Obladen-Kauder (1994), p. 58; also

<http://www2.rgzm.de/Navis/home/frames.htm>, Ship No. 123.

¹¹⁷³ For the CGPF stamps see Konen (2000), p. 410; de Poorter & Claeys (1989), p. 48; Gerlach (1989), p. 120; Rürger (1968), p. 114; on the CG stamp see Böcking (1987), p. 102

they can only have belonged to a batch of building materials¹¹⁷⁴. This would make sense, as an inscription from Bonn shows that the CLASSIS GERMANICA was engaged in providing building materials for *Colonia Ulpia Traiana*¹¹⁷⁵. As the fleet quarried stone for the building of the *forum* at Xanten, however, it does not seem unreasonable to propose that it provided building materials in the form of tiles and bricks as well.

21. ALISO? (Haltern)

The modern town of Haltern is situated 52 km east of the Rhine on the northern elevated bank of the Lippe river. Archaeological research has been carried out at the site since 1899, making it one of the most studied Roman military sites in Germany¹¹⁷⁶. As several large scale military installations have been discovered at Haltern, the site has traditionally been identified with the Roman occupation base *Aliso* known from Velleius Paterculus and Cassius Dio¹¹⁷⁷. More recent research, however, has highlighted several discrepancies between the literary accounts and archaeological evidence, calling this identification into question¹¹⁷⁸. Haltern is nonetheless still seen as the administrative centre for the entire Lippe area during the Augustan occupation – particularly so as the ‘Hauptlager’ has significantly more officers’ buildings than would be found in a traditional legionary fortress of the time¹¹⁷⁹. This, as well as the identification of a possible ship-landing area, has given rise to Starr’s thesis that Haltern was also a fleet base responsible for all naval activity on the Lippe¹¹⁸⁰ (Fig. 4.10).

¹¹⁷⁴ Bechert & Willems (1995), p. 50; Gerlach (1989), p. 123.

¹¹⁷⁵ See discussion of Bonn below, pp. 192-193.

¹¹⁷⁶ Bechert & Willems (1995), p. 54; Kühlborn (1995), pp. 82ff.; von Schnurbein (1977), p. 169.

¹¹⁷⁷ Traditionally five forts were identified at Haltern: the ‘Feldlager’, an early temporary fort, the ‘Hauptlager’ on the Silverberg, the Wiegel area, initially identified as a ship landing area, the ‘Hofestatt’ forts, believed to be a naval camp (see below) and the fort on the Annaberg, which is little understood. Recently, a further polygonal fort of about 20ha has been discovered to the NE of the ‘Hauptlager’. The only features that could be discovered, however, were defensive ditches, leading to its interpretation as a temporary or marching camp. See von Schnurbein (2002), p. 529 on this new feature and Bechert & Willems (1995), pp. 54ff. and Kühlborn (1995), pp. 82ff.; Kraft (1955/56), p. 7 for general discussions of the forts at Haltern.

¹¹⁷⁸ Glüsing (2000), p. 120; von Schnurbein (1981), pp. 79-97; Kraft (1955/56).

¹¹⁷⁹ Bechert & Willems (1995), p. 57.

¹¹⁸⁰ Starr (1993), p. 142.

The earliest military installation at Haltern was the 'Feldlager' which measured 34.5ha and seems to have been a temporary base. No interior buildings are known, making dating difficult. It is evident that the fort was superseded by the 'Hauptlager', as this occupies the same site¹¹⁸¹. The 'Hauptlager', which measures 19ha, was established between 7/5 BC or around the birth of Christ¹¹⁸². The layout of this fortress differs from that of a traditional legionary fortress: the irregular arrangement and number of barracks have given rise to the interpretation that both legionary and auxiliary units were based here¹¹⁸³. Although the end of Roman occupation at the site has traditionally been seen as AD 9 in line with the *clades Variana* and general abandonment of forts east of the Rhine, some data suggests that Roman occupation of Haltern may have continued until AD 16¹¹⁸⁴. While there is some disagreement regarding this end, it is clear that it was not systematically cleared but hastily abandoned¹¹⁸⁵.

The Roman remains 'am Wiegel' have traditionally been identified as harbour of the 'Hauptlager' on the basis of significant amounts of amphorae and grain, as well as a building interpreted as a ship-shed. Recent reappraisals of the evidence have shown, however, that there is no evidence for this interpretation. The most likely identification of the remains is as a riverside storage area for supplies, but any certain interpretations are made impossible as major parts of the site have been eroded by the river¹¹⁸⁶.

The Roman features in the 'Hofstatt' area are of particular interest to this study, as they have traditionally been identified as the remains of four consecutive 'fortified harbours'¹¹⁸⁷. In a direct comparison to the harbour at Velsen, Morel has shown that the site is

¹¹⁸¹ Bechert & Willems (1995), p. 57.

¹¹⁸² There is some disagreement in current scholarship. See von Schnurbein (1981), p. 44; Bechert & Willems (1995), p. 57.

¹¹⁸³ von Schnurbein (1981), p. 53; for a detailed discussion see pp. 45-52.

¹¹⁸⁴ For the traditional AD 9 date, apparently supported by numismatic material, see Bechert & Willems (1995), p. 57; Cassius Dio report in Zonaras, see von Schnurbein (1981), pp. 40&42. AD 16 has been proposed more recently by Glüsing (2000), p. 120.

¹¹⁸⁵ von Schnurbein (1981), p. 40.

¹¹⁸⁶ Bechert & Willems (1995), p. 55; Kühlborn (1995), 83; Morel (1991), p. 162.

¹¹⁸⁷ Bechert & Willems (1995), p. 55.

likely to have, indeed, served as some form of naval base¹¹⁸⁸. This identification – like Velsen – rests primarily on the apparent discovery of ship-sheds. These were first identified by Krüger in 1904, but their interpretation as ship-sheds was only accepted following Morel's comparison with Mediterranean sites in the 1980s¹¹⁸⁹.

The 'Hofstatt' site has four phases and falls within the general Haltern date range of 7/5 BC - AD 9. The extent of the fortifications at the site is not known as the ancient course of the river Lippe is not known precisely¹¹⁹⁰. The earliest period had a triangular plan, similar to the fortifications found at Velsen¹¹⁹¹. In the second phase the fortifications took on a trapezoid plan and enclosed c. 160m of the river bank. A third fortification was begun on a larger scale, but then modified into a small triangular enclosure protecting 106m of the river bank. The final period saw a significant extension of period 3 and enclosed 185 metres of the river bank. The interior structures interpreted as ship-sheds belong to this latest phase¹¹⁹².

The ship-sheds take the form of hall-like structures with ditches forming a 'fish bone' layout, i.e. a central ditch with other intersecting it crosswise at regular intervals, which are situated 27-28 m away from the proposed ancient bank of the river Lippe¹¹⁹³ (**Fig. 4.11**). While Morel's identification – as at Velsen – rests on comparisons with ship-sheds from the Mediterranean, this is not without problem as he compares not only ship-sheds for Mediterranean vessels with structures in the north-western provinces, but also evidence from civilian and military contexts¹¹⁹⁴. As it is unlikely that full size Mediterranean style vessels would have operated on a relatively small river such as the Lippe, comparable sizes of these halls can furthermore not be taken as proof that they were used as ship-sheds.

¹¹⁸⁸ Bechert & Willems (1995), p. 55; Morel (1991), p. 161; Morel (1987), p. 221. See also discussion of Velsen, pp. 144-150 above.

¹¹⁸⁹ Höckmann (1998c), p. 325; Morel (1991), p. 161.

¹¹⁹⁰ Morel (1987), p. 222.

¹¹⁹¹ See pp. 144-150 above.

¹¹⁹² Morel (1991), pp. 161&222.

¹¹⁹³ Morel (1987), pp. 227&228.

¹¹⁹⁴ Morel (1987), p. 236.

Morel also compares the structures at Haltern-Hofestatt to the alleged ship-sheds at *Novae*¹¹⁹⁵. As the discussion of this site has shown, however, the interpretation of alleged harbour-works at the fortress of LEG I ITALICA is by no means definite. While Morel's argument is therefore not without problems, it is difficult to propose a more plausible interpretation for the fish bone alignment of ditches other than as 'slipways' for vessels¹¹⁹⁶.

Unfortunately, any remains of quays or jetties will have been eroded by the river Lippe¹¹⁹⁷. As such the identification of the 'Hofestatt' remains as a naval installation rests on the hypothesis of ship-sheds at the site. While Haltern must therefore be seen as a possible naval base, it could only have operated as such until the end of the site in AD 9 or 16 at the very latest. As there is no evidence for a CLASSIS GERMANICA presence at the site, or indeed for its existence in the first decade AD, it is difficult to identify Haltern as a fleet base.

The site of **Anreppen** near Haltern has also been put forward as a fleet base on logistical grounds¹¹⁹⁸. As there is no evidence for this and the entire argumentation necessitates a fleet base at Haltern, however, any such thesis must be subject to the discovery of more concrete evidence for a fleet base at Haltern.

22. ? (Rumst Molenveld)

Starr identifies Rumst as a fleet base and argues that its location in central Belgium denotes the 'fiscal duties' of the CLASSIS GERMANICA¹¹⁹⁹. The only evidence from the Roman period found at Rumst, however, is a single tile with a CGPF stamp that was discovered during

¹¹⁹⁵ Morel (1987), p. 229, referring to unpublished shipslipways of up to 80m and 40m length respectively. The longer is apparently made from V-shaped wooden crossbeams of 3m length, narrowing to 1m, the shorter is constructed in the same fashion, but made from stone. See also Morel (1987), p. 226 with further references.

¹¹⁹⁶ See also Rankov (2008).

¹¹⁹⁷ Morel (1987), p. 221.

¹¹⁹⁸ Bechert & Willems (1995), p. 60; Morel (1991), pp. 164&165.

¹¹⁹⁹ Starr (1993), p. 148; Study of this site is complicated by the fact that Starr misspells it as Rumpst – an error maintained throughout various other publications (e.g. Konen [2000], p. 409; Böcking [1987], p. 102).

rescue excavations in the Molenveld¹²⁰⁰. As this cannot be associated with any Roman structure or site, however, it seems likely that it was moved here in the post-Roman period.

23. ? (Rijmenam)

The argument for a CLASSIS GERMANICA presence in central Belgium appears to be supported by 4 further CGPF stamped tiles which were found at nearby Rijmenam¹²⁰¹. While two sites producing tiles stamped by the German fleet in such a small area provide some grounds for such speculation, the notion that four CGPF stamped tiles were found at Rijmenam does not withstand critical study: of the four stamped tiles only one actually reads CGPF, the others are fragmentary, and only the ..PF remains¹²⁰². While these tiles may well have been stamped CGPF, they could equally have been produced by any unit of the Lower Germany army that was awarded the *pia fidelis* – which was the case for every unit that remained loyal to Domitian during the revolt of Saturninus¹²⁰³. With only one definite fleet stamp from Rijmenam, central Belgium has two sites of interest, each producing a single CGPF stamped tile. This could easily be explained by post-Roman movement of building materials and can be of no consequence in any attempt to locate permanent CLASSIS GERMANICA bases.

24. NOVAESIUM (Neuss)

Neuss was a major base during the Augustan occupation and one of the earliest military sites on the lower Rhine. Several (6-7) polygonal forts, which have been dated 20 – 12 BC on the basis of numismatic evidence and Arretine *sigillata* were discovered in excavations from 1955 to 1982¹²⁰⁴. Several larger legionary bases succeeded each other at Neuss from the late Augustan to Claudian period, although none of these seem to have been

¹²⁰⁰ de Poorter & Claeys (1989), p. 46; Böcking (1987), p. 102; Beunder (1987), pp. 209&210.

¹²⁰¹ de Poorter & Claeys (1989), pp. 46&47.

¹²⁰² de Poorter & Claeys (1989), pp. 46&47.

¹²⁰³ See p. 141 above.

¹²⁰⁴ While a wealth of ceramic evidence is related to these finds, none of it is stratified. See Hanel (2002a), pp. 497-499.

permanent: the earliest covered an area of 13-14ha, but from about 7 BC onwards a double legionary fortress of 34-43ha was established at Neuss (Fort B)¹²⁰⁵. The relatively frequent changes in layout and, consequently, garrison reflect the constantly changing nature of a military base during an extended occupation campaign. While a finer chronology of the site's early history is made impossible by the scarcity of remains and confused stratigraphy, small finds and associated data clearly indicate that the site was in use throughout the occupation of Northern Germany¹²⁰⁶.

In AD 43 a 'permanent' legionary fortress with traditional playing card shaped plan was built in earth and timber by LEG XVI GALLICA. This measures 420m x 570m (23.9ha) and is known as the 'Koenen Lager'. The fortress was destroyed during the Batavian revolt of AD 69 and rebuilt shortly afterwards by LEG VI VICTRIX, which continued to be based here¹²⁰⁷. While the fort has been excavated completely, making it one of the best understood legionary fortresses next to *Lambaesis* in terms of its layout, the precise phases of the site remain unclear. In fact, little is known of the development of *Novaesium* other than that it was destroyed in AD 95¹²⁰⁸.

The legionary fortress was succeeded by an auxiliary fort of about 3ha, situated in the centre of the earlier fortress. According to the Antonine Itineraries this was garrisoned by an unnamed *ala*, which is believed to have been based here until the fort's final destruction around AD 275¹²⁰⁹.

While the 'Koenen Lager' was evidently garrisoned by a legion throughout its existence, *Novaesium* has been identified as a base of the CLASSIS GERMANICA¹²¹⁰. This identification rests on the existence of several alleged fleet tiles. Only one of these is of the

¹²⁰⁵ Hanel (2002a), pp. 497&498; Bechert & Willems (1995), p. 41. Traditionally, fort B has been dated 7 BC-AD 9 on historic grounds. These dates are, however, not supported by archaeological evidence.

¹²⁰⁶ Hanel (2002a), pp. 499&500.

¹²⁰⁷ Bechert & Willems (1995), p. 42.

¹²⁰⁸ Bechert & Willems (1995), p. 43.

¹²⁰⁹ Bechert & Willems (1995), p. 43.

¹²¹⁰ Starr (1993), p. 148.

well known CGPF type¹²¹¹. Four others bear a *CLASIS* stamp, which has also been associated with the *CLASSIS GERMANICA*. Three of these were built into a water collection tank that forms part of a drainage system beneath the north-western defences of the fortress¹²¹². A fourth *CLASIS* stamp was built into one of the eastern interval towers¹²¹³. All stamps date post AD 70, the construction date of the 2nd period legionary fortress at *Novaesium*¹²¹⁴. Their contexts, however, clearly indicate that they cannot be taken as evidence for a fleet garrison, but are building material supplied by the fleet.

25. TRAIECTUS? (Maastricht)

Little is known about Roman *Traiectus/Traiectum* on the site of modern Maastricht. Despite the lack of detailed archaeological knowledge, however, the site has long been seen as a base of the *CLASSIS GERMANICA*. This theory rests solely on a single CGPF stamped tile that was found during rescue excavations at Maastricht¹²¹⁵. As Konen has shown that the tile was in a secondary context when found, it cannot be taken as a direct indicator for a fleet presence at the site¹²¹⁶.

26. IULIACUM (Jülich)

Roman Jülich has frequently been argued to have been a Julio-Claudian foundation on the basis of its name. This is reflected to some extent in early 1st century small finds from the site; the earliest mention of the site's name *Iuliacum*, however, occurs on an inscription dated to the early 2nd century¹²¹⁷. Jülich has been interpreted as a fleet base in past scholarship, but the only evidence for the *CLASSIS GERMANICA* is a single CGPF stamped tile, the identification

¹²¹¹ de Poorter & Claeys (1989), p. 48.

¹²¹² de Poorter & Claeys (1989), p. 412.

¹²¹³ Konen (2000), p. 408.

¹²¹⁴ Schönberger (1985), p. 440 B16.

¹²¹⁵ Konen (2000), p. 409.

¹²¹⁶ As suggested by Dijkman (1992), p. 127.

¹²¹⁷ Cüppers (1990), p. 447.

of which is still being disputed by some German and Dutch archaeologists¹²¹⁸. There is no evidence for a military presence at Jülich aside from stamped tiles, the majority of which are of LEG VI VICTRIX and have been dated to AD 71-119/21¹²¹⁹.

27. Cologne-Alteburg

Cologne-Alteburg lies in the southern suburb of Bayenthal and has long been identified as the headquarters of the CLASSIS GERMANICA on the basis of numerous stamped tiles and various funerary monuments¹²²⁰. The Roman fort is situated on a plateau of about 16ha, overlooking the river Rhine from a height of c. 18m, about 3km south of *Colonia Claudia Ara Agrippinensium*, the Roman capital of *Germania Inferior*¹²²¹. Although the urban nature of the site makes excavation difficult, the site has been subject to large scale research projects over the past century: the first excavations at ‘the Alteburg’ were carried out under Fremersdorf in the early 20th century, but most of the documentation was destroyed during a bombing raid in WWII¹²²². Since the mid 1990s, regular excavations have been carried out at the site in the course of a joint research project of the University of Cologne and the Römisch-Germanische Museum¹²²³.

One of the declared aims of this project is to clarify the earliest development of Cologne-Alteburg which was hardly understood at all before excavations recommenced in the mid 1990s. The earliest finds from Cologne-Alteburg are Augustan brooches and coins that have been associated with the earliest features at the site¹²²⁴. These features, however, are soil discolourations indicating temporary occupation rather than any permanent structures¹²²⁵; the

¹²¹⁸ The stamp is identified as CGPF by de Poorter & Claeys (1989), p. 48; Konen (2000), p. 408 (with further references), however, voices some doubts regarding the accuracy of this interpretation.

¹²¹⁹ Horn (1987), p. 447.

¹²²⁰ Höckmann (1998c), p. 317; Päffgen & Zanier (1998), p. 303; Starr (1993), p. 147; Böcking (1987), p. 102.

¹²²¹ Carroll & Fischer (1999), p. 560; Bechert & Willems (1995), p. 34; Bogaers & Rüger (1974), p. 166.

¹²²² Horn (2000), p. 54; Päffgen & Zanier (1998), p. 304.

¹²²³ Fischer (2002), p. 909; Carroll (2001), p. 311; Fischer (2001), p. 550; Carroll-Spillecke (1999), p. 317.

¹²²⁴ Päffgen & Zanier (1998), pp. 305, 307&310.

¹²²⁵ Fischer (2002), p. 909.

earliest permanent fortification at the site dates to c. AD 30/35¹²²⁶. It is generally accepted that the earliest traces of Roman occupation at Cologne-Alteburg indicate a military presence, an assumption that rests on the fact that all subsequent phases at the site are military, rather than any associated evidence for military occupation¹²²⁷. As this first period includes several overlying traces of temporary shelters and buildings, it has been suggested that the Alteburg plateau may have served as winter quarters for legionary vexillations during the Augustan and Tiberian campaigns in *Germania*¹²²⁸.

The earliest fort at Cologne-Alteburg was established under Tiberius. From this point on, the site remained garrisoned until well into the 3rd century. While the fort was initially believed to measure between 3.7 and 4.6ha¹²²⁹, recent investigations have shown that it actually had a pentagonal rather than rectangular plan, covering 7.1ha (Fig. 4.12). It was therefore large enough to house a garrison of more than 1000 men¹²³⁰. The ‘Alteburg’ has eight phases, ranging from the reign of Tiberius to the 3rd century¹²³¹. The interior of the fort was rebuilt along more substantial lines than its Tiberian predecessor under Claudius¹²³². This second earth and timber phase of the fort was occupied until the early Flavian period, when the fort was, again, rebuilt in earth and timber¹²³³. There is no evidence, however, that the fort at Cologne-Alteburg was destroyed in the revolt of AD 69, as has been suggested in older literature¹²³⁴. In the Domitianic period, the fort was dismantled and the site levelled for a fourth phase with stone interior buildings. This phase has traditionally been dated to AD 85 on the basis of a building inscription¹²³⁵, but recent excavations have uncovered coins from

¹²²⁶ Bechert & Willems (1995), pp. 34&35.

¹²²⁷ Horn (2000), p. 55.

¹²²⁸ Fischer (2001), p. 550; Carroll & Fischer (1999), p. 561.

¹²²⁹ Bechert & Willems (1995), p. 34.

¹²³⁰ Fischer (2002), p. 909; Hanel (2002a), p. 915; Fischer (2001), p. 547; Gregarek (2001), p. 540.

¹²³¹ Carroll (2001), p. 311; Carroll-Spillecke (1999), p. 317.

¹²³² Fischer (2001), p. 553; Carroll-Spillecke (1999), p. 317.

¹²³³ Fischer (2002), p. 910.

¹²³⁴ See Carroll-Spillecke (1999), p. 318 for a discussion of possible levelling under Vespasian, as well as earlier theories of a Civilis-revolt destruction layer at Cologne-Alteburg.

¹²³⁵ CIL XIII 8258., 8259. See also Bechert & Willems (1995), p. 34.

AD 90/91 that were clearly associated with the construction of this fort¹²³⁶. The Domitianic phase of Cologne-Alteburg has therefore been backdated to AD 91-96¹²³⁷. This fort was rebuilt in stone and remained largely unchanged, apart from minor interior modifications, until the end of the site in the late 3rd century: the latest coins from Cologne-Alteburg are *antoniniani* of Victorinus, dated to AD 270-274, and Tetricus II, dated to AD 272-280¹²³⁸. On this basis, it has been suggested that the site may have been abandoned in the course of the Franconian incursions of AD 275¹²³⁹.

The fort at Cologne-Alteburg supported an extensive *vicus* settlement that included two pottery workshops, located about 500m away from the north-western corner of the fort, which have been associated directly with the *CLASSIS GERMANICA*¹²⁴⁰. These operated from the mid 1st to the late 2nd century AD¹²⁴¹. Interestingly, excavations in the *vicus* of Cologne-Alteburg have recovered several 4th century coins, indicating that the civilian settlement may have been occupied longer than the actual fort¹²⁴².

It is as yet unclear, whether Cologne-Alteburg ever had harbour facilities: Pferdehirt suggests that a harbour basin may have existed to the north of the fort¹²⁴³, but the excavators argue that it is more likely that a river harbour, similar to that identified at Velsen, was located to the east of the fort¹²⁴⁴. This was initially suggested as the 1995/96 excavations in this area did not find any traces of a wall along the eastern side of the fort, suggesting that the fort might have been open towards the river. Further research, however, proved that such a wall had been built by AD 100 and identified the remains of further walls running towards the

¹²³⁶ Carroll-Spillecke (1999), p. 318.

¹²³⁷ Hanel (2002a), p. 914; Horn (2000), p. 56 ; Paffgen & Zanier (1998), p. 304.

¹²³⁸ Hanel (2002a), p. 915.

¹²³⁹ Fischer (2002), p. 910; Höckmann (1998c), p. 323.

¹²⁴⁰ Hanel (2002b), p. 213.

¹²⁴¹ Riedel (1999), p. 627.

¹²⁴² Hanel (2002b), p. 224.

¹²⁴³ Pferdehirt (1995), p.63; this argument is based primarily on the existence of a shallow valley to the north of Cologne-Alteburg that is argued to have been a branch of the Rhine in the Roman period. As the stream in this arm – which she suggests may have been connected to the main river by some form of canal – would have been greatly reduced, it would have made for an ideal harbour. There is, however, no evidence to support this theory. See also Höckmann et al (2002), p. 959.

¹²⁴⁴ For Velsen, see pp. 144-150 above. For suggestions of a harbour to the east of the fort, see Fischer (2002), p. 915; Höckmann (1998c), p. 319; Höckmann et al (2002), p. 959.

river similar to those discovered at *Novae* on the Danube, which have been interpreted as part of harbour installations¹²⁴⁵. Höckmann interpreted the remains as part of ship-sheds, arguing for a series of four parallel sheds with a width of 5.5m each, suggesting that these could have held *liburnae* as they are narrower than most examples from the Mediterranean that are associated with *triremes*¹²⁴⁶. While Höckmann's model is extremely detailed, it must be viewed with some scepticism, as it recreates wharves, ship-sheds and docks out of little more than isolated remains of walls. Geophysical research in the area east of the fort, carried out to support Höckmann's theory, was able to identify two walls running from the fort towards the Rhine, as well as three potential walls. It did not, however, indicate anything resembling a major harbour installation with ship-sheds and wharves¹²⁴⁷ (Fig. 4.13). It may be suggested, therefore, that docking facilities for vessels of the CLASSIS GERMANICA were located on the Rhine bank east of Cologne-Alteburg, but cannot be proven on the basis of current evidence.

This may change drastically in the near future, as a new Underground line is currently being built in Cologne Bayenthal. In the course of engineering work for this project, large scale rescue excavations have been undertaken around the fort of the CLASSIS GERMANICA and throughout Cologne. While the results of these ongoing excavations have not yet been published, the discovery of a Roman ship in early December 2007 was announced to the local press¹²⁴⁸ (Fig. 4.14). This appears to be of the Zwammerdam type and may be the earliest example of this type yet¹²⁴⁹. It is not, however, associated with the fort at Cologne-Alteburg, but with the civilian harbour located beneath the modern city centre of Cologne.

¹²⁴⁵ Hanel (2002b), p. 223; Fischer (2000), p. 553; Höckmann (1998c), pp. 317&321; see also discussion of *Novae* pp. 104-106 above.

¹²⁴⁶ Höckmann et al (2002), pp. 960&973. The only examples of even narrower ship sheds are at Kition in Cyprus (4.9m) and Carthage (5.2m). See also discussion of possible ship-sheds at *Velsen* pp. 147-149 above.

¹²⁴⁷ Brunotte & Schulz, (2003); Höckmann et al (2002), pp. 953&954.

¹²⁴⁸ <http://www.stern.de/wissenschaft/natur/Arch%20ologie-R%20mer-Schiff-K%20ner-U-Bahn-Tunnel/604756.html>; <http://www.koeln.de/artikel/Kultur/Koeln-Roemer-Schiff-in-der-U-Bahn-39246-4.html>.

¹²⁴⁹ Personal note, Dr. S. Ortisi, Cologne: This theory rests earliest on information from the *Labor für Dendrochronologie* at the University of Cologne, who suggest that the wood used in the ship may have been a sapling as early as 142 BC. This does not, however, indicate a date of felling, and interpretations of the vessel will have to await further research, which is to be undertaken at the *Museum für Antike Schifffahrt* at Mainz. Associated pottery does, however, indicate that the ship must have sunk in the first half of the 1st century AD.

Hanel has suggested that a number of small finds should also be seen as related to naval activity at the site: while his suggestion that the surprisingly large number of loom weights from Cologne-Alteburg indicate that the CLASSIS GERMANICA weaved its own sails at the site cannot be proven, a series of unusually large spearheads appear to be related to the fleet¹²⁵⁰: these are leaf-shaped and measure between 28.5 and 54.5 cm, and have been identified as the weapons of *classiarii*. Two are of particular interest, as they are marked with *graffiti*: one naming a century while the other depicts a trident¹²⁵¹.

Cologne-Alteburg has been identified as headquarters of the CLASSIS GERMANICA on the basis of a large number of tiles stamped by the fleet (both CAG and CGPF), as well as a number of inscriptions referring to naval personnel, five of which refer directly to the German fleet¹²⁵². Only one of these is a votive inscription, set up to Jupiter by a *praefectus* of the fleet and his son¹²⁵³. Two funerary inscriptions attest that a soldier of the CLASSIS GERMANICA, whose rank is lost and a *velarius* of the fleet died at Cologne whilst on active service¹²⁵⁴. The other two inscriptions are dedicatory. While one of them, set up by a *praefectus* of the CLASSIS GERMANICA, was actually found in the suburb of Cologne-Brühl, it appears justified to see this inscription as part of the epigraphic record of Cologne, as its findspot is only c. 5km away from the fort at Cologne-Alteburg¹²⁵⁵. The most interesting inscription from Cologne, however, is AE 1956, 249¹²⁵⁶, which mentions not only the CLASSIS GERMANICA but also a *pleroma* under the command of a *nauarchus*, thus fuelling the epigraphic debates on legal status begun by Starr¹²⁵⁷.

¹²⁵⁰ Hanel (1999), p. 311.

¹²⁵¹ Hanel (1999), p. 311. *Classiarii* holding spears with overly large points are commonly depicted on tombstones of naval personnel in the Mediterranean; see Hanel (2004).

¹²⁵² Bechert & Willems (1995), p. 34; Reddé (1986), p. 292.

¹²⁵³ CIL XIII, 8198; see Appendix IV.

¹²⁵⁴ CIL XIII, 8160; CIL XIII, 8321; see Appendix IV.

¹²⁵⁵ AE 1963, 52; a funerary inscription from near Brühl, CIL XIII, 12047 (listed as Vochem), refers to somebody *ex classe quae est in Germania*. While this does not actually mention the CLASSIS GERMANICA, it may well refer to this unit. As Brühl (and its suburb Vochem) are both landlocked, however, the inscriptions must clearly be seen in relation to the fleet base at Cologne-Alteburg. See also Appendix IV.

¹²⁵⁶ See Appendix IV.

¹²⁵⁷ See discussion in Chapter I, p. 13 above.

In addition to these direct references to the CLASSIS GERMANICA, four inscriptions indicate the presence of naval personnel without mentioning the German fleet. One of these is set up *in honorem domus divinae et tutelae navis* by a *pleroma* that is not specified¹²⁵⁸. As AE 1956, 249 indicates that the CLASSIS GERMANICA was subdivided into *pleromata*, it is likely to also refer to the German fleet. Three further funerary inscriptions from Cologne attest that a *trierarchus*, a *gubernator* and a *proreta* died here¹²⁵⁹. All of these are known to be naval ranks from inscriptions referring to the CLASSIS PRAETORIA MISENENSIS, and may as such be seen as further indicators of naval activity at Cologne¹²⁶⁰. A nautical context is also indicated by two funerary reliefs from Cologne without inscriptions (Fig. 4.15).

CIL XIII, 6 lists more than 140 tiles stamped by the CLASSIS GERMANICA for the site of Cologne-Alteburg¹²⁶¹. While this number has increased since, no definite list of all stamped tiles has been published as excavations continually discover more examples. Tiles stamped by the fleet include several examples of the *CLASIS* type also found at Neuss. While the date of this stamp is far from clear, its limited distribution is highly interesting¹²⁶². The majority of tiles from Cologne-Alteburg bear the common CGPF stamp that dates post AD 89¹²⁶³.

The overwhelming evidence for a fleet presence clearly justifies current opinions that the fort at Cologne-Alteburg operated as a permanent base of the CLASSIS GERMANICA¹²⁶⁴. While archaeological data from the site has been used to link the establishment of this fleet directly to the earliest periods at the site, there is no evidence to support this thesis¹²⁶⁵.

¹²⁵⁸ CIL XIII, 8250. See Konen (2000), p. 471.

¹²⁵⁹ CIL XIII, 8168, CIL XIII, 8322; CIL XIII, 8323; see Konen (2000), pp. 474&475.

¹²⁶⁰ Viereck (1996), pp. 237-248; Pferdehirt (1995), pp. 45-62. More naval activity at Cologne is indicated by a *barcarius* of a *numerus exploratorum Batavorum* seconded to the governor (see AE 1990, 721), showing that a governor of Lower Germany evidently had a vessel for his personal use.

¹²⁶¹ CIL XIII.6, 12562.

¹²⁶² Hanel (1998), p. 404; Böcking (1987), p. 101.

¹²⁶³ Hanel (1998), p. 406; de Poorter & Claeys (1989), p. 48; Bogaers & Rüger (1974), p. 166.

¹²⁶⁴ Horn (2000), p. 54; Bechert & Willems (1995), p. 23; Reddé (1986), p. 291; Bechert (1982), p. 70.

¹²⁶⁵ See Hanel (1999), p. 311; Höckmann (1998c), p. 317; discussion of the early periods above. It appears that the earliest phases at Cologne-Alteburg relate to legionary vexillation fortresses during the Augustan occupation campaigns. Current scholarship generally assumes that the CLASSIS GERMANICA established the first substantial fort at Cologne-Alteburg, i.e. that its establishment dates to the Claudian period. See Hanel (2003), p. 361; Carroll-Spillecke (1999), p. 318.

28. AQUAE GRANNI (Aachen)

The spa town of *Aquae Granni* was first settled by Romans in the 20s AD. There is no evidence for any military occupation other than the presence of LEG VI and LEG XXX between AD 89 and 120. These appear to have been involved in the building of the great baths, as indicated by stamped tiles¹²⁶⁶. CLASSIS GERMANICA stamped tiles found at Aachen and the nearby site of Weisweiler have given rise to arguments that this civilian site may at some point in time have served as a fleet base¹²⁶⁷. This interpretation is highly problematic as there is significant controversy regarding the data from this area. The editors of CIL suggest that the stamped tile may have been confused with another example – both tiles are initially published by Brambach¹²⁶⁸. His No 591, reading CGPF / EX GER INF was apparently found at the villa of Weisweiler. The tile from Aachen (No. 630) bears exactly the same (otherwise unique) stamp, leading the editors of CIL XIII to question whether it may, in fact, be the same tile¹²⁶⁹. The stamped tiles from the Aachen area that Starr refers to may therefore be one and the same.

29. BONNA (Bonn)

Roman Bonn had two military bases, an auxiliary fort and a legionary fortress. The fort has never been excavated, but the presence of auxiliary units is indicated by various inscriptions mentioning a COHORS I THRACVM and an ALA FRONTONIANA¹²⁷⁰. The legionary fortress of *Bonna* was excavated from the 1950s to the 1970s. Initially constructed in earth and timber during the 30s AD as a base for LEG I GERMANICA, the fortress was modified and

¹²⁶⁶ Cüppers (1990), pp. 322, 323&332; von Elbe (1977), pp. 1&4.

¹²⁶⁷ Starr (1993), p. 164; de Poorter & Claeys (1989), p. 47; Konen (2000), p. 408; CIL XIII.6, p. 136. On the Weisweiler stamp see de Poorter & Claeys (1989), p. 48. For a critical view also Hanel (1998), p. 413.

¹²⁶⁸ Brambach (1867), Nos. 591 and 630, see also CIL XIII.6, p. 136.

¹²⁶⁹ There are even more problems, as Brambach 630 is actually identified as a signet gem (Siegelstein) in the collection of a Mr Aussem of Drimborn near Aachen (supported by a note in the Bonner Jahrbuch of 1877: see Ulrichs [1877], p. 143). As the Weisweiler stamped tile originates from the very same collection, this may indicate that the two inscriptions are in fact the same and that there has been some confusion between the German 'Siegelstein' (signet gem) and 'Ziegelstein' (brick or tile).

¹²⁷⁰ Bechert & Willems (1995), p. 31.

rebuilt from AD 52-54. It measured 528m x 524m (27.7ha)¹²⁷¹. In the 70s AD the fortress was rebuilt in stone by LEG XXI RAPAX, which was replaced as garrison by LEG I MINERVIA from AD 83 onwards. This unit garrisoned *Bonna* until the end of the fortress in AD 351/353. A coin hoard and 14 skeletons in a well show that the fortress suffered a violent end¹²⁷².

Building activity of various legions is shown by numerous tiles bearing the stamps of LEG I MINERVIA, LEG I GERMANICA, LEG XXI RAPAX and LEG XXX¹²⁷³. In 1983 a number of CLASSIS GERMANICA stamped tiles were also found built into the hypocaust and *praeefurnium* of a *fabrica* in the Boeselagerhof area of Bonn¹²⁷⁴. All in all there are 15 tiles with CGPF stamps. Ceramic evidence shows that the *fabrica* was built in the late 2nd/early 3rd century, indicating that the CLASSIS GERMANICA must still have been manufacturing CGPF stamped tiles at this time¹²⁷⁵. As all tiles stem from the same hypocaust system, they are likely to have been part of a batch of building material supplies, rather than being evidence for a prolonged presence of the CLASSIS GERMANICA at *Bonna*.

A quay that ran along the entire length of the legionary fortress has been observed, but never studied or published in detail. Remains of Roman harbour works can be seen during low Rhine levels in hot summers such as 2003 and 2006. They appear to consist of a discernible basin in the river that is marked by a stone pier¹²⁷⁶. The harbour works are related to the legionary fortress, making it likely that they formed a supply harbour for the legion at *Bonna* rather than any naval base that may have been used by the CLASSIS GERMANICA.

A vexillation of the German fleet set up an inscription that is now built into the cathedral of Bonn. This indicates that a CLASSIS GERMANICA detachment was cutting rock for the forum of the newly established *Colonia Ulpia Traiana* in the Bonn area¹²⁷⁷. It appears

¹²⁷¹ Kaiser (1996), pp. 58-66; Bechert & Willems (1995), p. 33; Horn (1987), p. 366.

¹²⁷² Bechert & Willems (1995), pp. 31&33.

¹²⁷³ For I MINERVIA see Kaiser (1996), p. 71; for I GERMANICA Kaiser (1996) p. 82; XXI RAPAX Kaiser (1996) p. 86 and XXX Kaiser (1996), p. 87.

¹²⁷⁴ Konen (2000), p. 408; Kaiser (1996), pp. 70, 71, 88 & 89, 156; Gechter (1985), pp. 127&128.

¹²⁷⁵ Kaiser (1996), pp. 88&158.

¹²⁷⁶ Bechert & Willems (1995), p. 33; Horn (1987), p. 376.

¹²⁷⁷ Konen (2000), p. 474; Pferdehirt (1995), p. 68; CIL XIII, 8036. See Appendix IV.

likely that the inscription refers to stone cutting carried out at the Trachyte quarry of the Drachenfels to the south of Bonn, where traces of a Roman harbour have been discovered¹²⁷⁸.

While a quarrying detail of the CLASSIS GERMANICA seems to indicate a temporary presence of the fleet for a specific task, the inscription, combined with the CGPF stamped tiles, has in the past been used to argue for a fleet base at Bonn¹²⁷⁹. The corrupt passage in Florus cited at the beginning of this chapter has been used to support such claims, in that it allegedly refers to fleet bases at Boulogne and Bonn¹²⁸⁰. This reasoning is somewhat tenuous, however, as the site referred to is actually termed *Bormam*. The lack of archaeological evidence for a military base at such an early date further discredits this argument¹²⁸¹.

A second inscription, which has in the past been read to refer to a *trierarchus* without mentioning his unit, may provide further evidence of naval activity at *Bonna*¹²⁸². As this study has shown, however, there are several examples of legions with their own naval detachments. As *Bonna* evidently had its own harbour facilities, it does not seem impossible that the *trierarchus* in question – if it was, indeed, a *trierarchus* – was in fact attached to a legion here. Even had he been a *trierarchus* of the CLASSIS GERMANICA, this inscription need not indicate a permanent fleet presence at the site as it has already been established that a temporary detachment operated in the region¹²⁸³.

¹²⁷⁸ Bechert & Willems (1995), p. 23; Pferdehirt (1995), p. 67.

¹²⁷⁹ Starr (1993), p. 148. On p. 151 he clearly confuses sites, arguing that the CLASSIS GERMANICA detachment at Bonn quarried stone for building work at *Noviomagus*, when in fact the inscription refers to the *Colonia Ulpia Traiana* at Xanten.

¹²⁸⁰ Florus II.30,26 *Bormam* (Bonnam?) *et Gesoriacum pontibus iunxit classibusque firmavit* – but there is significant discussion whether this passage can actually be seen as referring to Bonn. See Reddé (1986), p. 291; Starr (1993), p. 141. See also discussion on p. 140 above.

¹²⁸¹ Reddé (1986), p. 291.

¹²⁸² Konen (2000), p. 477 identifies it as CIL XIII, 10027, apparently reading STRATO / TR. The actual inscription, however, is CIL XIII, 8089 and reads STRATOR / TR[...], which may refer to a *strator tribuni*, rather than a *strator trierarchi*, as it seems unlikely that a *trierarchus* required a groom.

¹²⁸³ The debate is made even more complicated by the suggestion in Konen (2000), p. 477 that the inscription may date to around AD 30. As such, it could belong to the earliest legionary base at Bonn, or else must have been set up by a soldier in the occupation army, as there is no evidence to suggest that the CLASSIS GERMANICA existed at this point in time.

30. BROHLTAL

The Brohltal is a winding valley of a Rhine tributary in the area around Mayen¹²⁸⁴. Throughout history the valley has seen a large amount of Tufa quarrying. Quarrying was particularly intense during the Roman period. Several Roman units left inscriptions to commemorate their quarrying work in this area: LEG VI, LEG X GEMINA, LEG XXII PRIMIGENIA, COH I CIVIVM ROMANORVM, a unit of PEDITES SINGVLARES and the CLASSIS GERMANICA¹²⁸⁵.

Six inscriptions from the Brohl valley refer to the CLASSIS GERMANICA¹²⁸⁶. All of these are dedicatory, but two are directed *herculi saxano* and indicate that the fleet detachments were part of vexillations made up of various units from *Germania Inferior* that had been ordered to the quarries in this valley on specific missions. This quarrying detail consisted of soldiers from the German fleet, various auxiliaries, LEG VI VICTRIX and LEG X GEMINA. It appears, therefore, that the presence of the CLASSIS GERMANICA in this valley must be seen in the context of a special command sent to *Germania Superior* in order to supply stone to *Germania Inferior*¹²⁸⁷. This is not surprising, as there are no stone quarries in this province. The presence of CLASSIS GERMANICA soldiers in the Brohl valley was therefore clearly not permanent, although a single CGPF stamped tile was found here¹²⁸⁸.

31. ANTUNNACUM (Andernach)

The modern city of Andernach is situated in a strategic location controlling northern access to the “Neuwieder Becken”, a fertile plain in the mountainous central Rhine region. In the Roman period it was situated at a junction of the Cologne-Mainz road with the highway from the interior of Gaul that came via Trier and Mayen. A late Roman fort, *Antunnacum*, and

¹²⁸⁴ von Elbe (1977), p. 102.

¹²⁸⁵ Horn (1987), p. 159; von Elbe (1977), p. 102. For the CLASSIS GERMANICA in particular see Höckmann (1998c), p. 335; Starr (1993), p. 148; Röder (1959), p. 54.

¹²⁸⁶ AE 1923, 32; CIL XIII, 7710; CIL XIII 7715; CIL XIII, 7719; CIL XIII, 7723; CIL XIII 7728. See Appendix IV.

¹²⁸⁷ See also Pferdehirt (1995), pp. 65-68; Starr (1993), p. 149.

¹²⁸⁸ de Poorter & Claeys (1989), p. 48.

attached settlement are known from the Tongeren milestone, as well as references in the Peutinger Table and *Notitia Dignitatum*¹²⁸⁹. The fort covered an area of 5.6ha¹²⁹⁰.

Aside from controlling the important road junction, *Antunnacum* appears to have served as a transshipment point for goods from the Mayen and Pellenz area – particularly pottery (Mayen ware), millstones and Tufa from quarries in the region¹²⁹¹. The only evidence for transshipment at Andernach is an alleged Roman harbour in an old Rhine arm which created a natural harbour, the extent of which is still visible in the topography of the site. A wall to the north-west of the late Roman fort runs alongside this harbour and is argued to have been used as a quay. The main argument for a harbour at the site, however, is that it is uncharacteristic for a late Roman fortress in this region not to be situated in an elevated position – of which there are plenty – but in a flood plain next to a natural basin¹²⁹².

Numerous small finds from the area around the late Roman fort date to the early half of the 1st century AD. Together with traces of a pre-Roman settlement and an inscription mentioning a soldier of a COHORS RAETORVM, these have been used to argue for an early Roman military installation at the site, which allegedly existed until Rome expanded its rule to the right bank of the Rhine in the late 1st century¹²⁹³. No structural evidence has so far been discovered to support this theory.

There is some evidence for the presence of the CLASSIS GERMANICA in the form of one CGPF stamped tile and an altar set up by a fleet soldier¹²⁹⁴. While it has in the past been used

¹²⁸⁹ Cüppers (1990), p. 304.

¹²⁹⁰ Cüppers (1990), p. 304; see also Stein & Röder (1961), p. 8.

¹²⁹¹ Cüppers (1990), p. 305; von Elbe (1977), p. 21; Stein & Röder (1961), p. 16; see also p. 194 above.

¹²⁹² Cüppers (1990), p. 306; Stein & Röder (1961), p. 16.

¹²⁹³ Cüppers (1990), pp. 305&306; Stein & Röder (1961), p. 16; Filtzinger (1960), p. 168. For the Raetian infantry soldier see CIL XIII, 07684.

¹²⁹⁴ For the stamped tile see de Poorter & Claeys (1989), p. 48. See also CIL XIII, 7681. Cüppers (1990), p. 306 states that two CLASSIS GERMANICA inscriptions have been found at Andernach, also citing AE 1888, 74 (identified as originating at 'Toennisstein' [now in the suburb of Andernach-Kell]). As the wording of AE 1888, 74, however, is exactly the same as that of CIL XIII 7728 listed as 'Brohl', these are evidently one and the same inscription. Bad Tönisstein is actually c. 7 km away from Andernach, and sits on the side of the Brohl valley. As such, the inscription is here listed as part of the Brohl valley inscriptions. See Appendix IV.

to argue for a fleet base at *Attunacum* from the 1st to 3rd century¹²⁹⁵, this seems unlikely as data from the site is insufficient to prove any 1st-3rd century military presence at Andernach. The inscription may be explained as it has been shown that the CLASSIS GERMANICA was directly involved with quarrying Tufa in the nearby Brohl valley. The altar, set up *matribus suis*, comes from a sanctuary in the area of thermal springs at Andernach-Kell. This ‘suburb’ is actually located on the edge of the Brohl valley – making it even more likely that this altar must be seen in connection with the data above¹²⁹⁶.

32. CONFLUENTES (Koblenz)

Modern Koblenz is situated at the confluence of the Rhine and Moselle rivers – a fact reflected in the ancient name of the site, *Confluentes*¹²⁹⁷. The strategic position on two important waterways meant that the site was garrisoned at an early stage of the Roman occupation – small finds from burials in the Neuendorf area, as well as finds from the bottom of the fort’s defensive ditch including a COSEDO stamped terra nigra plate, indicate that there was a permanent military presence at *Confluentes* by the Tiberian period¹²⁹⁸. Parts of the early fort of Koblenz have been excavated in the 1950s. The fill of a defensive ditch showed that the fort was abandoned between AD 60 and 70. This is frequently associated with the Batavian revolt, but there is no evidence for this¹²⁹⁹.

As no further 1st to 3rd century military structures have been discovered, it is usually assumed that *Confluentes* lost its military role with the Domitianic move of the frontier to the right bank of the Rhine. The site did, however, remain an important civilian centre until the late Roman period as indicated by the remains of several stone buildings and numerous small

¹²⁹⁵ von Elbe (1977), p. 21.

¹²⁹⁶ See Cüppers (1990), pp. 306&7, as well as note 1294 above.

¹²⁹⁷ Cüppers (1990), p. 419.

¹²⁹⁸ Filtzinger (1960), pp. 169&173.

¹²⁹⁹ Cüppers (1990), pp. 418&419; Filtzinger (1960), pp. 168&176.

finds¹³⁰⁰. As today, bridges spanned both the Rhine and the Moselle at Koblenz in the Roman period. Both have been excavated and dated by dendrochronology – the Rhine bridge having been built in AD 48/9 and the Moselle bridge around AD 104¹³⁰¹.

In the late Roman period *Confluentes* once again became an important military centre. A fortress of 8.5 ha can still be identified in the street plan of the modern city¹³⁰². There is no evidence from Koblenz, however, that would suggest a presence of the CLASSIS GERMANICA at this site. As such it is entirely unclear why the site has been identified as a permanent base of the German fleet in the past¹³⁰³.

33. AUGUSTA TREVERORUM (Trier)

Modern Trier, the ancient city of *Colonia Augusta Treverorum* is situated along a loop of the river Moselle. One of the main centres of *Gallia Belgica*, Roman Trier developed out of a 72ha settlement of the local *Treveri*¹³⁰⁴. The city, founded around 16-13 BC grew rapidly not only because of its famous hot springs, but also as it was a central crossing point of the Moselle: an early ford at the site was replaced by two bridges, the earliest of which was built c. 18 BC¹³⁰⁵.

An *ala* fort, most likely manned by the *ala Hispanorum* predated the civilian settlement at Trier. Little is known about this structure, however, as only one defensive ditch has been excavated¹³⁰⁶. The establishment of the Augustan *colonia*, however, saw the end of any military presence at the site. Instead, it grew into a major civilian and administrative centre with all the trappings of a large Roman city such as a forum, imperial *basilica*, several *thermae*, a circus and an amphitheatre. In the later 2nd century Trier covered an area of 285ha

¹³⁰⁰ Cüppers (1990), p. 419; Filtzinger (1960), p. 177.

¹³⁰¹ For the Rhine bridge see Cüppers (1990), p. 422 and Mensching (1981), p. 325, for the Moselle bridge Cüppers (1990), p. 421.

¹³⁰² Cüppers (1990), pp. 418&420; Filtzinger (1960), p. 173.

¹³⁰³ Viereck (1996), p. 154.

¹³⁰⁴ Cüppers (1990), pp. 577&578.

¹³⁰⁵ Cüppers (1990), pp. 578&579; For a discussion of the Moselle bridges see Cüppers (1967), pp. 60&67.

¹³⁰⁶ Cüppers (1990), pp. 578&579; von Elbe (1977), p. 390.

and began to build defensive walls, while during the tetrarchy it became an imperial residence first of Maxentius, but particularly of Constantine the Great. Large *basilicae* and monuments such as the Porta Nigra, as well as the fortified imperial palace of Julian the Apostate reflect its status in Late Antiquity¹³⁰⁷.

As Trier prospered through riverine trade, it is not surprising that the city reflects a strong nautical element. While no harbour has been discovered¹³⁰⁸, several finds attest to the importance of naval activity, including ship-shaped bronze votive vessels and the famous wine-ship from Neumagen¹³⁰⁹ (Fig. 4.16). A single inscription mentions the CLASSIS GERMANICA, but refers to a *miles classis Germanicae* [...] *negotiator cervesarius*, a fleet soldier tasked with the purchase of beer¹³¹⁰. In this respect, the inscription presents an interesting parallel to the wine-ship from Neumagen, which has been argued to represent a fleet vessel transporting wine¹³¹¹. The presence of fleet personnel involved in the provision of supplies, however, need by no means imply the existence of a permanent naval base at Trier. Indeed, as there is no evidence for a military presence other than the Augustan auxiliary fort, there is nothing to suggest a CLASSIS GERMANICA base at the site.

34. BINGIUM (Bingen)

Roman *Bingium*, the modern city of Bingen, is situated at a strategically important position at the confluence of the rivers Nahe and Rhine¹³¹². It was one of the few bridging points of the river Nahe, with a substantial oak bridge built here around AD 77¹³¹³. The strategic role of *Bingium* became apparent during the Civilis revolt in AD 70, when an

¹³⁰⁷ Kuhnen (2001), p. 10; Cüppers (1990), pp. 606, 649-653; von Elbe (1977), p. 438.

¹³⁰⁸ von Elbe (1977), p. 391.

¹³⁰⁹ Cüppers (1990), p. 613.

¹³¹⁰ AE 1928, 183. See Appendix IV. For a similar inscription, referring to a centurion acting as a *negotiator* for LEG XV see AE 1978, 635.

¹³¹¹ For a full debate of this theory see Bockius (2004).

¹³¹² Ziethen (2003), p. 23; Cüppers (1990), p. 333; von Elbe (1977), p. 61.

¹³¹³ Ziethen (2003), pp. 46&47; Cüppers (1990), p. 334. Oak timber posts, which still had metal shoes attached to them, were excavated here in the mid 1980s.

important battle took place at the site¹³¹⁴. There is, however, no archaeological evidence for a military presence other than military equipment finds from Roman graves. While gravegoods indicate that the site was occupied from the 1st to 3rd centuries, structural remains that attest a military presence have only been found for the late Roman period¹³¹⁵.

Inscriptions underline that there must have been a military presence at the site before the late Roman period, as the following units are attested: COH IIII DELMATARVM, COH I PANNONICA, COH I SAGITTARIVM, LEG IIII MACEDONICA¹³¹⁶. It has furthermore been suggested that detachments from the Mainz garrison (LEG XIV GEMINA and later LEG XXII PRIMIGENIA) may also have been based at *Bingium* sporadically¹³¹⁷. There is no evidence, however, that the CLASSIS GERMANICA ever even reached Bingen¹³¹⁸.

35. MOGONTIACUM (Mainz)

The modern city of Mainz is situated at the confluence of the Rhine and its most important tributary, the river Main¹³¹⁹. While *Mogontiacum* was the capital of the province of *Germania Superior*, the site never achieved urban status, remaining instead a legionary base with civilian settlement throughout the Roman period. While virtually all of the ancient site is covered by the modern city, numerous research and rescue excavations show that the site, while officially a military base, was clearly urban in character. This is indicated by numerous public buildings such as the theatre – the largest example of its kind in north-western Europe¹³²⁰.

¹³¹⁴ Ziethen (2003), p. 27; von Elbe (1977), p. 61.

¹³¹⁵ Ziethen (2003), pp. 38, 89&90; von Elbe (1977), p. 62.

¹³¹⁶ Ziethen (2003), pp. 86-88; Cüppers (1990), p. 333.

¹³¹⁷ Cüppers (1990), p. 333.

¹³¹⁸ As such, it remains unclear why Viereck (1996), p. 254 identifies the site as a CLASSIS GERMANICA base.

¹³¹⁹ Höckmann (1988b), p. 23; it should be noted that the Main was one of the main arteries into free Germany, particularly into the territory of the *Marcomanni*. Roman attempts to control this waterway are reflected in a number of large occupation period military bases such as Marktbreit, which are situated on the river.

¹³²⁰ Cüppers (1990), p. 464. The theatre is even larger than its famous parallels at Arles and Orange. For a summary of Roman *Mogontiacum* see von Petrikovits (1963), pp. 27ff.

The earliest military occupation of *Mogontiacum* dates to the final decades BC: the site served as the main base for LEG XIV GEMINA and LEG XVI GALLICA during Drusus' campaigns. This double legionary base was established around 13 BC and had four consecutive phases, all in earth and timber¹³²¹. It remained in operation until its destruction during the Batavian revolt¹³²². Under Vespasian the double legionary fortress at *Mogontiacum* was rebuilt in stone¹³²³. Inscriptions attest LEG XIV GEMINA, LEG XVI GALLICA, LEG I ADIVTRIX, LEG III MACEDONICA and LEG XXI RAPAX as garrisons of this fortress. Following the revolt of the Upper German governor *Saturninus* in AD 89, however, the garrison of *Mogontiacum* was reduced to one legion, LEG XXII PRIMIGENIA, which was stationed here from the early 90s AD until the early 4th century¹³²⁴. The strategic importance of the site is reflected in the presence of an additional auxiliary fort, discovered in the suburb of Weisenau, which was in use during the 1st century AD¹³²⁵.

A significant civilian settlement appears to have developed around *Mogontiacum* in the later 1st century¹³²⁶. This was occupied continuously and expanded throughout the 2nd and 3rd centuries, until, in the late 3rd / early 4th century, it was surrounded by substantial defensive walls¹³²⁷. Across the Rhine from *Mogontiacum* was a further fort known as *castellum Mattiacorum* which was connected with the settlement and fortress via a bridge, making Mainz one of the few crossing points of the Rhine. The importance of this river crossing is reflected in the depiction of the bridge on a lead medallion from Lyons¹³²⁸.

Excavations at Mainz have over the years identified the remains of three separate Roman harbours: a central landing area just outside the city walls, one at the so-called 'Dimesser Ort', which appears to be the earliest one, and a harbour in the 'Kapellhof' area,

¹³²¹ Cüppers (1990), p. 458; von Elbe (1977), p. 253; von Petrikovits (1963), pp. 27&28.

¹³²² von Elbe (1977), p. 254; von Petrikovits (1963), p. 28.

¹³²³ Cüppers (1990), p. 458; von Petrikovits (1963), p. 28.

¹³²⁴ Cüppers (1990), p. 458; von Petrikovits (1963), p. 29.

¹³²⁵ Cüppers (1990), p. 470.

¹³²⁶ von Petrikovits (1963), p. 28.

¹³²⁷ Cüppers (1990), p. 458; von Petrikovits (1963), p. 29.

¹³²⁸ Cüppers (1990), p. 466.

which seems to be associated with the ‘Kästrich’ legionary fortress. The ‘central harbour’ consists of little more than a series of wooden piers jutting out into the river just outside the city walls. Their layout suggests a harbour of a similar layout to that found at Velsen, but this can be little more than a suggestion¹³²⁹.

The ‘Dimesser Ort’ harbour, on the other hand, can be directly linked to the Augustan occupation campaigns on the basis of significant amounts of early pottery finds¹³³⁰. The harbour was located on a peninsula now covered by the modern port of Mainz and was destroyed during construction work in 1858. Theories of a Roman harbour here are based on the discovery of a semicircular row of posts several hundred metres long, as well as a ‘paved area’ under water¹³³¹. There are, however, neither plans nor photographs to support these claims. Nonetheless, the ‘Dimesser Ort’ harbour has frequently been identified as both a civilian and military harbour¹³³², and even taken as evidence for a CLASSIS GERMANICA base at *Mogontiacum*¹³³³.

The harbour in the ‘Kapellhof’ area of Mainz was excavated extensively in 1982. Aside from strong river bank revetments made from large timbers, two barges of the Zwammerdam type were discovered here¹³³⁴ (**Fig. 4.17**). Dendrochronological studies of one of these vessels provided a felling date around AD 81¹³³⁵. About 500m downstream from these finds, further excavations during the 1980s discovered the remains of five Roman ships in the ‘Am Brand’ area of Mainz. These have been dendrochronologically dated to the late 4th century¹³³⁶ (**Figs. 4.18, 4.19**). Their sleek form and evident use as rowed vessels for a crew of

¹³²⁹ Höckmann (1988b), p. 23.

¹³³⁰ Von Petrikovits (1963), p. 28.

¹³³¹ The evidence cited here is taken from the observations of a local historian, J. Wittmann. See also Konen (2000), p. 249. The ‘paved area under water’ seems to be a similar observation to that made to argue for a harbour at Vienna and is probably not related to the Roman period. See p. 48 above.

¹³³² Von Petrikovits (1963), pp. 28&29.

¹³³³ Baatz (1962), pp. 82ff., von Petrikovits (1963), pp. 29ff.

¹³³⁴ Cüppers (1990), p. 468.

¹³³⁵ Konen (2000), p. 250.

¹³³⁶ Cüppers (1990), p. 468: the precise date is AD 376.

about 30 indicate a primarily military function¹³³⁷. Excavation of these vessels also identified a loading area at this site, which takes the form of substantial timber posts set parallel to the Rhine in order to reinforce the river bank¹³³⁸. The identification of the ships discovered ‘Am Brand’ as military vessels has led to the identification of this harbour as a military one¹³³⁹. This seems to be supported by scant evidence for piers that lead into the river to create artificial harbour basins¹³⁴⁰. The relationship of these remains to the city walls, which were constructed between AD 250 and 300, indicates that the piers date from the early 2nd to the late 3rd century. As such, they are not contemporary with the vessels found in the harbour and indicate naval activity at this site for almost 200 years.

The wealth of naval remains at Mainz has led to frequent assertions that *Mogontiacum* must have been an important base of the CLASSIS GERMANICA¹³⁴¹. There is, however, nothing in the archaeological record to suggest a presence of the German fleet at any point in time. Indeed, there is no evidence at all to suggest that the CLASSIS GERMANICA operated anywhere in *Germania Superior* on a permanent basis. On the other hand, there are a number of indicators that the legion based at *Mogontiacum* may have been involved in naval activity, and that the harbours and ships discovered at Mainz may have belonged to the various legions based here, especially LEG XXII PRIMIGENIA.

The 22nd Legion produced a large number of tiles stamped with a ship-shaped stamp¹³⁴² (Fig. 4.20). As such, the evidence from Mainz seems to resemble the observations made with regard to LEG I ITALICA at *Novae*. There is, however, a much stronger case for a naval legionary detachment at Mainz than could be identified at *Novae* in Bulgaria, as there is a significant amount of epigraphic data to support this thesis¹³⁴³: two inscriptions from AD

¹³³⁷ Pferdehirt (1995), p. 4; Höckmann (1988b), p. 23.

¹³³⁸ Konen (2000), pp. 251&252.

¹³³⁹ Konen (2000), pp. 252-254.

¹³⁴⁰ Konen (2000), pp. 252-254; compare evidence from *Novae*, pp. 104-106 above.

¹³⁴¹ Viereck (1996), pp. 254&255; Bollini (1977), p. 108; Rougé (1975), p. 146.

¹³⁴² Pferdehirt (1995), p. 8.

¹³⁴³ Konen (2000), p. 256.

185 and 198 may indicate that LEG XXII maintained a shipyard at Mainz, as they mention two *optiones navaliorum* of the legion, although the *navalia* referred to may have been tileworks rather than the shipyard that has been proposed¹³⁴⁴. A further inscription identifies a veteran of the legion as a *naupagus* (shipwright)¹³⁴⁵. A tombstone showing a ship, plumb bob and measuring angle was found at Mainz-Weisenau (Fig. 4.21). The iconography of this appears to point to a shipwright, further underlining the theory of a shipyard at Mainz¹³⁴⁶. Four inscriptions indicate vexillations of LEG XXII sent to Obernburg (2x), Trennfurt and Stockstadt (all near Mainz) to cut timber (*agentes in lignariis*)¹³⁴⁷. While this may have been used for any purpose, the wording is unique to these four inscriptions. As such, they have in the past been linked to the shipyards of LEG XXII at *Mogontiacum*¹³⁴⁸. A final piece of evidence for naval activity of the 22nd legion comes in the shape of an anchor bearing its stamp which was found at Eich¹³⁴⁹.

In view of this significant amount of epigraphic data it must therefore be concluded that, while there is a plethora of evidence for naval activity at Mainz throughout the period of Roman occupation, none of this is in any way linked to the CLASSIS GERMANICA. Indeed, various inscriptions indicating shipyards belonging to LEG XXII PRIMIGENIA, as well as tilestamps in ship shape and an anchor stamped by the legion clearly indicate that the naval installations at Mainz were part of the infrastructure of this legion.

A number of the sites discussed above have evidently been identified as fleet bases solely on individual CGPF stamped tiles. As such, it is interesting that the site of **Pommereul** in Belgium has so far been ignored in studies of the CLASSIS GERMANICA¹³⁵⁰, despite having

¹³⁴⁴ CIL XIII 6712; CIL XIII 6714; see also Pferdehirt (1995), pp. 56 & 57; von Petrikovits (1963), p. 29. On *optiones navaliorum* see also von Domaszewski (1908), 62; Stein (1932), p. 275.

¹³⁴⁵ See Pferdehirt (1995), p. 57.

¹³⁴⁶ Höckmann (1998c), p. 327.

¹³⁴⁷ See Pferdehirt (1995), pp. 59 – 62.

¹³⁴⁸ Pferdehirt (1995), p. 59.

¹³⁴⁹ Höckmann (1998c), p. 335; Vons (1980), p. 44.

¹³⁵⁰ de Poorter & Claeys (1989), p. 49.

produced not only a fleet stamped tile, but also 2 Roman ships¹³⁵¹. The stamped tile does not bear the common CGPF stamp but is one of the rarer *CLASIS* types. As these have been shown to date to before AD 69¹³⁵², they cannot be associated with the two flat bottomed ships of the *Prahm* type: these have been dated to the late 2nd/early 3rd century by dendrochronology¹³⁵³. While the presence of a tile stamped by the fleet at Pommereul may thus indicate a general supply of building materials to Belgian sites, as small numbers of tiles were also found at Maastricht, Rijmenam and Rumst, it cannot be seen to indicate a base of the *CLASSIS GERMANICA*.

¹³⁵¹ As well as the remains of 4 non-Roman vessels, see Mees & Pferdehirt (2002), p. 36.

¹³⁵² Hanel (1998), p. 406; Böcking (1987), p. 101.

¹³⁵³ Mees & Pferdehirt (2002), pp. 36-39; see also <http://www1.rgzm.de/Navis/home/frames.htm> Ships 18 & 19.

IV.III DISCUSSION

The results of the above evaluation differ significantly from the preceding chapters in that they show that current research on the CLASSIS GERMANICA appears to be based primarily on actual data, rather than accepting circumstantial evidence or unclear literary references, as commonly found on the Danube. Indeed, only three of the 35 sites currently identified as fleet bases (Fig. 4.2) produced no evidence for a naval presence at all. As has been shown, however, this does by no means imply that the remaining sites can all be proven to have been stations of the CLASSIS GERMANICA, as many produced data related to the German fleet, but not in sufficient quantities to indicate its permanent presence.

Epigraphic evidence for the CLASSIS GERMANICA (Fig. 4.22)

Fig. 4.22 shows not only that there is a significant amount of epigraphic data related to naval activity on the Rhine, but also highlights interesting differences to the fleets studied above with regard to the distribution of this evidence: while there are almost as many inscriptions that refer to the CLASSIS GERMANICA as those of both Danube fleets put together¹³⁵⁴, the inscriptions mentioning the German fleet cluster around five sites, four of which are located within c. 65km of one another. As such, the presence of the CLASSIS GERMANICA can be inferred at two sites on the basis of epigraphic data alone. There is also evidence, as was found on the lower Danube, that units other than the CLASSIS GERMANICA may have been engaged in naval activity on the Rhine.

While the numerous inscriptions that have been found at the *Nehalennia* sanctuary off Walcheren (15) refer to sailors, none of these indicate naval personnel or even men of the CLASSIS GERMANICA. As such they evidently indicate merchant shipping, perhaps between the

¹³⁵⁴ Compare Appendices 2&3 with 4.

continent and Britain¹³⁵⁵, and can therefore have no direct impact on a study concerned with the history and development of the German fleet¹³⁵⁶.

Despite their naval ranks, the three soldiers identified as two *optiones navaliorum* and a *nauegus* on inscriptions from *Mogontiacum* (35) cannot be associated with the fleet as they are clearly identified as members of LEG XXII PRIMIGENIA. While these inscriptions, as well as the four examples indicating a special command to provide timber, possibly for legionary shipyards at Mainz, are of interest as they prove that LEG XXII PRIMIGENIA maintained a naval detachment, they can have no direct bearing on the CLASSIS GERMANICA¹³⁵⁷.

The same applies to the inscriptions found at *Fectio* (10): the reference to a *trierarchus* clearly indicates some form of naval activity at the site, but does not refer to any fleet or unit. As the evidence from the lower Danube and Mainz shows that other units than established *classes* also maintained naval squadrons, the current assumption that this soldier must have belonged to the CLASSIS GERMANICA cannot be maintained. The reference to *navtae* on CIL XIII, 8815, whilst underlining the importance of *Fectio* to shipping just as much as the dedication to Oceanus, Neptune and Rhenus found at the site, clearly refers to a civilian context and does not, therefore, indicate any activity of the CLASSIS GERMANICA at the site¹³⁵⁸.

The epigraphic data from Andernach (31) and Trier (33) cannot be taken as evidence for bases of the CLASSIS GERMANICA, at either site, as each produced only single inscriptions. The inscription from Trier identifies the *miles classis Germanicae* as a *negotiator cervesarius*. As his presence at Trier must evidently be seen in the context of his role as beer merchant, involved in the purchase of supplies for the German Fleet, AE 1928, 183 cannot be taken as direct evidence for a CLASSIS GERMANICA base at the site¹³⁵⁹. The inscription from Andernach was clearly set up by an active soldier of the fleet, as it states the *pleroma* he served in. As it

¹³⁵⁵ As suggested by Jankuhn (1996), pp. 138.

¹³⁵⁶ See p. 170 above.

¹³⁵⁷ See p. 203 above.

¹³⁵⁸ See p. 165 above.

¹³⁵⁹ See p. 198 above.

is an altar, however, it indicates little more than the temporary presence of the fleet soldier Similius at this site. It actually appears to come from a sanctuary on the edge of the Brohl valley, and must therefore be seen in connection with quarrying work of the CLASSIS GERMANICA in this area¹³⁶⁰.

The two inscriptions from *Bonna* (29) that infer a naval context cannot prove a permanent fleet base at the site. The *vexillatio classis Germaniae* who set up CIL XIII, 8036 clearly state that they were in the region on a temporary command *ad lapidem citandum forum Ulpiae Traianae*, rather than being based here permanently¹³⁶¹. The other inscription, whilst possibly indicating the presence of a *trierarchus* at Bonn, fails to identify his unit and is as such subject to the same reservations as that from *Fectio* discussed above¹³⁶².

The six inscriptions from the Brohltal (30) on the other hand are clear evidence of a CLASSIS GERMANICA presence in this area. Although all are dedicatory inscriptions, their number implies that soldiers of the German fleet were based in this region repeatedly or for an extended period of time. As two of the inscriptions refer to vexillations made up of several units from the *exercitus Germaniae Inferioris* that had been dispatched to the Brohl valley to supply stone for Lower Germany, it seems that all six inscriptions must be seen in this context. They do not, therefore, imply a permanent fleet base. The evidence from this area is, however, an interesting indicator of the tasks that the CLASSIS GERMANICA was involved in¹³⁶³.

The five inscriptions from Cologne (27) that refer directly to the CLASSIS GERMANICA are testament that the site served as a base of the German fleet, particularly so as two of them are funerary monuments to soldiers on active duty. The fact that two inscriptions were set up by *praefecti* of the CLASSIS GERMANICA may indicate that the headquarters of the fleet were

¹³⁶⁰ For a discussion of the inscription from *Antunnacum*, see note 1294 above. On quarrying in the Brohl valley see p. 194 above and further discussion on this page.

¹³⁶¹ See p. 193 above.

¹³⁶² See pp. 193&194 above.

¹³⁶³ See p. 194 above.

located at Cologne, but does not necessitate this, as has been suggested¹³⁶⁴. Despite the earlier argument that inscriptions referring to naval personnel without mentioning an actual unit do not imply that they were fleet soldiers, it appears likely that the inscriptions referring to a *pleroma*, a *trierarchus*, a *gubernator*, and a *proreta* ought to be associated with the German fleet¹³⁶⁵. After all, Cologne can be identified as a base of the CLASSIS GERMANICA even without the added data from these four inscriptions.

Two inscriptions that refer to the CLASSIS GERMANICA have not been discussed above as they have not been associated with any fleet bases in past research: a funerary inscription from **Bad Münstereifel** indicates that a veteran *trierarchus* of the fleet died there. As such, it cannot be used to infer the presence of the CLASSIS GERMANICA because he was no longer an active soldier when he died¹³⁶⁶. CIL XIII, 8813, however, is of more interest¹³⁶⁷: a dedication to Mars, it was set up by *gladiatores classis germaniae pia fidelis*. Starr suggests that this is evidence of games held in honour of an emperor in the 2nd century¹³⁶⁸. Whatever the reason for the existence of *gladiatores classis germaniae*, their presence appears to indicate a long-term presence of the fleet: even if any games had been a singular event, they are likely to have been held at a station of the CLASSIS GERMANICA rather than in an open field. As CIL XIII does not give the original findspot of the inscription, stating merely that it was found *apud Batavos*, however, no such identification can be made.

The study of the CLASSIS GERMANICA's epigraphic record is evidently more conducive than similar approaches have been with regard to the Danube fleets. Not only is it possible to identify Cologne-Alteburg as a fleet station on the basis of epigraphic data alone, but the detail in some of the inscriptions also sheds light on a number of aspects of the German fleet. The inscriptions from Bonn and the Brohltal show that the tasks of the CLASSIS GERMANICA

¹³⁶⁴ Starr (1993), pp. 146&149.

¹³⁶⁵ See pp. 189&190 above.

¹³⁶⁶ CIL XIII, 7941; see Appendix IV.

¹³⁶⁷ See Appendix IV.

¹³⁶⁸ Starr (1993), p. 149.

included the supply (and presumably transport) of stone from quarries in *Germania Superior* to sites in *Germania Inferior*. Interestingly, the data from Bonn puts this in a purely civilian context, while the fact that work in the Brohl valley was carried out by vexillations from units across the *exercitus Germaniae Inferioris* appears to indicate central military planning. As such, the latter work may have to be seen in connection with the rebuilding in stone of various forts along the Rhine in Lower Germany.

The epigraphic evidence for the CLASSIS GERMANICA furthermore contains several references to the structure of this fleet. While Starr argued that the reference to a *nauarchus* at Cologne implies that the German fleet had several independent squadrons, this cannot be assumed as his model of the command structures of Roman fleets remains unproven¹³⁶⁹. Two of the inscriptions discussed above, as well as CIL XIII, 8250, which does not mention the CLASSIS GERMANICA by name, refer to *pleromata*. As CIL XIII, 7681 refers to a *pleroma Cresimi*, while AE 1956, 249 refers to a *pleroma Euhodi nauarchi*, *pleromata* evidently were subdivisions of the CLASSIS GERMANICA. Starr interpreted *pleroma*, transliterated from the Greek *πληρωμα*¹³⁷⁰, to mean ‘transport vessel’ and refer to the ships used to transport stone from the Brohltal quarries¹³⁷¹. In view of the original meaning of the Greek term, however, it appears more likely that *pleroma* simply denoted a vessel’s entire crew¹³⁷². Both interpretations, however, mean that in view of AE1956, 259’s reference to a *pleroma Euhodi*

¹³⁶⁹ See discussion in Chapter I, p. 13 above. It is interesting to note, however, that the inscriptions clearly show that the CLASSIS GERMANICA had both *nauarchi* and *trierarchi* amongst its personnel. While their precise relationship to one another cannot be ascertained from the data at hand, the fact that the quarrying details both at Bonn and in the Brohl valley were commanded by *trierarchi* and *centuriones* respectively, while the only attested *nauarchus* is known from Cologne, may speak against the theory that the latter held a higher command. Surely any detachments of the fleet would have been commanded by *nauarchi*, had these indeed been the commanders of fleet squadrons, as suggested by Starr.

¹³⁷⁰ Listed in Liddel & Scott as meaning *a full measure*, or “3. of ships, *a full number*, Hdt., Eur.; of single ships, *their complement*, Thuc., etc.”.

¹³⁷¹ Starr (1993), pp. 147.

¹³⁷² This would make sense of both the phrase *pleroma Cresimi* and *pleroma Euhodi nauarchi*, as the genitive is frequently used in this way to denote attachments to centuries in the remainder of the Roman army (e.g. AE 1929, 40 [*Isca/Caerleon*]: COHORS X / CENTVRIAE FLAVI IVLINI).

nauarchi, a *nauarchus* must have been in charge of a single ship rather than an entire squadron, as had been suggested as the role of *nauarchi* by Starr¹³⁷³.

If the CLASSIS GERMANICA presence in the Brohl valley was the result of a temporary command to quarry stone, the distribution of inscriptions related to the German fleet becomes even more interesting. As the inscription from Trier has been shown to have no direct bearing on the geography of the CLASSIS GERMANICA, all remaining finds of epigraphic data related to the fleet are located in *Germania Inferior*, reflecting similar conclusions reached on the Danube. In contrast to observations on the Danube, the epigraphic record of the German fleet is clearly sufficient to enable detailed statements on the history and development of this fleet. It does not, however, provide a complete understanding of the CLASSIS GERMANICA, as implied by early scholars of the Roman fleets¹³⁷⁴.

Tiles stamped by the CLASSIS GERMANICA (Fig. 4.23)

Fig. 4.23 shows that tiles stamped by the CLASSIS GERMANICA formed the basis of many studies that identified stations of the German fleet, as 27 of the original 35 sites studied are represented. The spread of individual stamped tiles throughout the entire province of *Germania Inferior* and two sites in *Germania Superior*, however, makes it unlikely that all of these sites actually served as bases of the German fleet. The province-wide distribution of building materials provided by military units is a particular phenomenon of *Germania Inferior* and must be seen in view of the fact that the region covered by this province does not contain any natural stone deposits¹³⁷⁵. As such, *Germania Inferior* reflects some of the ideas about the possibility of a centralized supply of building materials that has been voiced with regard to the

¹³⁷³ Indeed, this appears to actually verify the theory that the ranks of *nauarchus* and *trierarchus* were interchangeable and both denoted captains of vessels as suggested by Sander (1957), pp. 354.

¹³⁷⁴ See note 898 above.

¹³⁷⁵ See discussion of the Brohltal quarries, p. 194 above. On the distribution of military tilestamps in *Germania Inferior* see Schmitz (2002); Hanel (1998); Kaiser (1996). For a discussion of the CLASSIS GERMANICA's role in such models see Koenen (2000), pp. 402-414.

lower Danube above¹³⁷⁶. The idea of such a central organisation for the military provision is furthermore supported by the frequent occurrence of EX GERM INF (*exercitus germaniae inferioris*) stamped tiles in the province during the 1st century AD¹³⁷⁷. As individual stamped tiles must therefore be seen as part of a centrally organized supply of building materials, rather than being indicative of any permanent fleet base, the number of sites that have produced interpretable amounts of stamped tiles is reduced significantly¹³⁷⁸.

The precise numbers of stamped tiles from Leiden (5), Walcheren (15) and Rijmenam (23) have not been published, making it unclear whether the data from these sites represents individual shipments of building supplies or more direct influence. The general occurrence of stamps throughout the Dutch delta region may speak for a general fleet presence in the region around Walcheren, but cannot constitute proof for such a theory. The inland site of Rijmenam, on the other hand, is unlikely to be linked to the CLASSIS GERMANICA as the identification of most tiles is not secure and no Roman features are known from the site¹³⁷⁹. While Leiden, located on the Rhine and the *fossa Corbulonis*, may well have been reached by the German fleet, the small number of CGPF stamped tiles cannot be evidence for a fleet base in view of the significant numbers of tiles stamped by other units found at the site¹³⁸⁰.

As three or four CGPF stamped tiles have been found at Xanten (20), it has frequently been identified as a fleet base. In view of the fact that the inscription from Bonn discussed above clearly states that the CLASSIS GERMANICA was involved in the provision of building materials for work at *Colonia Ulpia Traiana*, however, this relatively small number of tiles

¹³⁷⁶ See p. 133 above.

¹³⁷⁷ Bechert & Willems (1995), pp. 20-23.

¹³⁷⁸ As all sites that produced only individual stamped tiles may be discounted in view of the arguments above, the following sites do not need to be discussed in detail: Velsen (1), Uitgeest/Dorregeest (2), Valkenburg (4), Zwammerdam (6), Vechten (10), *Levefanum* (11), Goedereede/Oostdijkerpolder (14), Oostvoorne (16), Naaldwijk (17), Vlaardingen-Aalkeet (18), Nijmegen (19), Rumst (22), Maastricht (25), Jülich (26), Aachen (28), Brohlthal (30), Andernach (31). See also Schmitz (2002), pp. 358-359, who identifies that the general distribution of CGPF stamped tiles cannot be related to operations of the fleet directly.

¹³⁷⁹ See p. 182 above.

¹³⁸⁰ It is merely unclear whether one, or 'several' CGPF stamped tiles were found at the site. See also discussion on pp. 156&157 above.

must be viewed as part of this supply, especially, as all three/four tiles appear to be of the same type¹³⁸¹.

The six stamped tiles identified at Katwijk (3) may indicate the supply of building materials over a period of time. As they have been found amongst tiles stamped by several other units and epigraphic data seems to indicate a COHORS I RAETORVM as garrison of the site, however, they cannot be used to suggest a fleet base¹³⁸².

Despite their number, the 15 CGPF stamped tiles found at Bonn (29) cannot be taken as evidence of a fleet base at the site. Excavations have shown that they were all built into the same *fabrica*. While the evidence from Bonn proves that the CLASSIS GERMANICA still produced CGPF stamped tiles in the late 2nd/early 3rd century, the fact that all tiles were built into one structure clearly shows that they were part of a single batch of building materials¹³⁸³.

Although the 20+ tiles from *Forum Hadriani* (12) appear to indicate direct fleet involvement at the site, their number must be viewed in the context of the site: Voorburg-Arentsburg has produced not only several EX GERM INF stamped tiles, placing it in any central supply network of building materials as suggested above, but also 218 tiles stamped by units from all over *Germania Inferior*. As the site furthermore appears to have been a civilian settlement, the presence of CGPF stamped tiles must be seen as part of the general supply of building materials, rather than as proof of a fleet presence¹³⁸⁴.

While the four tiles from Loosduinen-Ockenburg (13) are in different styles, indicating supply over an extended period, they are surface finds and have not been associated with any Roman structures. As such, they cannot be used in attempt to identify stations of the CLASSIS GERMANICA. The five tiles with different styles of stamp from Neuss (24), however, are highly interesting. All five tiles probably indicate a general supply of building materials by

¹³⁸¹ On the inscription discussing CLASSIS GERMANICA activity in the context of work at Xanten see pp. 178&193 above.

¹³⁸² See p. 152 above.

¹³⁸³ See p. 192 above.

¹³⁸⁴ See p. 167 above.

the fleet rather than a naval presence as Neuss was clearly occupied by LEG VI VICTRIX from AD 69 onwards, but the four *CLASIS* stamped tiles from this site are remarkable as their contexts show that they were used in structures of the late 1st century AD¹³⁸⁵.

The *CLASIS* stamped tiles from Neuss must be seen in connection with the 140+ stamped tiles that have been found at Cologne.¹³⁸⁶ While there can be no doubt that the fleet maintained a base at Cologne-Alteburg in view of the sheer number of tiles from this site, the evidence is even more interesting in view of the different stamp styles represented: Cologne produced not only CGPF stamped tiles in various types, but also *CLASIS* and CAG stamps¹³⁸⁷. The traditional interpretation of these different acronyms was that the fleet initially used the CAG stamp, and began to use CGPF stamps in AD 89; *CLASIS* stamps were believed to date to the late Roman period¹³⁸⁸. While there is not enough associated evidence for a precise dating of different acronyms on fleet tiles, data including the *CLASIS* tiles from Neuss has forced a revision of this theory: the *CLASIS* stamps, dated to the late 1st century at Neuss and to pre AD 69 at Cologne¹³⁸⁹, actually appear to be the earliest fleet stamps, as CAG stamped tiles are found throughout early Domitianic layers at Cologne-Alteburg¹³⁹⁰. As CGPF stamped tiles clearly come into existence after AD 89¹³⁹¹, Hanel has therefore suggested that the use of CAG stamps, and hence the honorific AVGVSTA may indeed, as initially suggested by Starr, date to the early Flavian period, and probably the reign of Vespasian¹³⁹².

Despite the difficulties of interpreting stamped tiles in *Germania Inferior*, tiles stamped by the CLASSIS GERMANICA can not only help to identify a naval base at Cologne-Alteburg, but actively affect the current understanding of the fleet's early history. They

¹³⁸⁵ See pp 183&184 above.

¹³⁸⁶ See p. 189 above.

¹³⁸⁷ Böcking (1987), pp. 101.

¹³⁸⁸ See p. 141 above.

¹³⁸⁹ This rests on their association with tiles stamped by LEG V ALAVDAE at the site of Cologne Feldkassel; see Hanel (1998), pp. 405.

¹³⁹⁰ Hanel (1998), pp. 406

¹³⁹¹ See p. 141 above.

¹³⁹² Hanel (1998), pp. 406

cannot, however, be used as indicators of a series of fleet bases along the Rhine and North Sea coast, as suggested by Starr¹³⁹³.

Direct evidence for naval activity (Fig. 4.24)

The distribution of archaeological finds related to naval activity as shown on **Fig. 4.24** reflects the importance of the Rhine for supply and general fleet movements during the Principate, as every other site on the Rhine studied appears to have had a harbour. This does question, however, to what extent such evidence implies the presence of a fleet, as the CLASSIS GERMANICA must have been at least legion-size in order to permanently control nine stations on the Rhine.

The remains of the alleged Roman harbour at *Antunnacum* (31) cannot be proven archaeologically, as theories of its existence are merely hypothetical and solely based on the existence of an old Rhine arm that may have created a natural harbour and in which a late Roman wall was found¹³⁹⁴. Despite several attempts, including geophysical research, no harbour has yet been located at the CLASSIS GERMANICA base in Cologne-Alteburg (27). The identification of several walls in the area of the river bank that is supposed to have been the site of the Roman harbour may, however, prove the existence of harbour installations, as large-scale rescue excavations are currently taking place in the area. These have, amongst other finds, already led to the discovery of a Roman ship, which has currently not been studied in enough detail to enable definite statements regarding its date or function¹³⁹⁵. While Morel has been trying to prove the existence of a harbour at Haltern (21) for the last twenty years, no conclusive proof for this has yet been presented. At present, its identification as a naval base rests on the hypothesis that ship-sheds existed in the 'Hofestatt' fort. While the argument that the structures in question actually are ship-sheds has several flaws, the

¹³⁹³ Starr (1993), p. 150

¹³⁹⁴ See p. 195 above.

¹³⁹⁵ See pp. 187-189 above.

existence of features identified as ‘slipways’ cannot at present be explained in any other way¹³⁹⁶. Even if a naval base existed at Haltern, however, there is no evidence that the CLASSIS GERMANICA ever reached the site. This does, in fact, seem highly unlikely as the site ends between AD 9 and 16, a time for which, as yet, there is no proof that the German fleet even existed.

A complex harbour with several phases has been proven to have existed at one of the sites of ancient Velsen (1), but the discussion of the site is not without problems. Numerous military equipment finds support the identification of Velsen I as a military site. Whether ship-sheds ever existed at the site, however, is less clear, as the same problems as at Haltern apply. As the site was abandoned around AD 39, any association of the harbour at Velsen I with the CLASSIS GERMANICA would necessitate the fleet’s existence under Tiberius or Caligula. Finds from Velsen II indicate a further possible naval presence at this later site, but as excavations have focussed on earlier Velsen I, not enough data is currently available to identify either as a CLASSIS GERMANICA base¹³⁹⁷.

Although there is evidence for a 1st-3rd century military presence at Woerden (7), no fort has been found. The substantial reinforced riverbank that existed at the site from the Flavian period onwards has nonetheless been interpreted as related to the fort. Ongoing discoveries of Roman ships of the *Prahm* type clearly indicate that the site was supplied mainly from the Rhine, but give no indication that it was used by the CLASSIS GERMANICA¹³⁹⁸. Supply by river is also indicated by the harbour facilities identified at Vechten (10), which existed from the Tiberian period onwards. The discovery of a ship further underlines that this site was an important naval base. Although interpretation of the ship is difficult, it appears to have been a transport, rather than military vessel¹³⁹⁹.

¹³⁹⁶ See p. 181 above.

¹³⁹⁷ See p. 150 above.

¹³⁹⁸ See pp. 160&161 above.

¹³⁹⁹ See p. 164 above.

Only at Zwammerdam (6) and Xanten (20) may a CLASSIS GERMANICA presence be suggested on the basis of archaeological evidence, if seen in the context of the discussions above. Neither of these sites, however, appears to have served as a permanent base. Zwammerdam had a reinforced riverfront that was evidently used for docking ships. It was built in the Flavian period and was important enough to be relocated twice due to river changes. Six ships discovered in the harbour further attest the naval importance of Zwammerdam. As these have not been dated accurately, their interpretation as late 2nd/early 3rd century vessels rests on the hypothesis that they brought stone for the rebuilding of *Nigrum Pullum* which has been dated to around or after AD175. While the wood they are made from indicates that they may have been felled in *Germania Superior*, there is no direct evidence for their association with the CLASSIS GERMANICA. In view of the discussion of quarrying in the Brohltal above, however, the ship remains from the Zwammerdam vessel may well have to be seen in connection with a vexillation that involved the German fleet¹⁴⁰⁰. Xanten had major harbours from the Claudian period to around AD 175. There is no evidence, however, that these were used by the CLASSIS GERMANICA other than Bridger's current interpretation that an enclosed area with signs of metalworking may have served as a construction camp while the fleet was engaged in building activity at the *colonia Ulpia Traiana*, as discussed above¹⁴⁰¹. The two ships found at Xanten show that the harbour was in operation in the late 1st and early 3rd century, but do not indicate any military use. While it is likely that the German fleet used the harbour at Xanten temporarily whilst working at the site, there is nothing in the archaeological record to suggest a permanent base at the site¹⁴⁰².

The early harbour at Valkenburg Woerd (4) may have been associated with the building of a fort at the site, but as it was soon built over it cannot have served as a naval base. A larger harbour at the Marktveld site may have served as a supply base in the second half of

¹⁴⁰⁰ On the remains from Zwammerdam see pp. 158&159 above, on quarrying in the Brohl valley see p. 194 above.

¹⁴⁰¹ See p. 175 above.

¹⁴⁰² See p. 177 above.

the 1st century AD. From the early 2nd century onwards, however, it appears to have been associated with a civilian settlement, rather than any military use¹⁴⁰³.

The harbour at Bonn (29) has never been studied in detail, but is clearly visible at low river levels. As there is no evidence to suggest the presence of the CLASSIS GERMANICA, it appears likely that these harbour remains are related to the legionary fortress at the site. It cannot be identified, however, whether the harbour was used for supply or if the legion based at Bonn maintained a naval detachment. A legionary naval detachment is, however, suggested by the various remains indicating naval activity at Mainz (35). These include three identified Roman harbours, as well as several finds of Roman ships. Only one of the three harbours has actually been studied and published in detail, and appears to have been used from the Flavian period to the 4th century. While two cargo barges of the Zwammerdam type that date to the 1st century AD do not indicate military use of the harbour, a naval presence is clearly indicated by the 4th century patrol vessels that have been found in the 'Am Brand' area of Mainz, as well as several indicators that LEG XXII PRIMIGENIA was involved in naval activity¹⁴⁰⁴.

While the work of Dutch and German archaeologists has uncovered a staggering amount of archaeological evidence for naval activity on the Rhine, it is clear that relatively little of it can actually be connected to the CLASSIS GERMANICA. Indeed, the data above suggests primarily that harbour facilities associated with forts on the Rhine formed integral parts of their garrison's supply chain, rather than being evidence for a series of evenly spaced fleet bases, as suggested in current literature¹⁴⁰⁵.

Evaluation of evidence for the CLASSIS GERMANICA (Fig. 4.25)

In contrast to the results of both Danube fleet studies above, the plot of data related to the CLASSIS GERMANICA (Fig. 4.25) is not far removed from that of fleet bases as identified in

¹⁴⁰³ See pp. 154&155 above.

¹⁴⁰⁴ See pp. 201-203 above.

¹⁴⁰⁵ Konen (2000), pp. 351-369; Starr (1993), pp. 147-150.

current scholarship (Fig. 4.2), as only two sites currently associated with the German fleet produced no evidence for this unit. The maps clearly reflect the earlier impression that the majority of sites currently associated with the CLASSIS GERMANICA are identified on the basis of insufficient evidence such as individual stamped tiles or harbour installation that cannot be conclusively proven to have existed. Nonetheless, the survey identifies eight potential fleet bases, as well as three sites that produced evidence not directly related to the fleet.

Trier (33) can clearly be disregarded in any further discussion on the basis of its epigraphic evaluation above. The data from Vleuten de Meern (8) and *Mogontiacum* (35), however, indicate that units other than the CLASSIS GERMANICA were engaged in naval activity on the Rhine. While the epigraphic and archaeological evidence from Mainz leaves no doubt that LEG XXII PRIMIGENIA had a naval detachment, the ship-shaped stamps found on tiles of this unit not only underline this fact, but also offer an interesting parallel to those found at *Novae* on the lower Danube¹⁴⁰⁶. The presence of a COHORS I CLASSICA at Vleuten de Meern is also interesting: while little is known of this unit other than that it formed part of the *exercitus Germaniae inferioris* from AD 89 – 96, it has traditionally been suggested that it was made up from fleet soldiers¹⁴⁰⁷. This thesis must remain hypothetical, but the name suggests that the unit may well have been engaged in naval activity – despite being listed as a separate auxiliary unit from the fleet in a military diploma¹⁴⁰⁸. The existence of naval units not attached to the CLASSIS GERMANICA may also be indicated by the evidence from *Fectio* (10): as the only tangible link between this site and the CLASSIS GERMANICA is a single CGPF stamped tile, the identification of the site as a fleet base cannot be upheld in view of the above discussion of stamped tile distribution in *Germania Inferior*. As such, it is possible that the *trierarchus* identified on an inscription need not have been a soldier of the German fleet. This

¹⁴⁰⁶ See pp. 104-106 & 109-203 above.

¹⁴⁰⁷ Bechert & Willems (1995), pp. 86.

¹⁴⁰⁸ See note 1054 above. It seems that *cohortes classicae* may well have been made up from fleet soldiers as suggested by Bechert & Willems, but there is no evidence that such units would have carried out any naval duties. See also discussion of the COHORS I AELIA CLASSICA at Ravenglass, p. 237 below.

hypothesis, however, cannot be proven. The evidence from the German provinces nonetheless seems to underline the impression that Roman naval operations on the northern frontier were organized along significantly more flexible lines than hitherto believed, as indicated by the data from the lower Danube¹⁴⁰⁹.

While the evidence from the remaining eight sites is somewhat more difficult to interpret, it also offers greater potential for an understanding of fleet activity than those reached in the earlier surveys. Stamped tiles, a harbour and a CLASSIS GERMANICA inscription make Bonn (29) an ideal candidate to have been a fleet base, but the above discussions have shown that each type of evidence can be explained by temporary events. This leaves the possibility that LEG I MINERVIA may have maintained its own naval squadron. The evidence from Bonn does, however, link the site directly with Xanten (20), and gives an interesting insight into the operations of the CLASSIS GERMANICA. The inscription shows that the fleet provided stone for the building of *colonia Ulpia Traiana* which, according to data from this site, occurred in the early 2nd century¹⁴¹⁰. It may further explain the presence of several fleet stamped tiles at Xanten, but need not imply that the harbour or ships found here were related to the CLASSIS GERMANICA. The data from these sites, finally, is also evidence that the fleet was not so much engaged in regular river patrols as frequently suggested, but played a part in major civic engineering projects¹⁴¹¹.

This is also shown by the data from the Brohltal (30) and nearby Andernach (31). As the detailed evidence from these two sites is primarily epigraphic it explains the fleet's presence in the Brohltal in connection with vexillations of units from throughout *Germania Inferior*, sent to quarry stone in this area. The data from Andernach is evidently related and can therefore not be taken to identify the site as a separate fleet base. The data from this region has, however, been linked to the remains of ships and a harbour at *Nigrum Pullum* (6)

¹⁴⁰⁹ See p. 137&138 above.

¹⁴¹⁰ See pp. 174 above.

¹⁴¹¹ See discussions of Xanten, pp. 174-178 and Bonn, pp. 192-194 above.

in the Netherlands. Several observations appear to suggest that the large transport vessels from the site may have been involved in supplying the stone for the rebuilding, although this cannot be proven conclusively¹⁴¹².

A significant amount of data implies naval activity at Velsen (1), but this cannot be linked to the CLASSIS GERMANICA by any finds. In addition to this, it appears that the site ended by AD 47 at the latest¹⁴¹³. If Velsen is to be considered as a fleet base on the basis of its harbour installations – the evidence of a single CGPF stamped tile from the area can clearly not indicate a fleet base as these stamps only came into use c. 50 years after the end of the site – it must therefore be proven that the CLASSIS GERMANICA existed before AD 47. Such a conclusion can only be reached at the only positively identified permanent base of the German fleet, the fort at Cologne-Alteburg (27).

The evidence for the early phases at Cologne-Alteburg is not conclusive. While recent research has made great advances with regard to the understanding of the site, several problems remain. The earliest fort at the site is Tiberian, but it seems that more substantial fortifications that might indicate the intended long-term presence of a unit were only constructed under Claudius. As yet there is no evidence, however, to link these early phases of Cologne-Alteburg with the CLASSIS GERMANICA¹⁴¹⁴. The data from Cologne can therefore not be used to prove that Velsen was ever used as a base of the German fleet. As the Claudian construction of substantial fortifications at Cologne *may* suggest that the fleet was established under his rule, the identification of Velsen as a base of a German fleet appears unlikely in view of the large-scale *pre*-Claudian harbour installations. As such, it seems that Velsen must be seen as a naval base connected to the Augustan and Tiberian campaigns, rather than as a station of the CLASSIS GERMANICA.

¹⁴¹² de Weerd (1977), p. 196. See also p. 159 above.

¹⁴¹³ See p. 144&149 above.

¹⁴¹⁴ See pp. 185-187 above.

Although archaeological data from the early phases of Cologne-Alteburg is not conclusive, the large numbers of tiles found at the site prove that the fleet existed in the early Flavian period, when it appears to have been called CLASSIS AVGVSTA GERMANICA. The fleet may even have existed before AD 69 – if it is, indeed, to be associated with tiles stamped *CLASIS*¹⁴¹⁵. Research at Cologne has furthermore identified an interesting parallel: native pottery found throughout the CLASSIS GERMANICA fort, and usually assumed to have come there as part of the unit's supplies, originates in the southern *civitas Tungrorum*, as well as in the area between Xanten and Nijmegen¹⁴¹⁶. As such the presence of fleet stamped tiles at these sites may well be connected with the supply of the fleet as building materials could have been return cargoes on supply vessels, while smaller numbers of tiles could also have served as ballast.

As the extensive discussion above shows, the data related to the CLASSIS GERMANICA can be used to reconstruct many aspects of the German fleet's history and development. It is all the more surprising, therefore, that so many misconceptions remain. Although it is impossible to prove a negative, the fact that there is no evidence for a permanent presence of this fleet in *Germania Superior*, while its tiles are found throughout *Germania Inferior* evidently suggests that the fleet operated in the latter province – with the exception of the special quarrying detail at the Brohl valley. As such, the common theory that the CLASSIS GERMANICA controlled the Rhine up to at least *Mogontiacum*, cannot be maintained¹⁴¹⁷.

Indeed, as only a single base of the CLASSIS GERMANICA could be proven to have existed, it seems unlikely that this unit ever policed the Rhine with regular patrols¹⁴¹⁸. Even if the clustering of stamped tiles around the mouth of the Rhine is taken to suggest the existence of a further, as yet unlocated, fleet base in the *Helinium* or Meuse delta as suggested by

¹⁴¹⁵ See p. 212 above.

¹⁴¹⁶ Carroll (2001), pp. 313-315

¹⁴¹⁷ See note 918 above.

¹⁴¹⁸ Particularly so as sections of it were clearly involved in engineering work or large scale civic building projects at various points in time as discussed on p. 206 above. See also Konen (2000), pp. 348-421, who maintains that the fleet was in charge of controlling the Rhine despite its involvement in *opera publica*.

Bogaers¹⁴¹⁹, there is no evidence at all for the regularly spaced fleet stations along Rhine and North Sea coast that were proposed by Starr.

Finally, the survey above has not identified any reliable evidence for the CLASSIS GERMANICA during the Julio-Claudian period other than isolated *CLASIS* stamped tiles that appear to have existed before AD 69. Any hypotheses regarding the date that this fleet was established must therefore rest on the tenuous argument that, as it was the main garrison of Cologne-Alteburg, its creation must be linked to the earliest phases at the site. According to this thesis, the CLASSIS GERMANICA might have been a Tiberian creation, but as the evidence from Cologne does not appear to indicate a fort designed to be permanent, this probably only reflects a stage of transition. The earliest permanent fort of substance is Claudian, suggesting that the actual CLASSIS GERMANICA may have been established under this emperor. While this thesis is largely hypothetical and cannot be taken as evidence that the German fleet was a Claudian creation, there is clearly no evidence that this unit was involved in the Augustan occupation and Tiberian campaigns, as has frequently been suggested¹⁴²⁰.

¹⁴¹⁹ Bogaers (1974), pp. 78. This suggestion, however, is problematic in view of the general distribution of CGPF stamped tiles throughout the province of *Germania Inferior* as discussed above.

¹⁴²⁰ See pp. 140&141 above. See also discussion of Saddington's similar conclusion on pp. 19&20.

CHAPTER V

THE CLASSIS BRITANNICA

V.I INTRODUCTION

The CLASSIS BRITANNICA is probably the most studied of the four fleets under investigation. This is not to say, however, that it is the most understood. Starr suggested that as Britain was an island province, its very existence necessitated a fleet for its administration. He linked the establishment of the British fleet to Caligula's attempted invasion of Britain, arguing that the ships used in AD 40 formed the nucleus of Claudius' invasion fleet and, therefore, the CLASSIS BRITANNICA. He suggested that fleet operations were limited to the English Channel, and that its headquarters were located at Boulogne in France¹⁴²¹.

A more anglo-centric view of the CLASSIS BRITANNICA developed in the late 1960s with Cunliffe's publication of a long article on the British fleet which argued that the CLASSIS BRITANNICA was instrumental in Rome's conquest of Britain, as it provided logistical support for the entire campaign and maintained supply bases throughout the British Isles¹⁴²². This gave rise to the by now established opinion amongst many British scholars that the fleet was a support unit for the land based army and operated along all coasts of *Britannia*¹⁴²³. Cunliffe furthermore argued against Starr that the headquarters of the CLASSIS BRITANNICA were located at Lympne in Kent¹⁴²⁴. While the discovery of a clearly fleet related fort at Dover in the 1970s led this theory to be revised, in so far as the main base of the British fleet was

¹⁴²¹ Starr (1993), pp. 152&153.

¹⁴²² Cunliffe (1968), pp. 255.

¹⁴²³ Mason (2003), pp. 105; Milne (2000), 127; Allen & Fulford (1999), pp. 178-181; Salway (1981), Cleere (1977). Mattingly (2006), pp. 129 suggests instead that the CLASSIS BRITANNICA had detachments in all Channel ports to oversee customs duties. A notable exception amongst such studies is a recent, more critical, assessment by Rankov, who states that there is no evidence that the CLASSIS BRITANNICA developed out of Claudius' invasion fleet, as suggested by Starr, or that it was ever used in a support role (see Rankov [2005], pp. 62-64).

¹⁴²⁴ Cunliffe (1968), pp. 257. Cunliffe's article revived interest in the British fleet amongst scholars in this country, which led to the publication of several articles on the CLASSIS BRITANNICA. Most prevalent amongst these was the association of the British fleet with the Saxon Shore Forts (e.g. Cleere [1978], pp. 38), which in turn led to the identification of fleet bases throughout Britain as well as its being firmly linked to both the Flavian and Severan campaigns in Scotland on the basis of circumstantial evidence (Cleere [1977], pp. 16&17; for expanded variants of these theories see Mason [2003]; Milne [2000]; Salway [1981], pp. 528-530; Fryer [1973]).

henceforth presumed to have been located at Dover, the thesis that the CLASSIS BRITANNICA was based in Britain remained popular amongst the majority of British scholars¹⁴²⁵.

This typifies one of the main difficulties in traditional scholarship of the CLASSIS BRITANNICA: it is divided into a predominantly 'British' interpretation, which sees the fleet at the heart of developments in *Britannia* and postulates that it was a large unit that maintained several naval stations throughout the province, and a mainly 'French' view that sees it as a naval unit based in *Gallia Belgica* which operated mainly in the Channel and maintained a secondary station at Dover¹⁴²⁶. While French scholarship has primarily been limited to researching the Roman period at Boulogne in the *Pas de Calais*, British historians and archaeologists have recreated numerous histories of the CLASSIS BRITANNICA, most of which are based on limited evidence¹⁴²⁷. As such, the CLASSIS BRITANNICA may be the most studied of the northern provincial fleets, but is probably one of the least understood: the majority of studies that present complete histories of the British fleet and its importance are based on little or no evidence, while research that deals with data related to the fleet does not generally attempt to put this information into a wider historical context¹⁴²⁸.

A recent article by Rankov has called a number of traditionally assumed theses in question in that he suggested a much smaller CLASSIS BRITANNICA with a significantly more

¹⁴²⁵ For the CLASSIS BRITANNICA fort at Dover see Philp (1981); Breeze (1983); see also Rigold (1969); Wheeler (1929). For historical accounts of the British fleet that assume its headquarters to have been in Britain see Mattingly (2006), pp. 138; Salway (1981), pp. 529; Cleere (1978), pp. 37; Cleere (1977), Reed (1975), pp. 320; Dove (1971); also Cunliffe (1968), pp. 257.

¹⁴²⁶ Guillerm (1993); Reddé (1986), pp. 427&428; that this theory may actually lie closer to the truth is suggested by more recent work in Britain, which generally accepts that the main base of the CLASSIS BRITANNICA was at Boulogne (e.g. Rankov [2005], pp. 65; Mason [2003], pp. 11).

¹⁴²⁷ For research at Boulogne, see Dhaeze & Seillier [2005]; Demon [2004]; Seillier [1996]; Seillier [1995]; Belot & Canut [1993]; le Bourdellès [1988]; Seillier [1986]; Seillier [1984]; Delmaire [1978]; Gosselin & Seillier [1981]; Gosselin et al [1976]. For 'British' histories of the CLASSIS BRITANNICA see Mason (2003); Milne (2000); Allan & Fulford (1999), pp. 178-181 as well as references in note 1423 above. British research did include major projects into tiles stamped by the fleet that included detailed petrographic analyses, in which French and British scholars worked closely together; see Brodrribb (1980); Peacock (1977); Brodrribb (1969). See also Fig. 5.1 for typical stamps used to denote tiles manufactured by the fleet.

¹⁴²⁸ Notable exceptions are Seillier & Gosselin (1973) and relevant chapters of Reddé (1986).

limited area of operations than hitherto believed in British scholarship¹⁴²⁹. Nonetheless, it appears that the prevalent opinion amongst British scholars, despite a degree of acceptance that some presently held theories cannot be maintained in view of overwhelming contrary evidence, still is that the CLASSIS BRITANNICA was a major unit that controlled numerous bases around the British mainland¹⁴³⁰ (Fig. 5.2).

As the current view of the CLASSIS BRITANNICA and its history and development is largely the result of decades of historical speculation, it is hardly surprising that important facts regarding its existence remain unclear. The creation of this fleet, for example, argued to have occurred under Caligula by Starr, is by no means agreed on. While it has been suggested that the CLASSIS BRITANNICA may have been established in the course of Caesar's invasions in the 50s BC, most scholars associate it with the Claudian invasion of AD 43¹⁴³¹, although to date there is no evidence to prove this theory.

In view of all these problems in the current understanding of the CLASSIS BRITANNICA, it is clear, therefore, that it is necessary to reassess the sites commonly identified as bases of the fleet (Fig. 5.2) in order to establish which of the above theories can actually be maintained on the basis of reliable archaeological data, as discussed in Chapter I.

¹⁴²⁹ Rankov (2005), pp. 65&66 argues that the CLASSIS BRITANNICA consisted of little more than 4000 men, and as such is likely to have served mainly to ensure communications between *Britannia* and the continent and as an official transport service between Boulogne and Dover.

¹⁴³⁰ While in the 1980s, Salway (1981), pp. 529 was able to maintain that the 1ha CLASSIS BRITANNICA fort at Dover was the main base of this fleet as the 12.45ha (!) fort at Boulogne was indicative only of "a small detachment supervising transshipment of goods to Britain", recent research on the fleet has accepted that the overwhelming evidence from Boulogne (see below, pp. 273-276), as well as the fact that the fort is 12 times the size of that in Dover, must indicate that this is where its headquarters were located; see Mason (2003), pp. 11; Milne (2000), pp. 127. Both of these studies, as well as Allen & Fulford (1999), pp. 178-181 do, however, maintain that the CLASSIS BRITANNICA also had several bases throughout Britain and was mainly a supply and support unit for the remainder of the army. As argued by Rankov (2005), pp. 63-64, however, there is no evidence for this.

¹⁴³¹ For the fleet's establishment under Caesar see Guillermin (1993). While Reed (1975), pp. 322 uses the Florus passage traditionally taken to imply the existence of the CLASSIS GERMANICA to argue that the CLASSIS BRITANNICA must have existed in 12 BC (see also pp. 140&141 above), most studies of the fleet suggest that the fleet was established either for the invasion in AD 43, or out of the ships used for it (see Mason [2003], pp. 105; Milne [2000], pp. 127; Reddé [1986], pp. 493; Cleere [1977], pp. 16&18). Others ignore the problem entirely, assuming merely that the CLASSIS BRITANNICA existed by the time of the Claudian invasions (e.g. Grainge [2002]; Frere & Fulford [2001], pp. 47; Black [2000], 7-9). Rankov (2005), pp. rightly identifies that the earliest direct reference to the CLASSIS BRITANNICA actually is Tacitus, *Historiae* IV, 79 who describes that in AD 70 Civilis was worried about the Batavians being harried by *quarta decima legio adiuncta Britannica classe*. Any suggestion of the fleet's existence pre AD 70 must therefore remain hypothetical unless supported by archaeological data.

V.II SITES

1. ? (Cramond)¹⁴³²

Cramond is located at the mouth of the river Almond on the southern shore of the Firth of Forth¹⁴³³. In the Roman period, the strategically important position, guarding a small estuary to the east of the Antonine Wall, was secured by a fort of 1.92ha. This was fortified with a series of defensive ditches, and has been excavated in the 1970s and been the object of several small scale rescue excavations in recent years¹⁴³⁴. Numismatic evidence has shown that it was occupied during the Antonine and the Severan period¹⁴³⁵. The Roman fort at Cramond has a fortified annexe to its east, which lies between the fort itself and the sea. Excavations in this area have identified a significant amount of industrial activity during the early 3rd century¹⁴³⁶. Aside from these finds, there is evidence for an extensive civilian settlement at the site¹⁴³⁷.

It has frequently been suggested that Roman Cramond had a significant harbour, located on the east bank of the river Almond¹⁴³⁸. Nothing is known of this harbour today, as its identification is based on the observation of “a substantial mole” by Sibbald in the early 18th century¹⁴³⁹. While contacts via the sea must have existed, as some wells at the site are constructed from wood that is unavailable locally and highly unlikely to have been brought in overland, there is no actual evidence for any harbour facilities at the site¹⁴⁴⁰.

A naval presence has been associated with Cramond because of the assumption that it was one of the bases in Agricola’s fleet activity in Northern Britain. This rests on the

¹⁴³² Site numbers in this chapter correspond with those used in the distribution maps, Figs. 5.2, 5.18, 5.19, 5.20, 5.21

¹⁴³³ Holmes (2003), pp. 1.

¹⁴³⁴ Masser (2006), pp. 17; see also Rae & Rae (1974), pp. 163. The large scale excavations of the early 1970’s are published in Rae & Rae (1974), for reports on recent work see Masser (2006) and Holmes (2003).

¹⁴³⁵ Birley & Davies-Pryce (1938), pp. 145; Birley (1932), pp. 58.

¹⁴³⁶ Masser (2006), pp. 3; Holmes (2003), pp. 3.

¹⁴³⁷ Keppie (1982), pp. 106 with further references.

¹⁴³⁸ Mason (2003), pp. 133; Tatton-Brown (1980), pp. 342; Hind (1974), pp. 285; Rae & Rae (1974), pp. 164.

¹⁴³⁹ Sibbald, R. (1707).

¹⁴⁴⁰ See Holmes (2003), pp. 154 for an extended argument.

discovery of a number of Republican coins at the site, which were only in circulation until the late Flavian period¹⁴⁴¹. A recently discovered pre-Antonine system of ditches seems to support the hypothesis of a (possibly temporary) Flavian fort at Cramond¹⁴⁴². There is no evidence, however, to support the site's identification with Tacitus' *Portus Trucculensis* that has been proposed in the past¹⁴⁴³.

Several units are attested epigraphically at Cramond, but the precise history of the fort's occupation remains unclear. While it seems that LEG II AVG was involved merely in the construction of the fort, rather than ever being garrisoned here, the main garrison in the Antonine period seems to have been COH II TVNGRORVM¹⁴⁴⁴. The main problem in identifying a garrison for Cramond is that the actual occupation phases of the fort are not clear. While it used to be assumed that there were two separate Antonine occupations, as well as a Severan one, recent excavations have shown that there was only one Antonine phase and that there was no interval between this and the Severan occupation¹⁴⁴⁵. Recently discovered evidence furthermore indicates that the site was occupied well beyond the Severan period¹⁴⁴⁶. It does seem, however, that in the Severan period the Roman occupation focussed on the annexe to the east of the fort, where there are clear indicators of industrial activity in the form of metal working and grain drying/roasting. The defences of the fort itself were no longer maintained in this period¹⁴⁴⁷. This has led Masser to suggest that the site may have been used as a supply base for the Severan campaigns in Scotland.

The common assumption of a Roman harbour at Cramond, while based on an early 18th century source, seems plausible in view of imported wood, the site's suitable location as a supply base for the eastern part of the Antonine wall and its possible use as a base during both

¹⁴⁴¹ MacDonald (1919), p. 135.

¹⁴⁴² Masser (2006), p. 17.

¹⁴⁴³ Hind (1974), pp. 285&286, see also Frere (2001) with an extended discussion showing why any such identification must remain unlikely.

¹⁴⁴⁴ See RIB 2137; Jarrett (1994), p. 49; See also Holmes (2003), p. 154.

¹⁴⁴⁵ Holmes (2003), p. 1, Hodgson (1995), pp. 39&44; for earlier interpretations see Rae & Rae (1974), p. 163

¹⁴⁴⁶ Masser (2006), p. 17.

¹⁴⁴⁷ Masser (2006), p. 17.

the Flavian and Severan campaigns in Scotland. There is no reliable evidence for such a harbour, however, and nothing in the historical or epigraphic record suggests a presence of the CLASSIS BRITANNICA, making the suggestion that the site may have been a permanent fleet base mere conjecture¹⁴⁴⁸.

2. BANNA/CAMBOGLANNA? (Birdoswald)

Birdoswald is situated about 25km east of Carlisle, astride Hadrian's Wall¹⁴⁴⁹. The fort has been excavated in the late 19th century and the 1920s/30s. The largest scale excavations which produced the most interesting data, however, took place from 1987 – 1992 and were supplemented by several geophysical surveys in 1997¹⁴⁵⁰.

While it is clear that there was at least one pre-Hadrianic fort at the site, its size and history are currently not understood¹⁴⁵¹. In the Hadrianic period an earth and timber fort was constructed astride the wall. Shortly after its completion, however, it was enlarged and rebuilt in stone. It has been established that this construction took place between AD 123 and 125¹⁴⁵². After a brief occupation, the fort at Birdoswald was purposefully abandoned. It was reoccupied in the early 3rd century, at which point major reorganisation of the interior, particularly the *horrea*, occurred¹⁴⁵³. Further changes to the fort can be identified in the mid 4th century, marking the beginning of post-Roman occupation that can be traced well into the 7th century¹⁴⁵⁴.

More than 62 inscriptions have been discovered at and around Birdoswald, including a building inscription that indicates that the fort was constructed by troops from the 2nd and 6th

¹⁴⁴⁸ Mason (2003), pp. 139&140, 155.

¹⁴⁴⁹ Biggins et al. (1999), p. 91.

¹⁴⁵⁰ Wilmott (2002), p. 851; Wilmott (1996), p. 93; for the geophysical surveys and a brief summary of previous work at the site see Biggins et al. (1999), pp. 93&94.

¹⁴⁵¹ Wilmott (2002), p. 851; Biggins et al. (1999), p. 92.

¹⁴⁵² Biggins et al. (1999), p. 92.

¹⁴⁵³ Wilmott (2002), p. 852; Biggins et al. (1999), p. 92.

¹⁴⁵⁴ Biggins et al. (1999), p. 93.

legions¹⁴⁵⁵. Various other units are attested, but the majority of inscriptions refer to COH I AELIA DACORVM, which appears to have been the main garrison of the fort¹⁴⁵⁶. Amongst the inscriptions are two inscribed building stones associated with the CLASSIS BRITANNICA which have been taken as evidence for a prolonged fleet presence at Birdoswald¹⁴⁵⁷. The first, observed in the castle at Triermain in 1604, reads PED CLBRIT while the second, now located in the Carlisle Museum, is marked PED CLA BRI¹⁴⁵⁸. Both indicate sectors of the wall that were evidently built by the British fleet. It is not clear which stretches of wall the CLASSIS BRITANNICA built as neither inscription was found in its original location. It is impossible to use these slabs to argue for a prolonged fleet presence at Birdoswald. The evidence indicates nothing but a short term detachment involved in the construction of Hadrian's Wall, besides which the remainder of epigraphic material from the site shows that the fort was garrisoned in the long term by COH I AELIA DACORVM.

3. CONDERCUM (Benwell)

The fort at Benwell is situated on a level hilltop dominating the Denton Burn to its West¹⁴⁵⁹. As the site is covered by a modern suburb of Newcastle, the current understanding rests on historical evidence and a series of excavations carried out from 1926-37¹⁴⁶⁰. As it was impossible to study the entire fort during these investigations, a number of questions remain. The size of the fort, for example, is not clear, with the most recent studies suggesting 170 x 120m (2.06ha)¹⁴⁶¹.

In most respects *Condercum* appears to have been a regular fort on Hadrian's Wall, constructed between AD 122 and 126 and following the usual Hadrianic playing card-shaped

¹⁴⁵⁵ RIB 1916.

¹⁴⁵⁶ E.g. RIB I, 1875, 1883, 1885, 1886, 1892, 1893, 1896, 1909, 1914, 1929a, 1929b.

¹⁴⁵⁷ RIB I, 1944 & 1945; see also Viereck (1996), p. 254.

¹⁴⁵⁸ This was actually found at Netherby, but is usually argued to have originated in the Birdoswald region on the basis of the building slab mentioned above, which indicates the same unit.

¹⁴⁵⁹ Breeze (2006), p. 151.

¹⁴⁶⁰ Breeze (2006), p. 151; Jones & Woolliscroft (2001), p. 91.

¹⁴⁶¹ Breeze (2006), p. 151.

design. It is remarkable though, as the fort has been shown to have guarded one of the few crossing points of the *vallum* behind Hadrian's Wall¹⁴⁶². A substantial bath complex and *vicus* with a possible *mansio* have been identified outside the fort¹⁴⁶³. A nearby temple complex, which was in use during the Roman period, was dedicated to the Celtic deity Antenocitius¹⁴⁶⁴

Of all the finds at Benwell, the focus of this study must be directed at the double granary on the *via quintana*. The portico of this structure contains a building slab with a CLASSIS BRITANNICA inscription, which has given rise to the site's being identified as a fleet base in a number of studies¹⁴⁶⁵. The inscription, which dates the building of the fort to the governorship of Platorius Nepos was set up by a vexillation of the fleet¹⁴⁶⁶.

This inscription need not, however, indicate any permanent fleet presence at the site, especially so as Benwell has been proven to have been the base of COH I VANGIONVM and ALA I HISPANORVM ASTVRVM during the 2nd century¹⁴⁶⁷. Indeed, the building of the granary under Platorius Nepos makes it likely that the inscription in question refers to a similar temporary detachment of the fleet as that discussed for Birdoswald, drafted to the north for the major building programme of the Hadrian's Wall system. As the building inscription clearly commemorates the building of a granary, it invites speculation that the CLASSIS BRITANNICA vexillation at Benwell may have been involved in setting up a supply system for the concentrated military on the new northern frontier of Britain. Such hypotheses, however, must remain speculative and be treated with great care, as they have, in the past, led to scholars identifying any military structure by the sea as a supply base run by the CLASSIS BRITANNICA¹⁴⁶⁸.

¹⁴⁶² Daniels (1978), p. 67.

¹⁴⁶³ Bidwell (1997), p. 72 & 81.

¹⁴⁶⁴ Jones & Woolliscroft (2001), p. 80; Simpson & Richmond (1941), p. 37.

¹⁴⁶⁵ Mason (2003), p. 128; Reddé (1986), p. 284.

¹⁴⁶⁶ RIB I, 1340. For further discussion see Breeze (2006), p. 154; Simpson & Richmond (1941), p. 19.

¹⁴⁶⁷ RIB 1350; see also Breeze (2006), p. 151.

¹⁴⁶⁸ E.g. Mason (2003), pp. 128ff.

4. PONS AELII (Newcastle)

As the Latin name suggests, Newcastle was an important bridging point of the Tyne in the Roman period. A bridge was constructed here as part of the frontier system of Hadrian's Wall and named *Pons Aelii* in honour of the Emperor¹⁴⁶⁹. An auxiliary fort, which lies beneath the castle keep at the heart of modern Newcastle, was established to guard the bridge¹⁴⁷⁰. Discovered in 1929, it was excavated in 1976 and 1992, but the constraints of modern urban excavations mean that a number of uncertainties remain¹⁴⁷¹: while the north wall, *principia* and a granary have been excavated and studied in detail, little else is known of the fort. Even its size is unclear, although this is estimated around 95 x 67m (0.64ha)¹⁴⁷².

Traditionally, it was believed that the fort at Newcastle was contemporary with the building of the actual bridge, and as such the earliest stages of construction of Hadrian's Wall. This was primarily based on two altars set up by LEG VI VICTRIX to Neptune and Oceanus. There are various interpretations of these altars, ranging from their commemorating the building of the bridge by the 6th Legion to the more recent suggestion by Breeze that they were set up to commemorate the safe landing of the Legion after its transfer from *Germania Inferior* for the building of the wall¹⁴⁷³.

The notion that the fort is contemporary with the bridge, however, is not supported by the evidence from excavations, which showed that an earth and timber fort was established in the Antonine period and rebuilt in stone in the later 2nd century¹⁴⁷⁴. Indeed, it would seem that the altars discussed above may also be of a later date: Breeze argues that as the dedication is

¹⁴⁶⁹ Jones & Woolliscroft (2001), p. 89; Shotter (1996), p. 60; Daniels (1978), p. 62. The bridge must have been substantial, as it remained in use until the 13th century – see Jones & Woolliscroft (2001), p. 90.

¹⁴⁷⁰ Jones & Woolliscroft (2001), p. 89.

¹⁴⁷¹ Breeze (2006), p. 145; Jones & Woolliscroft (2001), pp. 89&90.

¹⁴⁷² Breeze (2006), p. 145. This estimate is based on the assumption that the fort was rectangular. If it was polygonal, which would suit the terrain, it may have been larger. See also Jones & Woolliscroft (2001), p. 90.

¹⁴⁷³ For arguments suggesting bridge-building see Mason (2003), p. 128; Jones & Woolliscroft (2001), p. 90. See also Breeze (2006), p. 145.

¹⁴⁷⁴ Breeze (2006), p. 145; see also Jones & Woolliscroft (2001), p. 90.

situated at the very top of the altars, they should stylistically be dated to the early 3rd century – a suggestion that would complement the dates from the fort excavations¹⁴⁷⁵.

The fort at Newcastle appears to have been garrisoned by COH I VLPIA TRAIANA CVGERNORVM in the early 3rd century, as indicated by an inscription dated to AD 213¹⁴⁷⁶. In the *Notitia Dignitatum*, *Pons Aelii* is identified as base of COH I CORNOVIORVM¹⁴⁷⁷. A vicus on the south bank of the Tyne seems to have superseded the fort: while the coins series from the fort ends in 364-75, a cemetery remained in use until the early 8th century¹⁴⁷⁸.

Aside from the evident nautical associations of the dedicatory altars to Neptune and Oceanus respectively, there is nothing to indicate naval activity at *Pons Aelii*. The only such evidence is an inscription dedicated to Antoninus Pius that commemorates the departure of reinforcements sailing to the German Provinces during the governorship of Julius Verus¹⁴⁷⁹. This inscription must be seen in combination with the fact that the Herd Sands in the Tyne estuary frequently produce Roman finds such as military equipment, bronze vessels and coins, which are seen as evidence of a Roman shipwreck¹⁴⁸⁰. The coins are mainly of Marcus Aurelius, with the military equipment finds dating predominately to the later 2nd century. As a shield boss discovered here bears a graffito of LEG VIII AVG – which was based at Strasbourg – it seems possible that *Pons Aelii* may have served as a port for regular troop movements between Britain and the continent¹⁴⁸¹.

Evidence for the landing of troops at *Pons Aelii* has led to the current belief that there must have been a harbour, if not a fully established military port at the site¹⁴⁸². While this is a realistic assessment, there is no evidence to indicate that such a harbour had any long-term association with the CLASSIS BRITANNICA. Indeed, it appears that any such theses are based

¹⁴⁷⁵ Breeze (2006), p. 145.

¹⁴⁷⁶ Breeze (2006), p. 144.

¹⁴⁷⁷ Breeze (2006), p. 144; on the garrisons of *Pons Aelii* see also Jones & Woolliscroft (2001), p. 89.

¹⁴⁷⁸ Breeze (2006), p. 147; Jones & Woolliscroft (2001), p. 90. For the cemetery see Bidwell (1997), p. 109.

¹⁴⁷⁹ RIB 1322; see also Breeze (2006), p. 145; Shotter (1996), p. 94; Speidel (1987), pp. 235&236.

¹⁴⁸⁰ Mason (2003), p. 130.

¹⁴⁸¹ For a detailed discussion of the finds and further references see Bidwell (2001), p. 5.

¹⁴⁸² Shotter (1996), p. 129; Viereck (1996), p. 254; Cleere (1978), p. 36.

either on the assumption that large scale troops transports would have had to be carried out by the fleet, or – as Cleere suggests – that there must have been a major supply base for the entire frontier system of Hadrian’s Wall somewhere in the Tyne estuary¹⁴⁸³.

5. ALAUNA/ALIONE (Maryport)

The Roman fort at Maryport is located on a ridge 55m above sea level, about 750m north of the mouth of the river Ellen¹⁴⁸⁴. *Alaunae* was a virtually square fort of about 1.9ha that is believed to have been the principal station of the assumed coastal defence system of Cumbria¹⁴⁸⁵. This rests on reconstructions of the site’s situation in the road network and its comparatively large size¹⁴⁸⁶. As there has only ever been one season of excavation at Maryport, archaeological data is scant, with discussion based primarily on epigraphic data from the site¹⁴⁸⁷. While the fort appears to date to the Hadrianic period, there is some ceramic and numismatic evidence that suggests an earlier occupation¹⁴⁸⁸. These finds have traditionally been seen to verify a fort at the site under Agricola, but recent re-evaluations have shown them to be from a smaller fort dating to the time of Cerialis¹⁴⁸⁹. An unbroken coin series contains issues from the late Republic all the way through to Theodosius, indicating that the fort at Maryport was occupied without interruption until at least AD 350¹⁴⁹⁰.

Among the inscriptions from *Alaunae* are 16 altars dedicated by soldiers of COHORS I HISPANORVM EQVITATA, while further inscriptions mention a COH I BAETASIORVM¹⁴⁹¹. Breeze was able to use these inscriptions to reconstruct a compelling history of the occupation of Maryport from its establishment to the 3rd century¹⁴⁹². While there have been frequent

¹⁴⁸³ Cleere (1978), p. 37.

¹⁴⁸⁴ Wilson (1997), p. 17.

¹⁴⁸⁵ Frere (2001), p. 23; Lax & Blood (1997), p. 53.

¹⁴⁸⁶ When compared to other forts in the area. See also Wilson (1997), p. 18.

¹⁴⁸⁷ Wilson (1997), p. 17.

¹⁴⁸⁸ Wilson (1997), p. 22.

¹⁴⁸⁹ Caruana (1997), p. 42.

¹⁴⁹⁰ Shotter (1997), p. 135-138.

¹⁴⁹¹ Frere (2001), p. 23.

¹⁴⁹² Breeze (1997), p. 67.

suggestions that the site may have served as a naval base, the CLASSIS BRITANNICA makes no appearance in Breeze's reconstruction of the occupation of *Alaunae*¹⁴⁹³.

It has frequently been suggested that the fort at Maryport had direct access to a Roman harbour¹⁴⁹⁴. This thesis was initially put forward by Bailey, who argued for a fleet base at *Alaunae* on the basis of three lines of argument: a passage in Camden's *Britannia* is taken to imply a series of structures situated at the mouth of the Ellen which could possibly be the remnants of a harbour. Bailey furthermore suggests that Agrippa was based at *Alaunae* and undertook his naval expedition from here. The final argument is the apparent existence of a substantial wall which Bailey sees as a harbour wall¹⁴⁹⁵.

Turnbull, however, has shown that none of these points withstand scrutiny: the passage of Camden's *Britannia* can be read to imply the opposite of Bailey's interpretation, and while there is evidence that Agrippa may have been based at Maryport, he would have been tribune of COH I HISPANORVM at the time, making it impossible to link any naval element to his command¹⁴⁹⁶. Finally, the substantial wall that Bailey saw as a harbour wall has never been found. Indeed, Bailey himself appears never to have observed it, but copied it from some other source¹⁴⁹⁷. As the area in question is covered by the harbour of modern Maryport, it is impossible to resolve the issue.

The only other possible location for a harbour is a secure anchorage near the *vicus* to the north of the fort, but no evidence for artificial harbour-works has been found here despite significant amounts of research over the last decade¹⁴⁹⁸. A further site of interest is a nearby inlet at Barney Gill which forms a natural harbour. According to Biggins and Taylor, this

¹⁴⁹³ Suggestions of a naval base at Maryport (e.g. Mason [2003], p. 96; Shotter [1996], p. 129) draw on a suspected harbour and the fact that the position of the fort is ideally suited for its use as a supply base for the western part of the Hadrian's Wall defensive system, as well as Antonine Scotland (see also Frere [2001], p. 23). There is, however, no evidence to substantiate the thesis of a naval presence, or even that of the CLASSIS BRITANNICA, at Maryport.

¹⁴⁹⁴ Cleere (1978), p. 36.

¹⁴⁹⁵ For a detailed discussion see Turnbull (1996), pp. 233ff.

¹⁴⁹⁶ Turnbull (1996), p. 234.

¹⁴⁹⁷ Turnbull (1996), p. 235.

¹⁴⁹⁸ Biggins & Taylor (2004), p. 128, see also Wilson (1997), p. 24. For discussion of the *vicus* see Lax & Blood (1997), pp. 52&62.

would have been a suitable landing place for square-rigged vessels. This is particularly interesting as several platforms for large structures, as well as traces of metal working have been found here. Geophysical investigations attempting to find structures that could be associated with a functional harbour, however, yielded no results¹⁴⁹⁹.

6. GLANNOVENTA (Ravenglass)

The Roman fort at Ravenglass is located on a west-facing cliff that overlooks the river Esk and was protected by earth and timber defences enclosing an area of about 1.45ha¹⁵⁰⁰. Excavations in 1970 identified that the fort was constructed around AD 130 and remained in use until the late fourth century. It furthermore seems that there may have been a small fortlet at the site from as early as AD 120¹⁵⁰¹. The fort had four phases, the first of which was constructed around AD 130, but never completed. A second phase in earth and timber was in use until the 190s AD. Towards the end of the second century, the fort at Ravenglass was destroyed, but immediately rebuilt with a stone faced turf rampart. This third phase of the fort was occupied until AD 350-370, at which point the defensive ditch was filled in, and the layout altered slightly. The site remained in use until around AD 400¹⁵⁰². While little remains of the fort at Ravenglass itself, excavations uncovered one of the best preserved bath-houses in England¹⁵⁰³. An extensive *vicus* lay to the north of the fort itself and covered an area of about 1.8ha¹⁵⁰⁴.

The garrison of the fort at Ravenglass is believed to have been COHORS I AELIA CLASSICA. A diploma of one of its soldiers, dating to AD 158, was found in the area of the

¹⁴⁹⁹ Biggins & Taylor (2004), p. 128.

¹⁵⁰⁰ Although this is merely an estimate, as the size of the fort is not precisely known. See Blood & Pearson (2004), p. 95; Potter (1979), p. 3&48.

¹⁵⁰¹ Blood & Pearson (2004), p. 97; Gerrard & Mills (2003), p. 59. For the earlier fortlet see Potter (1979), p. 48.

¹⁵⁰² For a detailed discussion of the phases of Glannoventa see Potter (1979), p. 49&50; Gerrard & Mills (2003), p. 59.

¹⁵⁰³ Blood & Pearson (2004), p. 95; Potter (1979), p. 1.

¹⁵⁰⁴ Blood & Pearson (2004), p. 97.

fort¹⁵⁰⁵. A further indicator of this unit's presence is a lead sealing bearing its stamp that was discovered in a context associated with phase 3 of the fort (i.e. dating from the 190s to the 350-370s AD)¹⁵⁰⁶. The prolonged presence of this cohort at Ravenglass appears to be the basis for a number of identifications of Ravenglass as a naval base: it is frequently assumed that this cohort was recruited directly from the CLASSIS BRITANNICA and retained a primarily naval role¹⁵⁰⁷. While the former may well have been the case, there is no evidence that any *cohortes classicae* were ever engaged in naval activity¹⁵⁰⁸. Any naval base, be it of a fleet or a naval cohort, must furthermore have had a permanent harbour. While Ravenglass is topographically well suited for naval operations, close inspection of the site by Cleere in the late 1970s showed that there is no suitable navigable harbour at the site, let alone the permanent port that is frequently postulated even in more recent literature¹⁵⁰⁹.

7. SEGONTIUM (Caernarvon)

The fort at Caernarvon is situated on a ridge above the rivers Seiont and Cadnant, overlooking Anglesey and controlling the Menai Strait¹⁵¹⁰. It is laid out along an imperfect rectangle of about 155 x 126m, with an interior area of about 1.8ha¹⁵¹¹. Parts of *Segontium* were excavated during the mid 19th century, but concentrated research excavations took place mainly under the direction of Sir Mortimer Wheeler from 1920-23¹⁵¹². A further series of excavations was undertaken from 1975-79¹⁵¹³.

¹⁵⁰⁵ Mason (2003), pp. 128&129 A further diploma mentioning COHORS PRIMA AELIA CLASSICA was found at Chesters on Hadrian's Wall and dates to AD 146.

¹⁵⁰⁶ Potter (1979), p. 49.

¹⁵⁰⁷ Mason (2003), p. 172.

¹⁵⁰⁸ See also pp. 218 above.

¹⁵⁰⁹ For a naval base at Ravenglass see Mason (2003), p. 96; Shotter (1996), p. 129. On the impossibility of a harbour see Cleere (1978), p. 36&37; see also Potter (1979), p. 1.

¹⁵¹⁰ Casey et al (1993), p. 1; Boon (1963), p. 3.

¹⁵¹¹ Boon (1963), pp. 3&15; Casey et al (1993), pp. xiv, 1&10 suggest a larger area of 2.27ha. It is not clear whether this includes defensive systems such as ditches.

¹⁵¹² Casey et al (1993), pp. 1-3; Boon (1963), p. 3.

¹⁵¹³ Casey et al (1993), p. 3.

Segontium was established as an earth and timber fort in the Flavian period. While a date of AD 78 has been suggested for its construction on historical grounds, the evidence merely indicates that the fort was built between AD 75 and 83¹⁵¹⁴. There is evidence for Trajanic reconstruction work in earth and timber, followed by a stone phase. This has recently been associated with the Antonine period, although datable evidence only points to the later 2nd century¹⁵¹⁵. This is particularly interesting in view of the fact that stone structures in the interior do not appear before the 150s AD¹⁵¹⁶. After a major destruction towards the end of the 2nd century, *Segontium* was completely rebuilt in the Severan period¹⁵¹⁷. Further building activity took place in the early 3rd and mid 4th century¹⁵¹⁸. The fort has an interesting feature, namely a tower that is solidly built all the way up to parapet level. It has, in the past, been argued that this is likely to indicate extra support for some form of mounted artillery – a thesis that, if correct, could indicate the fort’s role in controlling the Menai Strait¹⁵¹⁹.

The early garrison of *Segontium* is by no means clear. There is one inscription, however, which shows that COH I SVNICORVM was based here in the late 2nd and early 3rd century¹⁵²⁰.

Caernarvon’s position on a navigable river, as well as its role in controlling access to Anglesey have led to a number of studies identifying it as a military harbour site and possible fleet base¹⁵²¹. There is, however, no indicator of any CLASSIS BRITANNICA presence at the site, nor is there any indication for long term harbour installations, which would be a prerequisite for any naval base.

Aside from the auxiliary fort of *Segontium*, there is another military site at Caernarvon. This is the walled enclosure of ‘Hen Waliau’, located about 200m west of

¹⁵¹⁴ Casey et al (1993), pp. xiv&7; Boon (1963), p. 3.

¹⁵¹⁵ Casey et al (1993), p. 7; Boon (1963), p. 16.

¹⁵¹⁶ Boon (1963), p. 6.

¹⁵¹⁷ Casey et al (1993), p. 7.

¹⁵¹⁸ Boon (1963), p. 17.

¹⁵¹⁹ Boon (1963), p. 5.

¹⁵²⁰ Casey et al (1993), pp. 10&11; RIB 430.

¹⁵²¹ Cleere (1978), p. 36; Fryer (1973), p. 268.

Segontium on the edge of a steep scarp overlooking the east bank of the river Seiont. This site was excavated in five seasons of excavations during the 20th century¹⁵²². The Hen Waliau enclosure is remarkably well preserved, with the east wall still intact and stretches of its southern and northern walls well preserved. The west wall did not survive, but it is currently assumed that such a wall existed in order to complete a fortified rectangle¹⁵²³. While it is clear that the site was used as some form of enclosure, the lack of further defences such as ditches and absence of any interior structures are currently seen as indicators that the site may have been used as an enclosed storage depot¹⁵²⁴.

The only coins found in the Hen Waliau enclosure are Constantinian, but ceramic evidence points to occupation as early as the Hadrianic-Antonine period¹⁵²⁵. The area north of the enclosure shows further signs of activity from the late 1st and early 2nd century¹⁵²⁶. The combination of this early data with a coin series that runs up to the 4th century has given rise to the current interpretation that Hen Waliau was in use throughout the period of occupation of the fort at *Segontium*, but that the fortified enclosure was only deemed necessary in the early 4th century¹⁵²⁷.

8. DEVA (Chester)

Roman *Deva* was located at the heart of modern Chester in a bend of the river Dee¹⁵²⁸. Large scale excavations took place in the 1960s and have been followed up by more or less continual research and rescue excavations throughout the site¹⁵²⁹. Initially, *Deva* was a legionary fortress built by LEG II ADIVTRIX around AD 75. This first fortress extended to c. 24ha, making it the largest legionary base in Britain at the time. Interestingly, it appears that

¹⁵²² See Boyle (1991).

¹⁵²³ Boyle (1991), p. 191.

¹⁵²⁴ Boyle (1991), p. 211.

¹⁵²⁵ Boyle (1991), pp. 206, 209&210.

¹⁵²⁶ Boyle (1991), p. 210.

¹⁵²⁷ This is preceded by a clear break in occupation. See also Boyle (1991), p. 210.

¹⁵²⁸ Fryer (1973), p. 265.

¹⁵²⁹ Mason (2001a), p. 31.

some non-military structures were accommodated at the centre of this earliest fortress¹⁵³⁰. By AD 88, *Deva* had been taken over by leg XX VALERIA VICTRIX which remained at Chester until the late 4th century. The fortress stood more or less unaltered until significant refurbishment work in the early 4th century¹⁵³¹. Throughout this time, civilians settled around the fortress, creating a sprawling *canabae legionis* to its east, south and west. This included a substantial *mansio*, as well as an amphitheatre south of the fortress and large public baths to its east¹⁵³².

While clearly a site of interest for research into the legions of Roman Britain, Chester also presents interesting data relevant to the study of naval activity. This comes in the form of an inscription referring to the death of an *optio* who *naufragio perit*¹⁵³³. Although the unit of this *optio* is not known, the fact that the inscription was set up at Chester may suggest his belonging to LEG XX VALERIA VICTRIX¹⁵³⁴.

It has been argued that *Deva*'s location in the Dee estuary made it an essential base for naval and amphibious operations along Britain's north-western coast and in Scotland. The inscription discussed above, as well as the possible remains of a harbour have led to frequent suggestions that Chester was a major naval base of some form, and most likely a base of the CLASSIS BRITANNICA¹⁵³⁵. While Cleere attempted to link *Deva* with an industrial site at nearby Wilderspool, arguing that this was run by the legion and relied on some form of naval activity as a link to Chester, this remains hypothetical¹⁵³⁶. There is, however, evidence for harbour installations from an area west of the legionary fortress called the Roodee – although this is less clear than commonly believed¹⁵³⁷.

¹⁵³⁰ Mason (2001a), pp. 31&32.

¹⁵³¹ Mason (2003), p. 174; Mason (2001a), p. 31; Cleere (1978), p. 37.

¹⁵³² Mason (2002), p. 54-61.

¹⁵³³ RIB I 544.

¹⁵³⁴ This may also be indicated by the fact that instead of the formulaic H.S.E. this inscription reads S.E., possibly indicating that the body perished at sea and could not be recovered.

¹⁵³⁵ Mason (2003), p. 117; Mason (2001a), p. 31; Waddelove (2001), p. 131; Shotter (1996), p. 129; Cleere (1978), p. 36.

¹⁵³⁶ Cleere (1978), p. 37.

¹⁵³⁷ Mason (2002), p. 65; Fryer (1973), p. 262.

The harbour of Roman Chester is usually identified through a wall made from substantial sandstone blocks that remains to a height of 7.3m with right angled groyn walls at regular intervals¹⁵³⁸ (Fig. 5.3). Initially, this wall was traced for a length of about 30m, but various trenches of separate excavation projects have traced this “quay wall” over a length of at least 200m along the river bank¹⁵³⁹. While there have been some doubts whether this wall is actually Roman this has recently been proven by associated finds¹⁵⁴⁰. The identification as quay wall, however, has come into question upon closer investigation, as several factors make it unlikely that the wall was ever used as a quay¹⁵⁴¹: firstly, it is in a position where it would have been accessible only during high tide, therefore limiting the operational capacity of any harbour at *Deva* significantly. The wall’s height of 7.3 m, making its top level about 11m OD, would furthermore have meant that, even during high tide, it would have towered roughly 5m above the deck of any Roman ship moored here¹⁵⁴². Such a design would have made loading and offloading virtually impossible. This has given rise to theories that the wall may have been defensive or part of a large scale terracing project¹⁵⁴³.

Further into the Roodee, excavations in 1885 discovered a series of blackened oak piles driven into the gravel river bed. The timbers themselves could not be dated, but were set in metal shoes fastened with iron nails. They were assumed to be Roman as traces of hydraulic cement were found on the metal shoes¹⁵⁴⁴. Conclusive evidence for this was found in the bedding trench of these timbers, which contained various Roman coins and pottery fragments dating to the 1st and 2nd centuries, as well as a lead ingot with a consular stamp that

¹⁵³⁸ Fryer (1973), p. 265&266.

¹⁵³⁹ Mason (2002), p. 66.

¹⁵⁴⁰ Mason (2003), p. 126.

¹⁵⁴¹ Mason (2001b), p. 114.

¹⁵⁴² Mason (2002), p. 70 assumes that the average seagoing vessel had a deck c. 2m above the waterline. This seems an acceptable thesis in view of data from the ships found at London, as well as Roman merchant vessels from the Mediterranean (e.g. Pisa, Fiumicino, Commachio), and the height of the waterfront of Roman London, which varies between 1.5m at the lowest and 2.15m at the highest (see below, pp. 253-255.).

¹⁵⁴³ Mason (2002), p. 70.

¹⁵⁴⁴ Fryer (1973), p. 266.

dates the bedding of the timber to AD 74¹⁵⁴⁵. The wooden piles seem to be the remains of wharves or a jetty, although there is not enough evidence to allow for a definite reconstructing of the layout of the harbour of *Deva*¹⁵⁴⁶. The biggest problem for any reconstructing is that it remains unclear to which bank of the Dee these structures were connected¹⁵⁴⁷: while a harbour on the west bank would make little sense in view of the settlement and fortress position on the other bank, Mason's suggestion of a 350m long jetty across mudflats in order to reach a navigable channel even at low tide (Fig. 5.4) seems an ambitious feat of engineering at the least¹⁵⁴⁸.

Whatever the precise layout of the harbour at *Deva*, there clearly is evidence for prolonged naval activity at the site. There is, however, no evidence relating to the CLASSIS BRITANNICA, despite suggestion that Chester was one of its bases¹⁵⁴⁹. The existence of remains related to naval activity without reference to the fleet has prompted Mason to propose the existence of a CLASSIS HIVERNICA operating in the Irish Sea¹⁵⁵⁰. In view of evidence from Mainz and *Novae*, however, it seems much more likely that the harbour installations at *Deva* were used by its garrison, first LEG II ADIVTRIX and then leg XX VALERIA VICTRIX¹⁵⁵¹.

9. PETUARIA (Brough-on-Humber)

The Roman site of *Petuaria*, modern Brough-on-Humber, has been excavated in the 1930s and from 1958-61¹⁵⁵². While there is some evidence for pre-Roman occupation at the site, the first Roman phase takes the form of a temporary fort that dates to around AD 70.

¹⁵⁴⁵ Mason (2003), p. 125; Mason (2001b), p. 114.

¹⁵⁴⁶ Cleere (1978), p. 37.

¹⁵⁴⁷ Mason (2002), pp. 67&68.

¹⁵⁴⁸ Mason (2003), p. 124; Mason (2001b), p. 116.

¹⁵⁴⁹ Viereck (1996), p. 254.

¹⁵⁵⁰ Mason (2002), p. 65; Mason (2001b), p. 112.

¹⁵⁵¹ LEG II ADIVTRIX was initially formed from members of the Ravennate Fleet during the civil wars of AD 69. It seems likely that in AD 74, when both *Deva* and the harbour were constructed, a significant amount of soldiers with naval expertise remained in the legion. While the *optio* in RIB I 544 could have died in a shipwreck even if he was not attached to any naval arm of a unit (a transfer seems likely, in particular as he was *ad spem ordinis* – about to be promoted), this inscription could hypothetically support the thesis of a legionary naval detachment at Chester.

¹⁵⁵² Wachter (1969).

While Wacher suggests that a storage depot for supplies had been attached to this fort, there is no direct evidence for this¹⁵⁵³. The temporary fort was succeeded by a permanent auxiliary fort of c. 1.82ha that remained occupied until around AD 80. This fort was briefly re-occupied around AD 125, but there is no evidence for a prolonged military presence at Brough¹⁵⁵⁴.

During the later Hadrianic and Antonine period, the site developed into a substantial civilian settlement, the *civitas* of the *Parisi*¹⁵⁵⁵. This covered an area of c. 13ha and, unusually for a civilian site at this time, was fortified by an earth rampart¹⁵⁵⁶. The defensive character of *Petuaria* is even more evident during rebuilding in the late 2nd century, which included the creation of new fortifications that appear to be military in nature – and in stark contrast with the site’s otherwise civilian character¹⁵⁵⁷. A substantial stone defensive wall was erected in the late 3rd century, but there is no evidence for occupation beyond the mid 4th century. The later development of the site, particularly its 3rd century defensive walls, led Wacher to compare it with the Saxon Shore Forts¹⁵⁵⁸.

The problem of a civilian site with substantial defensive fortifications has led to frequent arguments that *Petuaria* may have been a storage depot or transshipment point¹⁵⁵⁹. Indeed, it has frequently been proposed that Brough was a base of the CLASSIS BRITANNICA¹⁵⁶⁰. Yet there is no direct evidence for harbour installations at Brough-on-Humber, as conceded by Wacher¹⁵⁶¹. The only evidence for naval activity at *Petuaria* is circumstantial and includes a lead ingot that originates in the Peak District. This has been interpreted as evidence that Brough served as a cargo transshipment point between inland vessels and North Sea traders¹⁵⁶². This thesis may be supported by an inscription attesting a

¹⁵⁵³ Wacher (1969), p. 3.

¹⁵⁵⁴ Cleere (1978), p. 37; Wacher (1969), p. 3.

¹⁵⁵⁵ Shotter (2004), p. 60.

¹⁵⁵⁶ Wacher (1969), pp. 1&3.

¹⁵⁵⁷ Wacher (1969), p. 3.

¹⁵⁵⁸ Wacher (1969), p. 4.

¹⁵⁵⁹ Shotter (1996), p. 129; Fryer (1973), p. 261.

¹⁵⁶⁰ Viereck (1996), p. 254; Cleere (1978), p. 36; Wacher (1969), pp. 3, 25 & 76.

¹⁵⁶¹ Wacher (1969), p. 25.

¹⁵⁶² Millett (2005), p. 44.

trade link with Bordeaux¹⁵⁶³. While it can therefore be suggested that Brough *may* have been used as a transshipment point – an argument supported by its geographical position on the mouth of the Ouse on the Humber estuary with its links to the Trent and thus inland Britain – the only evidence for this is clearly from a civilian trade context.

There is, however, one inscription from the site that links it to naval activity, as it refers to a *gubernator* of LEG VI VICTRIX at York¹⁵⁶⁴. While the presence of a naval officer attached to a legion is of interest, it proves neither a base of the CLASSIS BRITANNICA nor any other permanent naval station at Brough. Indeed, there is not even reliable evidence of harbour facilities or a storage depot during the period of military occupation at *Petuaria*¹⁵⁶⁵.

10. ISCA SILURUM (Caerleon)

Roman *Isca Silurum* lies beneath modern Caerleon on a terrace inside a loop of the river Usk¹⁵⁶⁶. The legionary fortress measures 490m x 418m (20.5ha) and has been excavated during several campaigns in the mid 19th century, as well as in 1908/09 and 1926/27. Regular excavations on a smaller scale took place until the later 1970s¹⁵⁶⁷. Large numbers of inscriptions and stamped tiles recovered during these excavations have shown that Caerleon was the main base of LEG II AVGVSTA, which seems to have been based here from AD 74/75 onwards¹⁵⁶⁸. In the mid 2nd century the fortress was restructured on a grand scale, probably due to the return of LEG II AVGVSTA from the construction of the Antonine Wall¹⁵⁶⁹.

Throughout the 2nd century, a substantial civilian settlement developed around the fortress. These *canabae* have been excavated and studied in detail during the 1980s¹⁵⁷⁰.

Interestingly, it appears that while military occupation ceased by AD 260, the civilian

¹⁵⁶³ JRS LIII, 131.

¹⁵⁶⁴ RIB I, 653.

¹⁵⁶⁵ Wachter (1969), pp. 5-23.

¹⁵⁶⁶ Wilkes (2003), p. 631; Fryer (1973), p. 267; Boon (1972), p. 13&14.

¹⁵⁶⁷ Boon (1972), p. 11.

¹⁵⁶⁸ Wilkes (2003), p. 631; Salway (2001), p. 610; Boon (1972), p. 11.

¹⁵⁶⁹ LEG II AVGVSTA apparently was the only legion that had been moved to Scotland in its entirety for the building of the Antonine Wall. See also Salway (2001), p. 611.

¹⁵⁷⁰ Evans (2000).

settlement continued beyond this date. The coin series can be traced until c. AD 270, but ceramic evidence suggests that there was a Roman presence at *Isca* well into the 4th century¹⁵⁷¹.

Caerleon's situation near the mouth of the river Usk in the Severn estuary has led to frequent suggestions that it served as a fleet station as well as legionary base¹⁵⁷². This theory is based not only on *Isca Silurum*'s strategic position but also on harbour installations discovered in the 1960s. The *via principalis* of the fortress extends beyond the fortified compound and leads down to the river Usk, where timber wharves have been discovered along the river bank¹⁵⁷³. The road itself ends on a substantial quay that follows the bank of the river. This has been excavated over a length of 15.2 metres and consists of a 1.52m thick stone revetment wall and a timber landing stage. The landing stage itself is made up from two rows of posts, 2.28m apart, that are joined with horizontal ties¹⁵⁷⁴. The entire installation was developed in two phases, one in the early to mid 3rd century, the second later in the same century¹⁵⁷⁵.

While there is clear evidence for naval activity at Caerleon in the 3rd century, there is nothing to suggest that this was in any way linked to the CLASSIS BRITANNICA. Indeed, the only harbour remains currently known date to the final period of military occupation at the site. As such, it is difficult to judge whether the harbour-works of *Isca* should be seen in a military context at all. This does, however, seem to be suggested by the clear link between the harbour area and the fortress itself, formed by the extended *via principalis*. As such, it must be concluded that – if the harbour at Caerleon ever served a military purpose at all – this was

¹⁵⁷¹ Salway (2001), p. 611; for a detailed evaluation of finds see Evans (2000).

¹⁵⁷² Cleere (1978), p. 36; Fryer (1973), p. 262.

¹⁵⁷³ Cleere (1978), p. 37; Fryer (1973), pp. 267-8; Boon (1972), p. 16.

¹⁵⁷⁴ Hurst (1999), p. 124.

¹⁵⁷⁵ Fryer (1973), pp. 267&268.

related to its garrison, LEG II AVGVSTA, rather than the CLASSIS BRITANNICA, as has been suggested¹⁵⁷⁶.

11. GLEVUM (Gloucester)

The earliest Roman fort initially occupied an established pre-Roman Iron Age site at Kingsholm, about 1km north of the later *colonia* at Gloucester, where LEG II AVGVSTA established an earth and timber legionary base in the mid 60s AD¹⁵⁷⁷. Between AD 80 and 110, Gloucester lost its primarily military function and became a *colonia* – although the civilian settlement still followed a military plan with part-stone interior buildings and a stone faced fortification¹⁵⁷⁸. The site grew in importance, until by the mid 2nd century the *colonia* of *Glevum* covered about 150ha. Various parts of the river bank in Gloucester appear to have been used for docks and as a small river harbour throughout its occupation¹⁵⁷⁹.

As the Roman harbour of Gloucester has never been studied in itself, data has to be pieced together from rescue excavations and bore holes. The evidence indicates two separate river fronts, spaced about 100m apart. These reflect a change in the course of the river Severn between the 1st and the 2nd/3rd centuries AD¹⁵⁸⁰. In the Quay Street and Upper Quay Street area of modern Gloucester, the bank of a small creek produced a continuous line of oak piles, set at 1.8m intervals over a distance of 30.5 metres¹⁵⁸¹. These remains seem to indicate a wooden pier similar to those found in river harbours on the Rhine in *Germania Inferior*¹⁵⁸². 19th century excavations furthermore identified a wall of regular stone blocks, built onto a base of wooden piles. Although this lies at a distance of c. 45m from the current course of the Severn, it runs parallel to the river for a distance of 140m. While there is no concrete evidence

¹⁵⁷⁶ Viereck (1996), p. 254.

¹⁵⁷⁷ Mason (2003), pp. 189&190; Hurst (1999), pp. 114, 119.

¹⁵⁷⁸ Hurst (1999), p. 114.

¹⁵⁷⁹ Hurst (1999), pp. 115&120.

¹⁵⁸⁰ Hurst (1999), p. 123.

¹⁵⁸¹ Heighway & Garrod (1981), p. 123.

¹⁵⁸² Fryer (1973), p. 262; summarily see Hurst (1999), p. 124.

to date its construction, the wall and timber piles have been identified as Roman on the basis that their construction closely mirrors that of the harbour remains at Caerleon¹⁵⁸³.

There is, therefore, evidence for a harbour and naval activity at Gloucester, but this cannot be linked to the *CLASSIS BRITANNICA*¹⁵⁸⁴. As both harbour installations are associated with the civilian *colonia* and not the military base at Kingsholm, it appears highly doubtful whether this harbour ever served a military purpose at all.

12. BRANODUNUM (Brancaster)

Brancaster, the most northerly of the “Saxon Shore Forts” is located on the north Norfolk coast¹⁵⁸⁵. On the basis of the list of units under the *comes litoris saxonici* in the *Notitia Dignitatum*, it has been identified as Roman *Branodunum*¹⁵⁸⁶. While excavation at Brancaster has been limited, the site’s situation in flat marshland on the coast enabled extensive research on the basis of aerial photography¹⁵⁸⁷. Aerial photographs of Brancaster are of a quality high enough to identify interior structures, but they also identify an extensive extra-mural settlement that extends both to the east and west of the later Saxon Shore Fort. Interestingly, the street-pattern of this settlement does not align with the orientation of the fort, suggesting that the two are not contemporary. There have been suggestions that the settlement could pre-date the fort, particularly as *Branodunum*’s position in the Roman road network and general infrastructure of Roman East Anglia does not make it an obvious choice for a military installation¹⁵⁸⁸.

Any discussion of the chronology of fort and settlement, however, is made difficult by the paucity of datable evidence from the site. The majority of research on the Saxon Shore

¹⁵⁸³ Hurst (1999), p. 124; Heighway & Garrod (1981), p. 124; Fryer (1973), p. 262-264.

¹⁵⁸⁴ Viereck (1996), p. 254; Cleere (1978), p. 36..

¹⁵⁸⁵ Allen et al (2001), p. 271.

¹⁵⁸⁶ Not. Dig. occ. xxviii, 16; Hinchliffe (1985), p. 1.

¹⁵⁸⁷ Allen et al (2001), p. 271; for Norfolk AU excavations see Hinchliffe (1985), p. 1; earlier excavations can be found in St Joseph (1936).

¹⁵⁸⁸ Hinchliffe (1985), pp. 1, 3&178.

Fort at Brancaster is based solely on the evaluation of aerial photography, and therefore architectural developments. On this basis, the 175m x 178m (2.56ha) fort with rounded corners and square internal turrets has been dated to the late 2nd or early 3rd century¹⁵⁸⁹. There is no stratified evidence to provide any precise dating: pottery from the site indicates that the fort has two phases and was occupied from the later 2nd century onwards, while numismatic data shows that it was occupied into the late 4th/early 5th century, but fails to establish a firm earliest date for the fort¹⁵⁹⁰. Numismatic data indicate that the settlement around the fort was gradually abandoned in the 4th century, while the fort remained occupied¹⁵⁹¹.

The hypothesis that the settlement at Brancaster may be earlier than the late 2nd/early 3rd century fort is further supported by stamped tiles from the site. Several tiles, stamped by COH I AQVITANORVM were found reused in the Saxon Shore Fort. As they date to the late Antonine period, this suggests an earlier military presence in an as yet unidentified fort at the site, which may well be directly related to the settlement¹⁵⁹².

In a surge of Saxon Shore Fort research during the 1970s, several scholars argued that they should be seen as naval bases. This applies also to Brancaster, which has been identified as a fleet base in several studies¹⁵⁹³. This thesis rests on the identification of a ‘harbour’ situated to the north-east of the Saxon Shore Fort on aerial photographs of the site¹⁵⁹⁴. The feature in question is a more or less rectangular enclosure of 80x 90 metres, fortified with a system of double ditches¹⁵⁹⁵. As it has never been excavated, its identification must remain hypothetical. In view of the observations above, however, it seems probable that the feature in question may in fact be an earlier (Antonine?) fortlet or similar military installation. This would explain the choice of *Branodunum* for a later military presence, as well as the

¹⁵⁸⁹ Allen et al (2001), p. 271; Hinchliffe (1985), p. 2.

¹⁵⁹⁰ Hinchliffe (1985), p. 178.

¹⁵⁹¹ Hinchliffe (1985), p. 181.

¹⁵⁹² Frere (1987), p. 394; Hinchliffe (1985), pp. 13&176.

¹⁵⁹³ Mason (2003), pp. 143&144; Cleere (1978), p. 36; see also the discussion in Reddé (1986), pp. 285-287.

¹⁵⁹⁴ Cleere (1978), p. 37.

¹⁵⁹⁵ Hinchliffe (1985), p. 179.

irregularities between the settlement patterns of the Saxon Shore Fort and the civilian settlement.

The thesis of a harbour or even a CLASSIS BRITANNICA base at Brancaster can finally be discarded at the hand of a coastal sediment analysis that was carried out by the Norfolk Archaeological Unit¹⁵⁹⁶. It shows that, in the Roman period, *Branodunum* was inaccessible from the sea for anything but shallow draught craft¹⁵⁹⁷. A naval base inaccessible from the sea, however, appears to make little sense.

13. GARIANNONUM (Burgh Castle)

The impressive remains of Burgh Castle in East Anglia have been identified as Roman *Gariannonum*, which is listed in the *Notitia Dignitatum* as base of a unit of EQUITES STABLESIANI¹⁵⁹⁸. The fort is situated about 9m above the river Waveney on a strip of elevated ground which lies between the North Sea to the East and alluvial flats to the West¹⁵⁹⁹. From 1958-61, three seasons of excavation took place at Burgh Castle¹⁶⁰⁰. As these concentrated on the interior of the Saxon Shore Fort, the Norfolk Archaeological Unit carried out intensive metal detector surveys in the surrounding fields¹⁶⁰¹. The finds from these campaigns included finds and coins from the Iron Age through to the period of Saxon occupation¹⁶⁰².

The interior of the fort itself produced finds of a more limited date range. While the excavations produced virtually no fine-ware pottery, coarse-wares indicate occupation during the mid 4th century, with occasional post Roman sherds dating to the middle Saxon and medieval periods¹⁶⁰³. All Roman small finds from inside the fort date to the 3rd and 4th

¹⁵⁹⁶ As proposed by Viereck (1996), p. 254; Allen & Fulford (1999), p. 164.

¹⁵⁹⁷ Hinchliffe (1985), p. 179; see also Hinchliffe (1985) Appendix 1, p. 185.

¹⁵⁹⁸ Johnson (1983), p. 4.

¹⁵⁹⁹ Johnson (1983), p. 4; Fryer (1973), p. 270.

¹⁶⁰⁰ Johnson (1983); see also Wallis et al (1998), p. 76.

¹⁶⁰¹ Wallis et al (1998), p. 62; Gurney (1994), p. 217.

¹⁶⁰² Wallis et al (1998), p. 62.

¹⁶⁰³ Johnson (1983), p. 89.

centuries, with the bulk of material indicating occupation during the reign of Constantine¹⁶⁰⁴. Stray finds from outside the fort, as well as the architecture of the defences, have been used to suggest that *Gariannonum* was established in the late 3rd century¹⁶⁰⁵.

Aside from possible data from unexcavated cropmarks to the east and south-east of the fort, there is nothing to suggest a Roman presence at Burgh Castle before the late Roman period and the establishment of the Saxon Shore Fort¹⁶⁰⁶, which seems to have been occupied by a cavalry unit: not only are the *EQUITES STABLESIANI* attested through the *Notitia Dignitatum*; several horse-shoes, as well as a helmet closely resembling the cavalry helmet from Deurne indicate a mounted unit¹⁶⁰⁷.

A quay and harbour installations have apparently been observed at Burgh Castle in the 19th century¹⁶⁰⁸. Excavations in the 1850s discovered broken mortar, as well as a 1.52m wide wall that rested on projecting oak piles, at the bottom of the ledge on which the Saxon Shore Fort is built. These findings were associated with a series of timber piles with an infill of gravel and rubble, which were taken to be the foundations of a harbour related structure¹⁶⁰⁹. Even if these observations constituted some form of docking facility, there is no data to relate this to the British Fleet. The lack of any evidence for Roman activity at Burgh Castle before the 3rd century furthermore makes any suggestion of its having been a base of the *CLASSIS BRITANNICA* highly unlikely¹⁶¹⁰.

¹⁶⁰⁴ Wallis et al (1998), p. 66.

¹⁶⁰⁵ Johnson (1983), pp. 116&117. A lead sealing depicting a stag and a PBS stamp also seems to indicate 3rd century occupation, as it has been taken to read *Provinciae Britanniae Superioris* – a frequently found type of seal the earliest examples of which date to the reign of Caracalla. See also Gurney (1994), p. 217.

¹⁶⁰⁶ Johnson (1983), p. 116.

¹⁶⁰⁷ Johnson (1983), pp. 117&118.

¹⁶⁰⁸ Cleere (1978), p. 37.

¹⁶⁰⁹ Fryer (1973), p. 270.

¹⁶¹⁰ Viereck (1996), p. 254; Cleere (1978), p. 36.

14. LONDINIUM (London)

Londinium was situated at an easy crossing point of the river Thames and appears to have been established around AD 50¹⁶¹¹. As the earliest definite evidence for a bridge between Roman London and Southwark dates to the early 2nd century, it has long been presumed that in the early period of the city the Thames crossing between the two sites was achieved by means of a ferry¹⁶¹². More recent evidence suggests that a bridge may have been built soon after the invasion of AD 43 and could therefore have played an important role in the choice of the site for a settlement¹⁶¹³. There is no evidence for any military involvement in the foundation of *Londinium*, despite large numbers of military equipment finds in layers associated with the 1st century¹⁶¹⁴.

The early civilian settlement of *Londinium* was destroyed in the Boudican revolt of AD 60/61. Major reconstruction took place and the city was rebuilt on a larger scale, including new public buildings such as a forum, an amphitheatre and baths¹⁶¹⁵. While these public buildings were initially built in timber, they were replaced by stone structures in the late 1st/early 2nd century¹⁶¹⁶. Shortly before this reconstruction period, a large structure was built on the waterfront in the Flavian period. This has been interpreted as the palace of the governor of Britain, an identification frequently reiterated but which has yet to be proven¹⁶¹⁷. Whether this structure was the seat of the governor or not, *Londinium* appears to have been capital of *Britannia* by AD 90-120, by which time it was the largest city in the province¹⁶¹⁸.

It has been suggested that the late 1st/early 2nd century redevelopment of *Londinium* was related to its attaining official status as capital of *Britannia*. This seems to be supported by the fact that a fort was built during this period. The Cripplegate fort extends to c. 4.45ha

¹⁶¹¹ Brigham & Woodger (2001), p. 15; Milne (1995), p. 42; Marsden (1994), p. 15.

¹⁶¹² Milne (1995), p. 65.

¹⁶¹³ Brigham (1998), p. 23.

¹⁶¹⁴ Milne (1995), p. 43; Marsden (1994), p. 15.

¹⁶¹⁵ Brigham & Woodger (2001), p. 15; Milne (1995), p. 42; Marsden (1994), p. 15.

¹⁶¹⁶ Milne (1995), pp. 53&56.

¹⁶¹⁷ Brigham & Woodger (2001), pp. 15&16; Milne (1995), pp. 91 – 93.

¹⁶¹⁸ Milne (1995), p. 70.

and was therefore large enough to house a *cohors milliaria* or *ala quingenaria*¹⁶¹⁹. There have been various suggestions as to the garrison of this fort, including provincial *singulares* attached to the governor as well as theses of it having been a base of the CLASSIS BRITANNICA¹⁶²⁰. Inscriptions from London refer to soldiers of LEG II AVG, LEG VI VICTRIX, LEG IX HISPANA and LEG XX VALERIA VICTRIX, but there is no evidence for any permanent legionary detachments¹⁶²¹.

The rapid development and expansion of *Londinium* appears to have slowed in the course of the 2nd century. After large sections of the western part of the city were destroyed by a major fire in the Hadrianic period, redevelopment of the city took on new forms: by the end of the 2nd century the city consisted of large urban villas, rather than the earlier dense townhouses¹⁶²². By the early 3rd century, *Londinium* was surrounded by a circuit of defensive walls, although these initially did not include the waterfront along the river. Interestingly, this circuit of walls enclosed an area significantly larger than the actual core settlement¹⁶²³. A wall along the riverfront was finally added in the late 3rd century¹⁶²⁴. The site remained occupied well into the 4th century, during which private buildings continued to be restructured and rebuilt. While private space was still used, public buildings were in decline from the later 3rd century onwards¹⁶²⁵. It appears that even the Thames Bridge, perhaps the very reason for the establishment of *Londinium*, disappeared by the mid 4th century¹⁶²⁶. London (now known as *Augusta*) does, however, seem to have remained an important settlement, as its fortifications

¹⁶¹⁹ Brigham & Woodger (2001), p. 15; Milne (1995), p. 58&59; Birley (1980), p. 302.

¹⁶²⁰ Marsden (1994), p. 17.

¹⁶²¹ See Milne (1995), p. 115. For LEG II AVG: RIB 3, RIB 17, RIB 19; LEG VI VICTRIX: RIB 11; LEG IX HISPANA: AE 1949, 103 = AE 1951, 9; LEG XX VALERIA VICTRIX: RIB 13, RIB 18.

¹⁶²² Brigham & Woodger (2001), p. 16; Milne (1995), pp. 73&75.

¹⁶²³ Brigham & Woodger (2001), p. 15; Milne (1995), pp. 77&78; Marsden (1994), p. 16.

¹⁶²⁴ Milne (1995), p. 84.

¹⁶²⁵ Brigham & Woodger (2001), p. 16.

¹⁶²⁶ Dating of the bridge rests mainly on coins from the area recovered in dredging. These peak in the AD 320s, with few later issues. See also Milne (1995), pp. 82–84.

were modified in the mid 4th century when large D shaped projecting towers were added to the wall¹⁶²⁷.

Throughout the city's history, the urban development of Roman London is mirrored closely by that of its thriving port. Indeed, maritime trade was one of the driving factors in the growth and decline of the provincial capital, leading one scholar to state that without its harbour *Londinium* would have been nothing but “an administrative village on a strategic land route”¹⁶²⁸. This importance is reflected in extensive archaeological traces of riverfront development, including the remains of harbour-works¹⁶²⁹ (Fig. 5.5).

From an early stage the area between Walbrook and Fleet was used for mooring ships¹⁶³⁰. Initially, artificial gravel banks and terraces were created along the natural course of the river bank in order to create berths that could be used whatever the water level of the tidal river¹⁶³¹. These were replaced by basic revetments in the form of timber piles with a wattle infill which established an artificial terrace, a phase particularly clear in the Regis House area¹⁶³². This phase of development has been dated to c. AD 52¹⁶³³. These revetments were in turn replaced with quays made from stacks of timber beams laid along the river, held in place by wooden tiebacks. The gaps between these tiebacks were filled with clay and gravel dumps¹⁶³⁴. This shows that by the mid first century, a basic but functional harbour zone had developed. Destroyed in the Boudican revolt, the entire waterfront was restructured and rebuilt around AD 63-64¹⁶³⁵. From AD 70 onwards, the harbour zone of *Londinium* was

¹⁶²⁷ Milne (1995), pp. 85–87.

¹⁶²⁸ Brigham (1990), p. 159.

¹⁶²⁹ For complete studies of the harbour of Roman London see Brigham (1990) and Milne (1985).

¹⁶³⁰ Brigham & Woodger (2001), p. 15.

¹⁶³¹ For a discussion of the degree of tidal effects on the river Thames in *Londinium* see Milne (1985), p. 25.

Detailed discussions of the early gravel embankments and terraces can be found in Brigham (1990), p. 134; Milne (1985), p. 81.

¹⁶³² Brigham (1998), p. 23.

¹⁶³³ Although there have been suggestions that these artificial revetments may be of an even earlier date. See also Brigham & Woodger (2001), p. 15.

¹⁶³⁴ Brigham (1998), p. 25; Brigham (1990), p. 101.

¹⁶³⁵ Brigham & Woodger (2001), p. 15.

extended by the creation of yet another artificial terrace¹⁶³⁶. Quays along this consisted of stacks of square timber baulks held in place by up to 3m long oak tiebacks¹⁶³⁷. By AD 90 the waterfront of London consisted of a more or less uniform 2m high quay with a solid oak beam front, as well as a continuous open space and purposefully built warehouses that followed the alignment of the quay¹⁶³⁸ (Figs. 5.6, 5.7).

In the early 2nd century the intact quays were abandoned and a new waterfront created. This extended up to 15m further south and consisted of revetments rather than solid quays¹⁶³⁹. Whereas the 2nd waterfront of *Londinium* indicated some form of centralised planning, it appears that the early 2nd century modifications were more haphazard¹⁶⁴⁰. Throughout the 2nd century the waterfront was extended further in places, causing all homogeneity of harbour design to be lost. These advances increasingly used post and plank revetments rather than substantial quays, as well as reusing building materials rather than new timbers¹⁶⁴¹. It is interesting to observe that in this phase there were no warehouses on the waterfront, suggesting that any goods were distributed immediately. This and the decentralized development of the port appear to indicate that harbour development in the 2nd century may have been based on private initiatives of traders and merchants¹⁶⁴².

There is some evidence that an attempt was made to restructure the waterfront into one consistent harbour zone around AD 200, when further substantial quays were constructed¹⁶⁴³.

¹⁶³⁶ Brigham & Woodger (2001), p. 17; Milne (1995), p. 53; Brigham (1990), p. 134. This expansion of the harbour zone, clearly aimed at the creation of a continuous and uniform waterfront, was undertaken on such a grand scale that it seems likely that, similar to the development of civic buildings at the time, it was part of a public building programme rather than a result of gradually developing needs (see also Milne [1985], p. 142).

¹⁶³⁷ Brigham & Woodger (2001), pp. 17&18.

¹⁶³⁸ Brigham & Woodger (2001), p. 18; Brigham (1998), p. 27; Milne (1985), p. 27. The finds of a military tent and several *lorica squamata* scales in the infill of the Regis House quay have been taken as evidence of military involvement in this large-scale development (see Brigham [1998], p. 25). It seems equally plausible, however, that these military artefacts should be seen as residual traces of an earlier military presence (perhaps in the context of the Boudican revolt). See also Brigham & Woodger (2001), p. 45.

¹⁶³⁹ Brigham & Woodger (2001), pp. 19&20; Brigham (1990), p. 135; Miller et al (1986), p. 8. Dendrochronological dates from the revetment timbers indicate felling dates of AD 90-121. This corresponds with the pottery from fills of this 3rd waterfront that dates to AD 100-120.

¹⁶⁴⁰ Brigham & Woodger (2001), p. 20.

¹⁶⁴¹ Brigham & Woodger (2001), pp. 46&47; Brigham (1998), p. 30-32.

¹⁶⁴² Brigham & Woodger (2001), pp. 46&47; Brigham (1990), pp. 118&136.

¹⁶⁴³ Brigham (1998), pp. 30&31.

This involved a final advance of the waterfront, which was now located at the end of a 50m long artificial terrace¹⁶⁴⁴. The harbour zone was extended for a final time in the 2nd quarter of the 3rd century, but a sharp decline in the use of the port by the mid 3rd century has been observed¹⁶⁴⁵. Towards the end of the 3rd century all activity in the port area must have ceased, as it was now enclosed by the city walls of *Londinium*¹⁶⁴⁶.

The development of the Roman port of London appears to be related to a fall in river levels that meant that the waterfront had to continually be moved forwards. This is reflected by the fact that the consecutive phases of quays gradually decrease in height (Fig. 5.7). It has been suggested that this may have been the reason for the end of the port, as the tidal river eventually was no longer deep enough to enable ships to dock here. This is indicated by the fact that a new harbour developed in the Old Fort area of Bow c. AD 270¹⁶⁴⁷.

Excavations in the port area of *Londinium* discovered Roman ships at County Hall (1910, Fig. 5.8), New Guys House in Bermondsey (1958, Fig. 5.9) and Blackfriars (1961, Fig. 5.10)¹⁶⁴⁸. In depth study of these vessels has established that the County Hall ship, which is believed to have been built c. AD 300 was a sea-going cargo ship, while the one from New Guys House has been interpreted as a flat bottomed lighter from the late 2nd century. It appears that Blackfriars I, dated to AD 150, was a coastal or inland sailing vessel¹⁶⁴⁹. While all three ships are clearly cargo vessels and indicate no military connection, Blackfriars I carried a cargo of ragstone. As the walls of *Londinium* were built from this stone, it has been suggested that the ship may have transported them here for its construction¹⁶⁵⁰.

The only direct connection between *Londinium* and the CLASSIS BRITANNICA is provided by a fragment of a CLBR stamped tile that was found in the fill of the Cripplegate fort

¹⁶⁴⁴ Brigham (1990), p. 138; Milne (1985), p. 32.

¹⁶⁴⁵ Brigham & Woodger (2001), p. 48; Brigham (1998), pp. 30&31; Miller et al (1986), p. 9.

¹⁶⁴⁶ Brigham (1990), pp. 139&140; Miller et al (1986), p. 20 ; Milne (1985), p. 32.

¹⁶⁴⁷ Milne (1995), p. 77–79; Brigham (1990), p. 143.

¹⁶⁴⁸ Marsden (1994); Milne (1985), p. 97.

¹⁶⁴⁹ Milne (1985), p. 98. On the County Hall ship, see Marsden (1994), pp. 109-130; for New Guy's House Marsden (1994), pp. 97-104; for Blackfriars I Marsden (1994), pp. 33-96. For all three ships see also <http://www1.rgzm.de/Navis/home/frames.htm>. Dates based on dendrochronology or associated ceramic material.

¹⁶⁵⁰ Milne (2000), p. 129; Milne (1996). See also Marsden (1994), p. 80-83.

and seems to be related to the construction of the town wall. The stamp type is known from Dover, where it has been dated to AD 190-210¹⁶⁵¹. While there are many reasons that could explain the occurrence of this single stamped tile, it is likely to have come from the Weald of Sussex, which had direct transport routes to London and where a large number of CLBR stamped tiles have been found¹⁶⁵².

Although London was an important port in the Roman period, there is no evidence that a detachment of the CLASSIS BRITANNICA was ever based here. Nonetheless, the site has repeatedly been identified as a fleet base¹⁶⁵³. The main argument for this is the assumption that, as *Londinium* was capital of *Britannia*, it must have had a fleet detachment, just as the fleets of Misenum and Ravenna maintained detachments at Rome¹⁶⁵⁴. This argument is ‘supported’ by the ‘evidence’ of a bronze miniature of a warship inscribed AMILLA AVG FELIX, as well as several intaglios depicting warships¹⁶⁵⁵. While Marsden argued that the bronze miniature could commemorate a naval victory by a warship named AMMILLA, this hypothesis cannot constitute reliable evidence for a naval presence at *Londinium*. As such it is unclear why this thesis has been maintained by several scholars¹⁶⁵⁶.

15. ? (Southwark)

In the Roman period, modern Southwark consisted of a series of islands across the Thames from *Londinium*¹⁶⁵⁷. The largest of these seems to have formed the main centre of the occupied area, which had a developed waterfront (albeit not on the same scale as that of *Londinium*)¹⁶⁵⁸.

¹⁶⁵¹ Milne (1995), p. 115; Marsden (1994), p. 17; Crowley & Betts (1992).

¹⁶⁵² Viereck (1996), p. 254; Cleere & Crossley (1985).

¹⁶⁵³ Cleere (1978), p. 36.

¹⁶⁵⁴ Milne (1995), p. 115; Marsden (1994), p. 17; Mason (2003).

¹⁶⁵⁵ Marsden (1994), p. 17.

¹⁶⁵⁶ Marsden (1994), p. 17. The argument is uncritically accepted by Henig & Ross (1998) and Milne (1995), p. 116. For a slightly more distanced view see Mason (2003), p. 113.

¹⁶⁵⁷ Brigham (1998), p. 31.

¹⁶⁵⁸ Brigham et al (1995), p. 8.

Research has shown that the largest of the islands began to be permanently used around AD 60, when the waterfront was reinforced, drainage systems established and basic structures built¹⁶⁵⁹. In the 70s and 80s the waterfront itself was developed further and saw the systematic building of revetments¹⁶⁶⁰. As a significant portion of land was reclaimed through the 1st and 2nd century and the actual waterfront moved further and further north, structures were regularly built over the earlier harbour-works. This was particularly evident at the Courage's Brewery site, where a large wooden warehouse, dated to 152/153, was built near the riverfront, in the area of the earliest river revetments¹⁶⁶¹. In the course of the 2nd century, several timber and stone buildings, possibly of an official nature, were built in the area of the earliest waterfront. The Southwark harbour itself, however, appears not to have undergone any significant redevelopment¹⁶⁶².

Excavations at the Winchester Palace site have shown traces of major building activity in the 80s AD, when the riverfront was advanced and larger masonry granaries and houses were built¹⁶⁶³. Around AD 120, however, the entire area was levelled and gradually rebuilt. By the 3rd century, the site was covered by an extended building complex that included various rooms with traces of high quality mid 2nd century wall painting¹⁶⁶⁴ as well as a full bath suite that appears to have been demolished in the 3rd or 4th century. The site appears to have remained in use until the 3rd quarter of the 4th century¹⁶⁶⁵.

As the Winchester Palace site excavations produced large proportions of irregular Claudian coinage similar to those at Fishbourne and Sea Mills, as well as tiles bearing the

¹⁶⁵⁹ Yule & Rankov (1998), p. 67.

¹⁶⁶⁰ Brigham (1998), p. 31.

¹⁶⁶¹ Westman (1998), p. 63; Brigham et al (1995), p. 5. This warehouse produced associated pottery dating from AD 120 to 160/180 and is particularly interesting, as joint marks appear to indicate that the 10.5 x 4.7m structure may have been prefabricated to some degree. There are very few indicators that the warehouse was actually used, leading Brigham to suggest that its lifespan may have been no longer than 5-30 years. See also Brigham et al (1995), pp. 23, 48, 59-61.

¹⁶⁶² Brigham (1998), p. 31.

¹⁶⁶³ Yule & Rankov (1998), p. 68.

¹⁶⁶⁴ Yule & Rankov (1998), pp. 89&70; for a detailed discussion of the wall paintings see Mackenna & Ling (1991).

¹⁶⁶⁵ Yule & Rankov (1998), p. 70.

procuratorial PBRILON stamp, it has been suggested that there may have been some form of official centre at Southwark. This thesis led to the argument that a fragment of an inscription may originally have listed a college of *beneficarii* attached to the procurator's office. Yule and Rankov, however, argued succinctly that the inscription is more likely to resemble a vexillation of LEG II AVG and LEG XX VALERIA VICTRIX, possibly acting as a building detachment¹⁶⁶⁶.

The only evidence from Southwark that can be related to the fleet are two CLBR stamped incomplete *imbrices* found at Winchester Palace. While both tiles had mortar edges indicating secondary use and were found in a destruction dump dated later than the 2nd century, they have nonetheless given rise to the thesis of a permanent fleet detachment connected to the alleged procuratorial office at Southwark¹⁶⁶⁷. The fleet tiles need not, however, be a definite sign of a permanent CLASSIS BRITANNICA detachment.

While only two stamped tiles were discovered in a secondary context, there were also several other tiles in the same fabric as those stamped by the fleet¹⁶⁶⁸. As the two stamped tiles are of the same type (RIB 2481.12) it may well be that all tiles are part of one batch of building materials supplied to the Winchester Palace site during its construction.

16. CLAUSENTUM? (Bitterne)

The remains beneath the medieval manor of Bitterne near Southampton have been identified as Roman *Clausentum* on the basis of references in the Antonine Itineraries¹⁶⁶⁹. While this identification is largely theoretical and has not been backed up by any evidence, it has generally been accepted since Haverfield included it in the Victoria County History for Hampshire¹⁶⁷⁰. The site is situated on the inside of a bend of the river Itchen, about 3 miles off

¹⁶⁶⁶ Yule & Rankov (1998), pp. 70-73.

¹⁶⁶⁷ Viereck (1996), p. 254. For the date and context of these tiles see Crowley & Betts (1992).

¹⁶⁶⁸ Westman (1998), p. 64.

¹⁶⁶⁹ Cotton & Gathercole (1958), p. 4; Waterman (1947), p. 151.

¹⁶⁷⁰ Cotton & Gathercole (1958), p. 6.

Southampton Water¹⁶⁷¹. As such, it is protected by water on three sides. The fourth side of the site was fortified with two ramparts. The inner one of these, in its final stage a stone faced earth wall with a defensive ditch, enclosed an area of 3.2ha (8acres). An earth bank and ditch fortification joins the two high water marks on either side of this inner river loop and encloses an area of all in all 12ha¹⁶⁷². While it was initially thought that both defensive circuits were contemporary, excavations showed that they are, in fact, successive.

Excavations at *Clausentum* in the 1930s and early 1950s produced a coin series that ranges from Claudius to Theodosius, as well as a more or less continuous pottery sequence of both fine and coarse wares from the reign of Claudius until the 4th century¹⁶⁷³. Both sequences suggest that the site was more intensely occupied in the 3rd and 4th centuries¹⁶⁷⁴. There is no evidence for pre-Roman occupation, and the site's foundation has in the past been dated to the Flavian period, primarily on the basis of historical considerations regarding the establishment of other sites in the area¹⁶⁷⁵. While some finds support this thesis, there are no structural remains from the 1st century other than a basic circular hut. Lead ingots from the Flavian period were, however, discovered together with remains interpreted as wharves¹⁶⁷⁶.

The earliest permanent timber structures at *Clausentum* were built in the Trajanic period, with stone structures dating to around AD 170/180¹⁶⁷⁷. As only a limited area of Bitterne was excavated, its layout remains unclear. On the basis of current research, it seems that during the 2nd century the site developed without regard to any overall plan and consisted mainly of private buildings with attached bathhouses and annexes¹⁶⁷⁸. Around AD 150, the site was reduced to 3.2ha (8 acres) by the creation of a wooden palisade and defensive ditch.

¹⁶⁷¹ Cotton & Gathercole (1958), p. 4; Waterman (1947), p. 153.

¹⁶⁷² Cotton & Gathercole (1958), p. 33; Waterman (1947), p. 153.

¹⁶⁷³ Cotton & Gathercole (1958), p. 6, for coin series see pp. 135-136; for pottery see Waterman (1947), p. 162.

¹⁶⁷⁴ Waterman (1947), p. 160.

¹⁶⁷⁵ Cotton & Gathercole (1958), p. 7.

¹⁶⁷⁶ Cotton & Gathercole (1958), pp. 7, 8&13.

¹⁶⁷⁷ Cotton & Gathercole (1958), p. 8, 15; Waterman (1947), p. 160.

¹⁶⁷⁸ Cotton & Gathercole (1958), pp. 16-32.

Traces of this stockade in the form of closely spaced postholes were found across the site¹⁶⁷⁹. The new smaller site was occupied until the early third century. The few excavated areas seem to indicate a break in occupation from the 3rd century to AD 350/370, when the site was cleared and surrounded by a 2.5m wide defensive wall of limestone and flint rubble built¹⁶⁸⁰. According to observations in the 19th century, this had round projecting towers at either end, and was connected to further walls that ran along the entire inside of the river loop, forming a fortified enclosure¹⁶⁸¹. 4th century deposits from the interior of this enclosure produced the only finds from *Claesentum* that could indicate a military occupation: a three winged arrowhead¹⁶⁸² and two cavalry spurs¹⁶⁸³. Traces of a piped water-supply, as well as evidence for *tesserae* cutting on a large scale seem to support the thesis that Bitterne was nonetheless a primarily civilian settlement in the 4th century¹⁶⁸⁴.

In the 19th century, Roach Smith observed a “strong wooden frame or quaywork” at Bitterne¹⁶⁸⁵. Unfortunately no traces of this survive, making any assessment whether the structures in question were part of an actual Roman harbour impossible¹⁶⁸⁶. *Claesentum* has nonetheless been seen as an important Roman harbour site in past studies¹⁶⁸⁷. As two lead ingots bearing an imperial stamp from the Flavian period were found in the area of the alleged harbour-works, Bitterne has been identified as an important point of official exchange in the

¹⁶⁷⁹ Cotton & Gathercole (1958), pp. 8, 15, 38&40.

¹⁶⁸⁰ Keppie et al (2001), p. 374. The date is based on the inclusion of a coin from the reign of Valens (indicating a date around AD 370 on the basis of its level of wear) and pottery dating to around AD 330 in the layer ultimately predating the building of the wall (Waterman [1947], pp. 157 & 160). See also Cotton & Gathercole (1958), pp. 8&42/43.

¹⁶⁸¹ Waterman (1947), p. 153.

¹⁶⁸² Waterman (1947), p. 161.

¹⁶⁸³ Cotton & Gathercole (1958), p. 45 identify these as “spur-like fittings”. Their initial identification may have been made difficult as the pricks are missing on both finds. They are, however, of a common type with a hook-like appendage to facilitate fastening to a boot by an extra strap. These spurs could, however, also have been used in a purely civilian context. See also Richmond (1962).

¹⁶⁸⁴ Keppie et al (2001), p. 376.

¹⁶⁸⁵ Roach Smith (1883); see also Cotton & Gathercole (1958), pp. 14&15.

¹⁶⁸⁶ Fryer (1973), p. 270; Cotton & Gathercole (1958), p. 4.

¹⁶⁸⁷ Cleere (1978), p. 36.

Flavian period¹⁶⁸⁸. Indeed, it has been suggested that *Claesentum* served as a naval base for Agricola in his campaigns towards the Severn¹⁶⁸⁹.

As the evidence for harbour structures at *Claesentum* cannot be corroborated, there is no proof that it may have been a base of the CLASSIS BRITANNICA¹⁶⁹⁰. The absence of any epigraphic evidence or stamped tiles referring to the British fleet, however, makes this identification unlikely.

17. ANDERIDOS? (Pevensey)

Pevensey is one of the Saxon Shore Forts, located on the East Sussex coast and is listed as base of a NVMERVS ABVLCORVM in the *Notitia Dignitatum*¹⁶⁹¹. It was excavated during two seasons in the early 20th century, which produced a coin series ranging from AD 254-383¹⁶⁹². A small quantity of pottery (less than one per cent of the entire assemblage) could be identified as pre 3rd century samian. The majority of ceramic material, according to the excavator, dates to the 4th century¹⁶⁹³. Numerous further small finds, including a rope and bucket in what is presumed to have been a Roman well, produced no definite date¹⁶⁹⁴.

While there is no evidence for any permanent occupation of Pevensey during the 1st and 2nd centuries, excavations did recover two CLBR stamped tiles, which appear to form a link to the CLASSIS BRITANNICA. As both of these were found in contexts associated with the reign of Honorius, however, they can evidently not be used to argue for a base of the British fleet at Pevensey¹⁶⁹⁵. Nonetheless, this has been a common, if not generally accepted, identification in past literature¹⁶⁹⁶. Although Salzmänn recreated a model of the ancient

¹⁶⁸⁸ These are stamped IMP VESPASIAN AVG BRIT EXARG VEB (AE 1921, No. 91); see Cotton & Gathercole (1958), pp. 14; Waterman (1947), p. 153.

¹⁶⁸⁹ Cotton & Gathercole (1958), p. 14.

¹⁶⁹⁰ Viereck (1996), p. 254.

¹⁶⁹¹ Not. Dig. occ. xxviii, 20.

¹⁶⁹² Salzmänn (1909), p. 88.

¹⁶⁹³ Salzmänn (1909), p. 88; Salzmänn (1908), p. 110.

¹⁶⁹⁴ Salzmänn (1909), pp. 84&85; Salzmänn (1908), p. 113.

¹⁶⁹⁵ Salzmänn (1908), p. 112.

¹⁶⁹⁶ Mason (2003), p. 113; Viereck (1996), p. 254; Cleere (1978), p. 36; Cunliffe (1968), p. 258.

topography to argue that the marshes around Pevensey flooded regularly and would therefore have made the site accessible from the sea, this can hardly constitute proof of a harbour or naval base¹⁶⁹⁷. The only evidence for any naval connection with the late Roman fort at Pevensey is an entry in the section of the *Notitia Dignitatum* concerning Gaul which reads *praefectus classis Anderitianorum, Parisius*¹⁶⁹⁸. This in itself, however, hardly constitutes evidence for a 1st-3rd century fleet base at the site.

18. ? (Bardown)

The 3ha site of Bardown is located near Wadhurst in Sussex, on the south bank of the river Limden. Cleere divides the site into a western (industrial) and an eastern (residential) sector¹⁶⁹⁹. Bardown was an industrial scale iron-production site, indicated by a large refuse dump “consisting of iron slag, cinder and furnace debris” that runs along the river for c. 100m¹⁷⁰⁰. ‘Innumerable pits’ that indicate iron-ore working have been found in the surrounding area¹⁷⁰¹. Cleere argues the site began to be used around AD 140 and remained in operation until the mid 3rd century¹⁷⁰².

The connection to the CLASSIS BRITANNICA is formed by 184 CLBR stamped tiles found at the site¹⁷⁰³. 25 of these were built into a bathhouse, while the remainder seem to have been spread throughout the site. 24 were found in a “deep layer of domestic rubbish” that covers the industrial part of the site and dates to post AD 200¹⁷⁰⁴. While the residential sector of the site continued after the end of the industrial part, Cleere suggests that ironworking merely moved to a series of satellite sites¹⁷⁰⁵.

¹⁶⁹⁷ Salzmann, (1910).

¹⁶⁹⁸ Not. Dig. occ. xlii, 22.

¹⁶⁹⁹ Cleere (1974), p. 190.

¹⁷⁰⁰ Cleere (1974), p. 190.

¹⁷⁰¹ Cleere (1974), p. 191.

¹⁷⁰² Cleere (1974), p. 191.

¹⁷⁰³ See RIB II Fac. 5.

¹⁷⁰⁴ Cleere & Crossley (1985), p. 303.

¹⁷⁰⁵ Cleere & Crossley (1985), p. 304.

The large number of CLBR stamped tiles, found all over the site, clearly indicates some form of involvement of the CLASSIS BRITANNICA. This could be supported further by structures identified as barrack style buildings if their identification were definite. As no plans have been published, this aspect remains inconclusive¹⁷⁰⁶. The precise involvement of the CLASSIS BRITANNICA at Bardown is not clear, but the evidence does not necessarily imply the existence of a permanent station at the site, as Cleere suggests, as it merely proves that the fleet supplied building materials to Bardown¹⁷⁰⁷.

19. ? (Cranbrook)

The site of Cranbrook, also known as Little Farningham Farm, is located near Sissinghurst in Kent. Apparently, a ‘substantial stone structure’ at the site included a hypocaust system built with CLBR stamped tiles¹⁷⁰⁸. It appears that these are the only reason why the site has been associated with the CLASSIS BRITANNICA. The fleet tiles have also been used to link Cranbrook with the Wealden iron-production sites: Cleere suggested that it “may have served some administrative purposes”¹⁷⁰⁹. As the 50 tiles from Cranbrook all come from the same structure, they are probably the result of a single shipment of tiles provided by the CLASSIS BRITANNICA¹⁷¹⁰.

20. ? (Bodiam)

Bodiam, situated on the river Rother near Watling Street, is usually associated with the remaining iron-working sites in the Weald and has been seen as the transshipment port for Wealden iron, maintained by the CLASSIS BRITANNICA¹⁷¹¹. This identification, however, is far

¹⁷⁰⁶ Cleere & Crossley (1985), p. 70.

¹⁷⁰⁷ Cleere & Crossley (1985), p. 70; <http://ads.ahds.ac.uk/catalogue/adsdata/cbaresrep/pdf/029/02909001.pdf>.

¹⁷⁰⁸ Cleere (1974), p. 195.

¹⁷⁰⁹ Cleere & Crossley (1985), p. 297.

¹⁷¹⁰ Lebon (1995); Aldridge (2001).

¹⁷¹¹ Mason (2003), p. 114; Lemmon & Darrell-Hill (1966), p. 100; see also www.romansinsussex.co.uk/level3/search/site_detail.asp?sitenumber=114.

from clear as the 1960s excavations at Bodiam provided far to little evidence to prove it: only ‘about 20 square yards’ were actually excavated¹⁷¹². These excavations were made more difficult by the fact that they took place on land planted with hops. This meant that trenches were located only between the planted areas¹⁷¹³. As such, no complete structures have been excavated; instead the plan consists of a grid of three feet wide trenches, following the spaces between plants, rather than in any reflection of the archaeological remains. The excavators nonetheless identified eight successive building phases, even though not a single one is known in detail¹⁷¹⁴. A number of glass finds have been published: analyses by Harden and Wright dated four fragments between AD 50 and 150¹⁷¹⁵. 48 ceramic fragments have been studied, but not published in detail¹⁷¹⁶. Other small finds date to the 3rd-4th centuries¹⁷¹⁷.

26 CLBR stamped tiles link the site to the CLASSIS BRITANNICA and seem to form the basis for the current identification of Bodiam as a transshipment point for iron from the Weald¹⁷¹⁸. There is, however, no evidence to suggest any harbour facilities at the site. Indeed, this identification appears to rest solely on the fact that Bodiam is the only site in the Weald area that produced CLBR tiles and is situated on a navigable river.

21. ? (Beauport Park)

Like Bardown, Beauport Park near Battle in Sussex, is a site where iron-production was carried out on an industrial scale. This is indicated by a slag-heap that remains in excess of 15000 cubic metres, although substantial quantities have been removed apparently for road building during the 19th century¹⁷¹⁹. A series of trial trenches driven into the slag-heap in the

¹⁷¹² Lemmon & Darrell-Hill (1966), p. 102.

¹⁷¹³ Lemmon & Darrell-Hill (1966), p. 91.

¹⁷¹⁴ www.romansinsussex.co.uk/level3/search/site_detail.asp?sitenumber=114.

¹⁷¹⁵ Lemmon & Darrell-Hill (1966), p. 95.

¹⁷¹⁶ Lemmon & Darrell-Hill (1966), p. 97.

¹⁷¹⁷ Lemmon & Darrell-Hill (1966), p. 97.

¹⁷¹⁸ Cleere (1978), p. 37; see also RIB II, Fac. 5.

¹⁷¹⁹ Mattingly (2006), p. 509; Cleere (1974), p. 191.

early 1970s produced a range of numismatic and ceramic finds that indicate that the site operated from the late 1st to early 3rd century¹⁷²⁰.

Surveys of the area around the slag heap in the late 19th century and under Brodribb in the 1970s discovered and mapped an associated settlement extending over at least 2, but probably more than 5ha¹⁷²¹. As observed at Bardown, the site at Beauport Park is divided into two sections, interpreted as an industrial and a residential zone¹⁷²². Traces of ore-roasting and smelting were identified in the area between these zones. Post-holes suggesting a round-house have been taken as evidence for pre-Roman occupation by the excavators, but could also imply the involvement of native craftsmen in iron-production at the site¹⁷²³.

The focus of past research at Beauport Park has been on the so called 'Classis Britannica Bath-house'¹⁷²⁴. This well preserved structure, standing over 2m high in some places, is a typical six roomed bath-suite of a regular military layout and was built with more than 1600 CLBR stamped tiles¹⁷²⁵. The vast number of tiles, as well as a wide scope of stamp-types (77) and standard military layout of the baths suggest some involvement of the British fleet in their construction¹⁷²⁶. They do not, however, indicate a permanent detachment at Beauport Park, as there are no further indicators for the presence of the CLASSIS BRITANNICA.

22. RUTUPIAE (Richborough)

Richborough, located near the Isle of Thanet on the east coast of Kent, is usually seen as one of the points of entry to the island in the Claudian invasion¹⁷²⁷. While the majority of remains visible today are those of the 3rd century Saxon Shore Fort, the site was extensively used during the earlier centuries: a sequence of Claudian ditches and earthworks have been

¹⁷²⁰ Cleere (1974), p. 191.

¹⁷²¹ Cleere (1974), p. 191.

¹⁷²² Cleere (1974), p. 191.

¹⁷²³ Cleere (1974), p. 191 suggests pre-Roman occupation of the site, whereas Frere (1991), p. 287 suggests that these traces are indicative of native craftsmen.

¹⁷²⁴ Brodribb & Cleere (1988).

¹⁷²⁵ Mattingly (2006), p. 509; Mason (2003), p. 115. See also Wilson (1980).

¹⁷²⁶ Cleere & Crossley (1985), p. 295.

¹⁷²⁷ Mason (2003), pp. 80-82, but see also Grainge (2002).

interpreted as an early fort and supply base for the invasion of Britain¹⁷²⁸. It has also been suggested that Richborough may still have served as a supply depot during the Boudican revolt¹⁷²⁹. While the early military history of the site is not entirely clear, it is evident that during the late 1st century *Rutupiae* developed into a civilian settlement. The existence of what has been interpreted as a triumphal archway seems to mark that it may have remained an important entry point to *Britannia*¹⁷³⁰.

One CLBR stamped tile was built into the walls of the Saxon Shore Fort, clearly used in a secondary context¹⁷³¹. While this makes any hypothesis of the site's having been an early fleet base tenuous, Richborough has repeatedly been identified as a base, if not the headquarters, of the British Fleet until the early second century¹⁷³². The only other data indicating a naval presence at the site are a number of ship fittings, the majority of which have been dated to the third century. Isolated examples have, however, been associated with Claudian or Flavian phases at the site¹⁷³³. Although these fittings attest the presence of ships, and may indicate that work on ships was carried out at Richborough, there is no evidence to suggest that any such vessels were military in nature, let alone that they belonged to the CLASSIS BRITANNICA.

23. PORTUS LEMANIS (Lympne)

The Roman remains known as Studfall Castle at Lympne in Kent are those of a 3rd century Saxon Shore Fort¹⁷³⁴. The site has been excavated repeatedly in the 19th century and under Cunliffe in the 1970s. Further work, including geophysical surveys took place in the

¹⁷²⁸ Mason (2003), p. 81; Frere (1991), p. 59.

¹⁷²⁹ Frere (1991), p. 69.

¹⁷³⁰ E.g. Mason (2003), p. 81; Cunliffe (1968), pp. 255&256; for detailed reports of the excavations at Richborough see Bushe-Fox (1949), Bushe-Fox (1932); Bushe-Fox (1928); Bushe-Fox (1926).

¹⁷³¹ Peacock (1977), p. 245; see also RIB II, Fac. 5.

¹⁷³² Mason (2003), p. 113; Viereck (1996), p. 254; Salway (1981), p. 528; Cleere (1978), p. 36. Starr (1993), p. 153 sees Richborough as a station of the CLASSIS BRITANNICA, but not its headquarters. More critical, Reddé (1986), p. 271.

¹⁷³³ Lyne (1996).

¹⁷³⁴ Cunliffe (1977).

1980s¹⁷³⁵. It has been argued that a CLASSIS BRITANNICA base existed at or in the vicinity of Lympne ever since an altar was found built into the east gate of the fort¹⁷³⁶. Indeed, the identification of L. Aufidius Pantera as *praefectus classis Britannicae* led to the suggestion that for a time at least Lympne may have served as headquarters of the British fleet¹⁷³⁷.

Pflaum suggested that the L. Aufidius Pantera on the altar from Lympne was the same individual as the praefect of an *ala* on the Danube frontier in AD 133, therefore dating the altar to the 2nd century¹⁷³⁸. As it was found in the context of a 3rd century Saxon shore fort it is not clear, however, where the altar was actually set up at Lympne. The fact that it was encrusted with barnacles appears to imply that it had been submerged in seawater for some time before being built into the Saxon Shore Fort gate¹⁷³⁹. This suggests that it was set up at a nearby site, and covered by seawater, probably during high tides, for the period between its dedication in the mid 2nd century and its reuse as building material for the Saxon Shore Fort. It is equally possible, however, that the inscription may have come into contact with seawater while it was used as ballast in a vessel travelling to Lympne, dumped, and then recovered reused as building material at a later stage.

The inscription is clearly dedicatory, and can therefore not be taken as proof of a permanent fleet base. As a number of further stones in the east gate have evidently also been reused¹⁷⁴⁰, and 19 CLBR stamped tiles have been built into the Saxon Shore Fort, it has been suggested that an earlier fleet base of the CLASSIS BRITANNICA may have been located in the vicinity of the Saxon Shore Fort at Lympne¹⁷⁴¹.

¹⁷³⁵ Cunliffe (1977); Cunliffe (1980), Hutchinson et al (1985).

¹⁷³⁶ RIB I, 66. For identifications of Lympne as a CLASSIS BRITANNICA base see Mason (2003), p. 112; Starr (1993), p. 153; Cleere (1978), p. 36; Cleere (1977), p. 17.

¹⁷³⁷ Cunliffe (1968), p. 257.

¹⁷³⁸ Pflaum (1960), 133.

¹⁷³⁹ Cunliffe (1977), p. 29.

¹⁷⁴⁰ Cunliffe (1977), p. 29.

¹⁷⁴¹ Mason (2003), p. 112; Cunliffe (1977), p. 29 states that isolated fragments of CLBR stamped tiles have also been found near the walls of the Saxon Shore Fort. While he sees these as clear evidence of a further structure at the site, it appears that they may well stem from the later fortifications, as they have not been excavated in any clearly earlier contexts. See also RIB II Fac. 5.

Excavations established a coin series ranging from Antoninus Pius to c. AD 378¹⁷⁴². The spread of evidence indicates that the main occupation occurred between the mid 3rd and mid 4th centuries, in line with the dating of the Saxon Shore Fort. The pottery, however, includes several 2nd century samian sherds from Central and Eastern Gaul, as well as one Southern Gaulish specimen dating to the 1st century¹⁷⁴³. The coarse-wares, on the other hand, predominately date to the later 3rd and 4th centuries. It appears, therefore, that there was some activity at Lympne before the construction of the Saxon Shore Fort in the 3rd century. Whether this was fleet related, however, is not clear.

24. ? (Folkestone)

The 'villa' at Folkestone was excavated by Winbolt in the 1920s in the hope of finding a fleet related military installation – as seems suggested by the topographical situation: there is a clear line of sight across the Channel to Boulogne, and the harbour of Dover can be overlooked from the site¹⁷⁴⁴. Instead of any military installation, however, Winbolt excavated what he identified as a villa. This has two phases, of which the first has been associated with the British fleet, as Winbolt identified it as the residence of the *praefectus Classis Britannicae*¹⁷⁴⁵. This association is based on 'a number' of CLBR stamped tiles, all of which are built into one hypocaust system¹⁷⁴⁶. This cannot be taken as evidence that the CLASSIS BRITANNICA was involved in the construction of this site; the tiles may well have been supplied by the fleet merely as it was the nearest manufacturer of tiles. The association of the Folkestone 'villa' with the British fleet on the basis that the apsidal room 51 of Phase 1 looks

¹⁷⁴² See Table I in Cunliffe (1980).

¹⁷⁴³ Cunliffe (1980).

¹⁷⁴⁴ Winbolt (1925), p. 76.

¹⁷⁴⁵ Winbolt (1925), pp. 76-78, 118&119. Strangely, this rather fanciful idea has been maintained throughout a significant amount of literature on the CLASSIS BRITANNICA. See Salway (1981), p. 539; Cleere (1977), p. 17; Cunliffe (1968), p. 259.

¹⁷⁴⁶ Winbolt (1925), p. 61.

directly out towards the modern Tour d'Odre in Boulogne, possibly the site of the ancient lighthouse of *Bononia*, must be seen as circumstantial evidence at best¹⁷⁴⁷.

Small finds from the site include coins dating from Augustus to Magnentius (AD 353)¹⁷⁴⁸. Fine-wares include samian from Lezoux, Rheinzabern and Trèves that dates to the 2nd century¹⁷⁴⁹. On this basis, Winbolt placed the construction of the 'villa' around AD 100, arguing that it remained in use until the mid 4th century.

Rigold reassessed the data from Folkestone and reached somewhat damning conclusions regarding the earlier excavation report, stating that Winbolt's coin series were actually adulterated by material from nearby¹⁷⁵⁰. He suggested that, rather than as a villa, the remains at Folkestone should be interpreted as a signal station of the fleet¹⁷⁵¹. This may be an appealing thesis on the basis of the site's topography, but as character and date of the site remain unclear it cannot be proven on the basis of 'a number' of CLBR stamped tiles alone.

25. PORTUS DUBRIS (Dover)

Dover, situated in the estuary of the river Dour, one of the few breaks in the steep chalk cliffs of Kent, has long been identified as a base of the *CLASSIS BRITANNICA*¹⁷⁵². This thesis is based on a number of indicators of naval activity, such as a harbour and two lighthouses, as well as the excavation of a fort that produced several hundreds of CLBR stamped tiles (Fig. 5.11).

In the Roman period, two lighthouses were located in elevated positions of the Dour estuary. Only the eastern one remains, reused as tower of a chapel in the grounds of Dover Castle¹⁷⁵³ (Fig. 5.12). This structure has been studied in detail by Sir Mortimer Wheeler, who

¹⁷⁴⁷ Winbolt (1925), p. 64.

¹⁷⁴⁸ Winbolt (1925), p. 80.

¹⁷⁴⁹ Winbolt (1925), p. 88.

¹⁷⁵⁰ Rigold (1973), p. 31.

¹⁷⁵¹ Rigold (1973), p. 41; see also discussion in Mason (2003), p. 113.

¹⁷⁵² Milne (2000), p. 127; Milne (1995), p. 115; Salway (1981), p. 529; Cleere (1978), p. 36.

¹⁷⁵³ The western lighthouse appears to have been destroyed during the building of fortifications in 1861. See Mason (2003), p. 109.

identified the lower 13m as Roman. These are of an interesting construction, with a rectangular interior space and octagonal exterior. At the base, the walls, which narrow upwards, were at least 4m thick. The lighthouse had several levels, gradually decreasing in size, of which four remain. Wheeler proposes that the lighthouse may originally have had as many as eight stages, giving the structure a height of about 24.5 metres¹⁷⁵⁴.

The first indicators of a Roman harbour at Dover were observed in the mid 19th century, when a breakwater or mole of 30m length was identified. Originally, it was taken to imply the existence of an artificial harbour. Further reports from the 1860s describe Roman “timber piles, groynes and mooring rings”¹⁷⁵⁵. Excavations in 1956 identified a straight line of chalk-block masonry more than 15m in length, which led to the reconstruction of a hypothetical harbour plan by Rigold¹⁷⁵⁶. Further research identified several wooden remains that have been identified as jetties and wharves¹⁷⁵⁷. These were linked with the earlier remains by Fryer, who proposed a more realistic plan of the Roman harbour of Dover¹⁷⁵⁸. Small finds from excavations of structures associated with the harbour suggest that it was in use from the Flavian period until c. AD 200, at which point a destruction layer can be observed throughout the site¹⁷⁵⁹. It is not clear, however, who or what caused this destruction.

In addition to these remains, excavations during the 1970s discovered a series of forts at Dover. While the latest of these was one of the third century Saxon Shore Forts, of which only a corner has been excavated, the earlier two forts have been associated with the CLASSIS BRITANNICA¹⁷⁶⁰. The first fort at the site appears never to have been completed. Some stretches of the west wall, as well as parts of interior buildings interpreted as barracks, have been identified. While the barracks are reconstructed to have consisted of eight regular sized

¹⁷⁵⁴ Wheeler (1929).

¹⁷⁵⁵ For a full discussion of the early observations see Mason (2003), p. 111.

¹⁷⁵⁶ Rigold (1969); Rigold’s reconstruction is rather unreliable as it desperately tries to recreate a harbour similar to that reconstructed for the CLASSIS PRAETORIA MISENENSIS at *Misenum* by Lehmann-Hartleben (1923).

¹⁷⁵⁷ Fryer (1973), p. 271; Cunliffe (1968), p. 258.

¹⁷⁵⁸ Fryer (1973), p. 262.

¹⁷⁵⁹ Rigold (1969), p. 89.

¹⁷⁶⁰ Philp (1981).

rooms, with no large room at the end and therefore differ markedly from the usual layout of 2nd century barracks, this cannot be proven as no single barrack block has been excavated in its entirety¹⁷⁶¹. The dating of the first fort at Dover is unclear, as ceramic and numismatic data place its construction between the Flavian and the Trajanic periods. Philp, however, argues that most of the earlier material is not found in occupation layers: as the majority of 1st century finds stem from levelling dumps and the latest finds associated with fort I date to c. AD 120, he argues that it must have been constructed in the first decade of the 2nd century¹⁷⁶². Philp tried to link this break in occupation at Dover to the involvement of the CLASSIS BRITANNICA in the construction of Hadrian's Wall, an interpretation questioned by Breeze¹⁷⁶³.

The second fort of the CLASSIS BRITANNICA has several phases. While its fortifications have only been partially excavated, it seems to have been built on a slightly larger scale than its predecessor, measuring 1.05ha¹⁷⁶⁴ (Fig. 5.13). Two of the gates were excavated, the northern one with rectangular towers, while the east gate had D shaped towers. Interestingly, the CLASSIS BRITANNICA fort II varies from regular fort layouts as the *via principalis* does not traverse the width of the fort, but its length¹⁷⁶⁵. Philp argues that this would have made the east gatehouse the *porta praetoria*. As this faces the harbour of Dover, he suggests that it underlines the close connection between this fort and the fleet¹⁷⁶⁶.

The barracks of fort II have been reconstructed with eight identically sized rooms. Evidently, Philp took his plans for the barracks of fort I from this plan. Even for fort II, however, no complete barracks survive. The eight room layout is merely a hypothesis based on the assumption that all barracks must have been of the same layout and length¹⁷⁶⁷. While it is true that in regular interior plans of Roman forts barracks are all of the same size, a

¹⁷⁶¹ Philp (1981), p. 15&16.

¹⁷⁶² Philp (1981), p. 92.

¹⁷⁶³ Breeze (1983), p. 373. Nonetheless, Philp's view has been repeatedly reproduced in more recent studies (e.g. Mason [2003], p. 109; Milne [2000], p.128).

¹⁷⁶⁴ Philp (1981), pp. 23&106.

¹⁷⁶⁵ Philp (1981), p. 106.

¹⁷⁶⁶ Philp (1981), p. 107.

¹⁷⁶⁷ Philp (1981), p. 51.

hypothetical reconstruction of an entirely new type of barrack, based on the apparent necessity of even spacing of barracks in an *irregularly* laid out fort seems somewhat dubious.

Philp confidently dates the first phase of fort II to between AD 125 and 140 on the basis of numismatic evidence and suggests that it was occupied continuously until at least AD 138, if not AD 145+, at which point the interior of the fort was demolished and restructured¹⁷⁶⁸. This second phase appears to have lasted until c. AD 170/180¹⁷⁶⁹. A third phase has been identified, with coins from construction and floor layers showing that it must have been constructed after AD 145. Associated pottery pushes this date back towards the end of the second century. Indeed, on the basis of coins from the occupation layers Philp suggests that this phase lasted from the turn of the third century to c. AD 210. Interestingly, no coins or pottery of a post Severan date have been found anywhere at the site¹⁷⁷⁰. The rubble of period three was covered by a fine soil found at five sites throughout the excavation, which the excavator uses to argue that military occupation of fort II must have ceased by AD 270¹⁷⁷¹.

Excavations in Dover have repeatedly discovered large quantities of CLBR stamped tiles¹⁷⁷². During the 1970-75 excavations of the CLASSIS BRITANNICA fort and a structure known as the 'Painted House', 888 stamped tiles were discovered¹⁷⁷³. The site's identification as a fleet base is evidently based mainly on these finds. While there is no epigraphic data referring to the CLASSIS BRITANNICA, it seems likely that a fort built with large quantities of CLBR stamped tiles, situated in an estuary that had a Roman harbour, as well as two lighthouses, was, in fact, a fleet base. It must be noted, however, that the evidence from Dover is nowhere near as substantial as that from Boulogne, discussed below. As any CLASSIS

¹⁷⁶⁸ Philp (1981), p. 93.

¹⁷⁶⁹ Philp (1981), p. 94.

¹⁷⁷⁰ Philp (1981), p. 94.

¹⁷⁷¹ Philp (1981), pp. 94-96.

¹⁷⁷² Aside from the CLASSIS BRITANNICA fort excavations, CLBR stamped tiles have repeatedly been discovered at the following sites across the Dour estuary: a) the Church of St Mary the Virgin, b) Cannon Street, c) the Market Square, d) the Unitarian Church, e) Market Lane, f) Church Street, g) Yewden's Court, as well as the Eastern and Western lighthouses. See also RIB II, Fac. 5.

¹⁷⁷³ Philp (1981), p. 123.

BRITANNICA presence in the Dour estuary must furthermore have been based in a fort of c. 1ha, it can have been little more than a detachment of the fleet¹⁷⁷⁴.

26. GESORIANUM/BONONIA (Boulogne)

The city of Boulogne has been identified as a base of the CLASSIS BRITANNICA throughout past scholarship, although its role as headquarters of the fleet has only been accepted amongst British scholars in recent years¹⁷⁷⁵. The site is situated on the Liane estuary in northern France in a topographical situation similar to that of Dover (Fig. 5.14). In Boulogne, however, the Roman fort is not located at the lowest point of the estuary, but in an elevated position on its side. It underlies the old city of Boulogne, as the walls of the Roman fort appear to have been reused and fortified *in situ* throughout history¹⁷⁷⁶ (Fig. 5.15).

No harbour installations have been discovered at Boulogne to date – mainly so as the modern port of Boulogne takes up the entire Liane estuary and coastline, making excavation impossible. It is likely, however, that the harbour was located in the ‘Anse de Brequerecque’, a small bay off the Liane estuary located below the fortifications of Boulogne¹⁷⁷⁷. It has been suggested that the “Tour d’Odre”, a structure described in 1644 that has since been destroyed, may have been a Roman lighthouse similar to those at Dover¹⁷⁷⁸.

The fortifications of Boulogne surround an area of 12.45ha, indicating that the CLASSIS BRITANNICA fort at *Bononia/Gesoriacum* was c. twelve times the size of the fort at Dover. The *porta praetoria*, now *Porte des Degres*, faces towards the Liane inlet and the postulated harbour of *Gesoriacum*, providing a similar focus of orientation as that suggested at Dover. Parts of the fort at Boulogne have been excavated in the 1980s, although research

¹⁷⁷⁴ While Philp (1981), p. 114 argues that Dover housed a squadron of 600-700 men, and therefore at least ten warships, Breeze (1983) has clearly shown that this is a drastic over-estimate, arguing that a fort of c. 1ha could at most have supported 200 men.

¹⁷⁷⁵ See note 1423 above.

¹⁷⁷⁶ Demon (2004); Will (1960).

¹⁷⁷⁷ Seillier (1996), p. 215.

¹⁷⁷⁸ Seillier (1986), p. 165. Whether this is the lighthouse built by Caligula on his aborted invasion of Britain, as has been suggested by several French scholars, cannot be proven. See also Mason (2003), p. 107 and for a fuller discussion Reddé (1986), pp. 273&274.

concentrated mainly on the *retentura* in the northern part of the fort¹⁷⁷⁹ (Fig. 5.16). The excavators identified a number of barracks that appear to follow the traditional 2nd century layout of barracks, an arrangement of ten double rooms (*contubernia*) with larger officers' quarters at one end. These barrack blocks appear to have been purposefully abandoned and dismantled, but there is not enough data to provide a date for this end¹⁷⁸⁰.

A second smaller area near the *porta principalis dextra*, the modern *Porte des Dunes*, was excavated in the early 1980s in order to clarify the chronology of the perimeter walls. It appears that the first stone fortifications consisted of a wall with rectangular interior towers that was built in the 2nd century. While the existence of an earlier earth and timber fort has been suggested, there is no evidence to prove this other than a ditch that apparently preceded the building of the 2nd century walls¹⁷⁸¹. As no datable evidence has been found in this ditch it may, however, simply be part of the 2nd century defences. The 2nd century fortifications are cut by a construction trench in the area of the *rue Saint Jean*, interpreted as the result of an extension and realigning of the walls in the 3rd century¹⁷⁸².

The current interpretation of the fort at Boulogne is that it was briefly abandoned during the 3rd century. After a period of abandonment, the entire site is believed to have been systematically levelled and rebuilt on a slightly larger scale. While it may be tempting to link these observations to historical events related to Carausius or Constantius Chlorus, Seillier clearly states that there is not enough datable evidence to support any such identification¹⁷⁸³. The layer associated with the levelling of the fort, contained several *antoniniani* of Gallienus, Postumus and Claudius II, indicating that the occupation of the 2nd century fort must have continued until around AD 270. Outside the walls, the construction layers of the 3rd century

¹⁷⁷⁹ Seillier (1984) ; Gosselin et al. (1978); Gosselin et al. (1976).

¹⁷⁸⁰ Seillier (1986); p. 174. The existence of these regular barracks makes Philp's thesis of a fleet specific *contubernium* type with only eight rooms, as mentioned above, even more unlikely.

¹⁷⁸¹ Seillier (1984), p. 172.

¹⁷⁸² Seillier (1984), pp. 176&177.

¹⁷⁸³ Seillier (1984), p. 178.

produced coins of Tetricus dating to AD 274, suggesting that the razing of old and building of new installations must have occurred at some point during or after this year¹⁷⁸⁴.

While the precise number of CLBR stamped tiles from Boulogne has never been published, every excavation in the old city has produced some tiles stamped by the British fleet. Further examples are known from various sites in the 'lower city', the area of the presumed Roman harbour. This strongly suggests that several structures throughout the Roman fort were constructed with building materials provided by the CLASSIS BRITANNICA¹⁷⁸⁵.

The identification of Boulogne as a base of the British fleet, indeed its headquarters is finally given by a number of inscriptions found here. Four of these refer directly to the CLASSIS BRITANNICA, while two others imply a naval unit at the site, but do not explicitly mention the British fleet. None of the direct references for the fleet are from dedicatory inscriptions; three are funerary and attest that two *milites classici* and a *trierarchus* of the CLASSIS BRITANNICA died at Boulogne¹⁷⁸⁶. The fourth fleet inscription is even stronger evidence of the prolonged presence of the British fleet: a funerary dedication by a *trierarchus* to his deceased infant daughter¹⁷⁸⁷. As a soldier of the CLASSIS BRITANNICA had a daughter and therefore presumably a family at Boulogne it is clear that the British fleet was based here for an extended period of time, if not permanently.

Two further inscriptions refer to *trierarchi*, but do not actually mention the CLASSIS BRITANNICA. As such, they cannot constitute direct evidence for the fleet at Boulogne, but clearly indicate a significant degree of naval activity at the site. This is implied even more directly by a dedication to Sol found at Frencq, c. 10km south of Boulogne (**Fig. 5.17**). This clearly depicts two warships and reads III RAD in a *tabula ansata*, which has been interpreted

¹⁷⁸⁴ Seillier (1984), p. 177; see also Belot & Canut (1993), pp. 83-85; for the most recent dating of Boulogne on the basis of ceramic evidence see Dhaeze & Seillier (2005).

¹⁷⁸⁵ Seillier (1996), pp. 213-215; Reddé (1986), pp. 272-278; see also le Bourdellès (1988). For stamped tiles published as part of individual excavations see, amongst others, Belot & Canut (1993); Gosselin & Seillier (1978); Gosselin et al (1978); Gosselin et al (1976); Seillier & Gosselin (1969).

¹⁷⁸⁶ For the *milites classici* CIL XIII, 3543; CIL XIII, 3544; for the *trierarchus* CIL XIII, 3540. See Appendix V.

¹⁷⁸⁷ CIL XIII, 3546. See Appendix V.

by Höckmann as implying that it was set up by the crew of a trireme called *Radians*. While there is nothing to indicate directly that the *Radians* was a vessel of the CLASSIS BRITANNICA, this appears eminently plausible.

V.III DISCUSSION

The survey above reflects the problem highlighted in the introduction, namely that what is thought to be the understood history and development of the CLASSIS BRITANNICA is based to a large extent on hypotheses and conjecture. As only three sites out of the 26 currently associated with the British fleet (Fig. 5.2) produced sufficient evidence to suggest a permanent naval base, theses suggesting that the CLASSIS BRITANNICA was a supply unit that operated throughout British waters and maintained several bases all over the British Isles must clearly be revised.

Epigraphic Evidence for the CLASSIS BRITANNICA (Fig. 5.18)

Both quantity and distribution of inscriptions referring to the CLASSIS BRITANNICA as seen on Fig 5.18 show that very little can be learned from an epigraphic study of the British fleet. While no sites produced sufficient evidence to suggest a permanent fleet presence, only two sites produced more than single inscriptions. The existence of two sites with epigraphic references to naval activity not connected to the fleet, however, lends further support to earlier theses that not only the established *classes* operated in the northern provinces.

References to a COHORS I AELIA CLASSICA on a diploma and a lead sealing have long been taken as indicators of a fleet presence at Ravenglass (6). Like COHORS I CLASSICA in *Germania Inferior*, this unit is evidently not connected to the established fleet of the province, as it is entered amongst the other auxiliary units in the diploma found at the site¹⁷⁸⁸. If these units are to be seen as naval units, for which there is no evidence, the presence of a naval unit that is *not* the CLASSIS BRITANNICA suggests that naval control in this part of the province did not involve the British fleet. The inscription referring to a *gubernator legionis VI* from

¹⁷⁸⁸ See pp. 236&237 above.

Brough (9) cannot be connected to the British fleet either, as it identifies him as a member of the legion based at York. While this is not proof that the legion at York maintained a naval squadron and possible supply base at Brough-on-Humber, as has been suggested¹⁷⁸⁹, it certainly underlines observations from the earlier chapters that legions on the northern frontier may have had ships of their own.

The two inscriptions referring to *pedaturae* of the CLASSIS BRITANNICA that have been found around Birdoswald (2) cannot be taken to imply any permanent fleet presence at the site as they denote sectors of Hadrian's Wall built by soldiers of the CLASSIS BRITANNICA, presumably a detachment. While the involvement of fleets in large scale building programmes is known from the CLASSIS GERMANICA¹⁷⁹⁰, it is well attested that the entire army of Britain was involved in the building of Hadrian's Wall¹⁷⁹¹. As such, any presence of the CLASSIS BRITANNICA at a land-locked site must clearly have been temporary.

While the building inscription from the fort at Benwell (3) has often been taken as proof that the CLASSIS BRITANNICA was in charge of supplying the Roman army in *Britannia*, it need imply no such thing. As the consular reference dates it to the period of construction work at Hadrian's Wall, it must be seen to indicate a temporary presence related to this project in the same way as the *pedatura* references from Birdoswald¹⁷⁹².

The altar set up by L. Aufidius Pantera need not imply that Lympne (23) was a fleet base, although it has been used in the past to suggest that the headquarters of the CLASSIS BRITANNICA were located at this site¹⁷⁹³. As it is an altar to Neptune, it could well have been set up by the *praefectus* of the British fleet in thanks for deliverance from a stormy crossing

¹⁷⁸⁹ See pp. 243&244 above.

¹⁷⁹⁰ See p. 219 above.

¹⁷⁹¹ Frere (1991), 115-117.

¹⁷⁹² See p. 231 above; for Birdoswald see pp. 229&230 above. For a similar conclusion, see also Rankov (2005), p.65.

¹⁷⁹³ Cunliffe (1968), p.257.

from Boulogne. RIB I, 66 was furthermore built into the east gate of the later Saxon Shore fort, making it unclear whether it actually originates from Lympne itself¹⁷⁹⁴.

The epigraphic record from Boulogne (26), on the other hand, clearly indicates the presence of the CLASSIS BRITANNICA: while the three funerary inscriptions set up for a *trierarchus* and two *milites classici* indicate an extensive fleet presence at the site, this is supported further by CIL XIII, 3546. The fact that a *trierarchus* set up a funerary inscription to his deceased infant daughter indicates that Boulogne was a site where fleet soldiers were able to have wives and children, i.e. a permanent base¹⁷⁹⁵. While CIL XIII, 3542 and 3545 do not refer directly to the actual CLASSIS BRITANNICA, the evident association of Boulogne with this unit makes it unlikely that the two *trierarchi* were attached to any other naval unit. The dedication to Sol depicting two warships and a *tabula ansata* that reads III RAD may further indicate a naval presence at Boulogne if it is, as suggested by Höckmann, to be read as referring to the *trireme* 'Radians',¹⁷⁹⁶.

The epigraphic record of the CLASSIS BRITANNICA does, therefore, support Starr's original thesis that its main base was located at Boulogne and its regular operations did not go beyond the English Channel region¹⁷⁹⁷. This is corroborated by the fact that Boulogne alone produced more direct references to the CLASSIS BRITANNICA than all of Britain, as well as two further inscriptions suggesting a naval presence at the site that do not refer directly to the British fleet. The evidence does not, however, support Starr's thesis, and widely-held belief amongst scholars in Britain, that the CLASSIS BRITANNICA maintained several bases at various points along the English Channel, let alone throughout the British Isles¹⁷⁹⁸. If anything, the epigraphic data from Northern England seems to imply that naval operations in this part of the province may have been carried out without the direct involvement of the fleet.

¹⁷⁹⁴ See p. 267 above.

¹⁷⁹⁵ See p. 275 above.

¹⁷⁹⁶ See pp. 275&276 above.

¹⁷⁹⁷ Starr (1993), p.153.

¹⁷⁹⁸ See pp. 224-226 above. For similar conclusions to the ones reached here see Rankov (2005), p.65.

Tiles stamped by the CLASSIS BRITANNICA (Fig. 5.19)

The distribution of tiles stamped by the British Fleet as seen on Fig. 5.19 presents an even more compelling picture than the plot of epigraphic data. While the vast numbers of CLBR stamped tiles from iron working sites in the Weald are a phenomenon unto themselves, it is interesting that, aside from these and three stamps found at London and Southwark, all known stamped tiles of the fleet were found on the English Channel coast. There is no indication, therefore, that the CLASSIS BRITANNICA ever operated outside this region.

As the stamped tile from Richborough (22), as well as the two specimen from Pevensey (17) and 19 tiles from Lympne (23), were all found in secondary contexts, they cannot be taken as evidence for a permanent presence of the CLASSIS BRITANNICA at these sites¹⁷⁹⁹. The same applies to the 5-7 tiles that were found at the Roman villa in Folkestone (24). Although these have led to the rather fanciful identification of the site as the villa of the *praefectus classis Britannicae*, in reality they hardly prove that the fleet remains at Folkestone are directly related to the feet: built into the same hypocaust system, they are evidently part of a single shipment of building materials rather than the result of a prolonged supply¹⁸⁰⁰.

The CLBRIT stamped tiles found in London (14) and Southwark (15) can hardly be taken as evidence for a detachment of the fleet in the provincial capital. While Milne uses the fleet tiles to argue that the CLASSIS BRITANNICA may have supplied materials for the building of the walls of *Londinium*, this is very much a hypothetical model¹⁸⁰¹. It does not seem

¹⁷⁹⁹ On Richborough, see p. 266 above; for Pevensey p. 261; for Lympne p. 267.

¹⁸⁰⁰ Winbolt (1925), pp. 175-180 rather charmingly describes the villa as residence of the fleet praefect gazing out over his domain. Surprisingly, this idea has been taken up by a significant number of scholars (e.g. Salway [1981], p.539; Cleere [1977], p.17; Cunliffe [1968], p.259) despite some harsh criticisms regarding Winbolt's dating and interpretation of the site by Rigold (1972), who argues that the most the CLBR tiles from the site can indicate is a possible signalling station.

¹⁸⁰¹ Milne (2000), p.129. Apparently the ragstone found on board the Blackfriars ship is similar to that found in quarries near the river Medway. Milne therefore suggests that, as the CLASSIS GERMANICA did for the forum of the *colonia Ulpia Traiana*, the CLASSIS BRITANNICA may have quarried ragstone for the city wall at *Londinium* (see also Marsden [1994], p.17).

unlikely, however, that three isolated tiles of the British fleet may have made their way to London and Southwark as part of general movements of building materials¹⁸⁰².

The large numbers of stamped tiles, found in a variety of types and built into several buildings of the forts at Dover (25) and Boulogne (26) evidently support the identification of these sites as naval bases. Indeed, the fact that at Dover CLBR tiles were found not just in the fort that has been linked to the CLASSIS BRITANNICA but also at other excavated areas of the city as well as the lighthouses seems to suggest that the fleet supplied building materials across the entire Dour Estuary¹⁸⁰³. While fewer tiles in fewer varieties have been found at Boulogne, this may well be due to the fact that less of the actual site has been excavated. To date, several varieties of CLBR stamped tiles have been found in excavations throughout Boulogne, suggesting that they were used in a number of structures¹⁸⁰⁴.

While the four sites in the Sussex Weald that produced such a significant number of CLBR stamped tiles cluster together on the distribution map, Cranbrook (19) may be regarded as separate from the other three. Although the 50 stamped tiles found here are a significant number, all the tiles come from the same structure. It seems likely, therefore, that the tiles at Cranbrook are building materials supplied by the British fleet, which seems to have produced them in extremely large numbers in the region.

The sites of Bardown (18), Bodiam (20) and Beauport Park (21) produced close to 2000 CLBR stamped tiles. At Bardown and Beauport Park there is clear evidence for large-scale ironworking in the form of extensive slag-heaps. It has therefore been suggested that an imperial mining district may have existed in this region, and that this was run by the CLASSIS BRITANNICA¹⁸⁰⁵. While this theory cannot be proven, it is clear that the British fleet was somehow involved at these sites. As a significant number of tiles from Bardown and all 1600 tiles from Beauport Park were built into single structures, namely bath-houses, this could

¹⁸⁰² See discussions of London and Southwark, pp. 255&256 and p. 258 above.

¹⁸⁰³ See p. 272 above.

¹⁸⁰⁴ See p. 275 above.

¹⁸⁰⁵ Mason (2003), p.114; for the full argument see Cleere & Crossley (1985), pp. 57-86; see also Cleere (1974).

indicate simply that the fleet set up the infrastructure of these iron-working sites during their establishment in the 1st century. It need not imply that the fleet was in charge of iron production, as has been suggested. Indeed, at its most basic level, the data merely indicates that the British fleet provided building materials for two bath-houses and perhaps other isolated structures¹⁸⁰⁶. The 26 CLBR stamped tiles found at Bodiam have been taken to indicate that the site was a transshipment point for iron from the Weald on the sole basis that all other Wealden sites are landlocked, while Bodiam is located on the river Rother. As no harbour-works or even associated structures have been found at the site, however, it is entirely unclear what precise purpose the site may have served¹⁸⁰⁷.

CLBR stamped tiles can therefore be used to identify Dover and Boulogne as bases of the CLASSIS BRITANNICA. They also indicate the fleet's involvement in the Wealden iron production sites, although it is difficult to understand what precise form this took. The evidence does, however, indicate that, aside from activity in the Weald, operations of the CLASSIS BRITANNICA were limited to the immediate Channel environs of Boulogne and Dover. As such, it lends further credence to the theories recently proposed by Rankov, whilst not supporting the majority of currently held British views regarding the role of the CLASSIS BRITANNICA¹⁸⁰⁸.

Direct evidence for naval activity (Fig. 5.20)

As shown in Fig. 5.20, archaeological evidence for naval activity in Britain does to some extent reflect currently held views that naval bases must have been situated around the

¹⁸⁰⁶ Cleere & Crossley (1985), pp. 83&84. This argument does, however, rest on the acceptance of the theory that the CLASSIS BRITANNICA was mainly tasked with supply of the military, which has to date not been proven; see also Rankov (2005), p.65, who suggests that the fleet was involved in iron production as early as the 1st century, and Milne (2000), pp. 128&129. The theory that the fleet may merely have provided the infrastructure for iron production in the Weald is supported by Frere (1991), p.287 who suggests that in the Weald, as in the Forest of Dean and the Lincolnshire-Northamptonshire borders, iron production is likely to have been in the hands of British craftsmen, with the Roman military merely providing a general infrastructure to facilitate large scale operations at these sites. See also further discussion below, pp. 286&287.

¹⁸⁰⁷ See pp. 263&264 above.

¹⁸⁰⁸ See pp. 225&226 above.

coasts of the British mainland. The survey of data related to the CLASSIS GERMANICA has demonstrated, however, that not all harbour installations or ships automatically indicate the presence of an established *classis*.

The identifications of harbour installations at Cramond (1), Burgh Castle (13) and Bitterne (16) cannot be verified as they rest solely on 19th century observations that have no published plans or other verifiable data. Even if Bitterne had a harbour this cannot be taken as evidence of a fleet presence at this site, as there is no evidence for any military presence before the 4th century¹⁸⁰⁹. Similarly, even had a harbour been located at Burgh Castle, there is nothing to suggest occupation of the site before the late 3rd century¹⁸¹⁰. While Cramond is a military site clearly occupied during the 1st-3rd centuries, there is no associated evidence to link it to the British Fleet¹⁸¹¹.

While Richborough (22) has frequently been identified as a base of the CLASSIS BRITANNICA during the 1st century and may have been a landing site during the occupation of Britain, no harbour remains have been identified. The only existing evidence for a naval presence are a number of ship fittings. As has been discussed above, these cannot be taken to imply a fleet base at the site, as they merely indicate the presence of ships, which need not have been military in nature at all¹⁸¹².

The harbour installations discovered at Chester (8) and Caerleon (10) were evidently used during the 1st-3rd centuries, but cannot be linked to the CLASSIS BRITANNICA. The presence of a funerary inscription recording that an *optio naufregio perit* could indicate that the garrison of *Deva*, LEG XX VALERIA VICTRIX may have been engaged in naval activity of its own¹⁸¹³. While this thesis can be supported by examples of legions supporting naval detachments identified in the preceding chapters, it must remain a speculative suggestion.

¹⁸⁰⁹ See pp. 260-261 above.

¹⁸¹⁰ See pp. 249&250 above.

¹⁸¹¹ See pp. 227-229 above.

¹⁸¹² See pp. 265&266 above.

¹⁸¹³ See pp. 240-242 above.

There is not even tenuous evidence to suggest that LEG II AVGUSTA at Caerleon maintained a naval detachment. As such, the harbour installations at *Isca* must be seen in connection with the legion's supply chain, rather than as indication of a CLASSIS BRITANNICA base¹⁸¹⁴.

The remains of the Roman harbour at Gloucester (11), while indicating a busy river port, were evidently purely civilian, as they are located at the site of the civilian *colonia* rather than the military base at Kingsholm¹⁸¹⁵. Although the harbour of Roman London (14) has been studied in detail and is probably one of the best known Roman waterfronts in north-western Europe, neither the harbour-zone nor the various ships that have been found here indicate any military use. Indeed, if anything, the evidence shows that *Londinium* was a busy civilian port, rather than a naval base¹⁸¹⁶.

The only identifiable harbour remains that can be linked to the CLASSIS BRITANNICA are the various indicators of naval activity at Dover (25). Two lighthouses, as well as jetties and a quay indicate that the site was used as a harbour in the Roman period, as it is today. The existence of a fort linked to the CLASSIS BRITANNICA further underlines that *Portus Dubris*, identified as a port by its very name, evidently served as a station of the British fleet¹⁸¹⁷.

As such, the study of archaeological remains related to naval activity in Roman Britain does not indicate that CLASSIS BRITANNICA bases ever existed outside the immediate environs of the English Channel. Indeed, far from a series of stations around the coasts, there is no evidence for any fleet bases in Britain other than at Dover. While it is possible to suggest that LEG XX VALERIA VICTRIX may have maintained a naval squadron at Chester, it seems likely that the harbours at the legionary bases of *Deva* and *Isca* must be seen as part of their garrisons' supply chain rather than as indicators of any naval forces¹⁸¹⁸.

¹⁸¹⁴ See pp. 244&246 above.

¹⁸¹⁵ See pp. 246&247 above.

¹⁸¹⁶ See pp. 253-256 above.

¹⁸¹⁷ See pp. 269-273 above.

¹⁸¹⁸ See also discussion in Mason (2003), pp. 124-126; for similar conclusions based on German evidence see, p. 217 above.

Evaluation of evidence for the CLASSIS BRITANNICA (Fig. 5.21)

Fig. 5.21 shows that seven out of the 26 sites currently identified as bases of the CLASSIS BRITANNICA shown in Fig. 5.2 produced no reliable data to indicate a naval presence at all. The evidence from five further sites is not related to the British fleet, but indicates either a naval presence other than the fleet or must be linked with civilian shipping. It is clear, therefore, that apart from a temporary presence in Northern England and a possible link with London, there is no evidence that the CLASSIS BRITANNICA ever operated outside the English Channel.

The evidence for a COHORS I AELIA CLASSICA at Ravenglass (6) and a *gubernator* of LEG VI VICTRIX at Brough (9) supports the theory that naval operations in northern Britain may have been organized entirely separately from the CLASSIS BRITANNICA. While data from Chester (8) may support this hypothesis, the fact that an *optio* of an unnamed unit died in a shipwreck cannot be taken as concrete proof that LEG XX VALERIA VICTRIX had a naval detachment¹⁸¹⁹. As the data from Caerleon (10) and Gloucester (11) evidently belongs to a civilian or supply context it cannot be taken to imply any form of naval presence.

The ‘insufficient evidence’ from Birdoswald (2) and Benwell (3) is solely epigraphic and has been discussed above. It is clear that the three inscriptions of the CLASSIS BRITANNICA found at these sites indicate that the fleet, or a part of it, was involved in the construction of Hadrian’s Wall, a command that must presumably have been temporary. The remainder of sites classed as ‘insufficient’ in terms of evidence for the British fleet are all identified on the basis of stamped tiles alone. They are therefore dealt with in the discussion of stamped tiles.

The identification of Lympne (23) as a potential fleet base is somewhat misleading, as the ‘several types of evidence’ from the site constitute an altar to Neptune that was built into the east gate of the Saxon Shore Fort, as well as 19 CLBR stamped tiles found in secondary contexts¹⁸²⁰. As such, there can be no direct link between this site and the CLASSIS BRITANNICA. The same applies to London (14), where the extensive harbour installations are

¹⁸¹⁹ See also Mason (2003), pp. 92&30, 100&101.

¹⁸²⁰ See pp. 266-268 above.

clearly civilian. While a tenuous link with the CLASSIS BRITANNICA has been established on the basis of a single CLBR stamped tile, this cannot be proven¹⁸²¹. As such, the data from London can at best indicate a temporary presence of the British fleet.

This leaves Dover (25) and Boulogne (26) as potential bases of the CLASSIS BRITANNICA. Indeed, the various types of evidence and sheer number of stamped tiles (in the case of Dover) and inscriptions (in the case of Boulogne) put any such identification beyond doubt. The fact that the Roman fort at Boulogne was more than 12 times the size of that at Dover makes it likely that the headquarters of the British fleet were indeed located on the French coast, as initially suggested by Starr and maintained in the most recent studies¹⁸²².

If the CLASSIS BRITANNICA headquarters were located at Boulogne, this could have interesting implications with regard to its involvement in the iron production sites of the Weald. Petrological analyses of CLBR stamped tiles carried out by Peacock showed that the fleet had at least two centres of tile production, one near Boulogne in France and one that used Fairlight Clay from deposits in the Weald itself¹⁸²³. If the CLASSIS BRITANNICA was sent to Britain in the late 1st or early 2nd century to set up an infrastructure for iron production in the Weald, this could have been its first commitment in *Britannia*¹⁸²⁴. As such, it would make sense to utilize local clay resources, building a new kiln near the site that required building materials rather than ferrying them across from France. Such an interpretation of the evidence is supported by the fact that the river Rother, argued to have been a transshipment point for

¹⁸²¹ See note 1798 above.

¹⁸²² Starr (1993), p.152; Rankov (2005), p.65; Mason (2003), p.11. If Boulogne was, indeed, the headquarters of the CLASSIS BRITANNICA, this has interesting implications: as Dover was part of *Britannia*, the British fleet would therefore be the first provincial fleet to be based in two entirely separate provinces. This leads to a tempting hypothetical model: while Britain as a province has produced similar numbers of military diplomata to other provinces along the northern frontier, no known constitution refers to the CLASSIS BRITANNICA. Several references, however, are known for all other provincial fleets. If the fleet's main base was located at Boulogne, it could have been administered through the province of *Gallia Belgica*. As this province had no real army of its own, the total number of diplomas issued would have been minimal, making the survival, or even discovery of a constitution including the fleet extremely unlikely.

¹⁸²³ Cleere (1974), p.188. See also Peacock (1977). The French production centre was probably located at Desvres, c. 10km south-east of Boulogne, where a number of CLBR stamped tiles have been found (see Crowley & Betts [1992], p.219; Hamy [1904]).

¹⁸²⁴ The earliest evidence from Dover, as discussed on p. 271, dates to the early 2nd century (see also Rankov [2005], p.65; Mason [2003], pp. 107-11; Philp [1981], p.92).

Wealden iron, meets the English Channel at Rye, about 2 miles from the clay deposits at Fairlight. The site may therefore indeed have served as a transshipment point, but one of CLBR stamped building material rather than iron. While this model must remain hypothetical, it shows that the involvement of the CLASSIS BRITANNICA in the Wealden iron industry, while evident, need not have been as extensive as suggested in the past¹⁸²⁵. Whatever the extent of CLASSIS BRITANNICA involvement in this area, it presents an interesting parallel to the involvement of the CLASSIS GERMANICA in major engineering projects¹⁸²⁶.

This survey has identified not only that the headquarters of the CLASSIS BRITANNICA were located at Boulogne, as has been accepted by recent British scholarship, but also that there is no evidence that the CLASSIS BRITANNICA ever was involved in any major activity outside the English Channel. There is no evidence that the British fleet ever patrolled and secured the shores of Britain and maintained several stations, or that it supplied the army of *Britannia*. Nonetheless, it is interesting to note that the CLASSIS BRITANNICA is the only provincial fleet with evidence for the existence of more than one base. This does suggest, as pointed out by Rankov, that its primary task was to safeguard communications between Britain and the continent¹⁸²⁷. Consequently, a number of currently held presumptions, as identified in the introduction to this chapter, clearly need to be revised.

¹⁸²⁵ Cleere & Crossley (1985).

¹⁸²⁶ See p. 219 above.

¹⁸²⁷ See note 1429 above.

CHAPTER VI

CONCLUSIONS

The above description and evaluation of data is inevitably negative and must be limited by the fact that not all evidence for the four northern provincial fleets that may have survived has necessarily been discovered to date. It is equally possible that a number of sites, particularly in the Danube and Rhine deltas as well as coastal regions of Britain, may have disappeared without trace because of riverine or marine erosion. In view of the methods employed by past researchers of naval activity in this part of the Roman Empire, as well as their limitations, however, it was necessary to adopt a minimalist approach in order to ensure that any arguments presented in the above discussions are based on reliable evidence. Any other methodology would have run the direct risk, evident in so many past studies of these units, of perpetuating some of the over-optimistic views outlined in Chapter I and the introductory sections to each of the previous four chapters. As has been shown, this is particularly true where long-standing preconceptions regarding the roles of the four fleets studied are actually based upon little or no evidence.

While the data currently available is clearly not sufficient to allow for a complete understanding of all aspects of the provincial fleets' chronological developments and operational tasks during the Principate, the analyses of actual evidence related to these four fleets nonetheless have highlighted some key issues and misconceptions in recent scholarship. As the conclusions reached above are based on reliable data, rather than the opinions of earlier fleet scholars, they represent a dependable foundation for suggestions on how some of these issues and misconceptions could be resolved or rectified.

It is important that any future research regarding naval activity in the northern provinces during the Principate must clearly define what it is investigating, as the four established fleets, the *CLASSIS PANNONICA*, *CLASSIS MOESICA*, *CLASSIS GERMANICA* and *CLASSIS BRITANNICA* were clearly not the only agents of naval activity in this region. This has a direct effect on a number of current debates regarding naval campaigns during the Julio-Claudian period in general and the time of the Augustan occupation campaigns in particular.

Furthermore, the geographic distribution of fleet bases and hence range of regular fleet operations must be reassessed, as the plots of evidence above bear little resemblance to those of currently identified stations of each fleet. This, in turn, directly affects prevailing views and assumptions regarding the operational duties of these units during the 1st to 3rd centuries. These reinterpretations, finally, must be seen in the wider context of naval policy on the northern frontier during the Principate, our current understanding of which should evidently be revised.

It is important to note that any of the following considerations are founded upon the evidence presently available that has been discussed above. While this approach offers as impartial as possible an interpretation of historical developments based on current archaeological data, it cannot claim to reconstruct historical facts. Any suggestions are bound to be modified, if not disproven entirely, by the results of new excavations and chance discoveries of inscriptions, diplomata, clearly identifiable military ships or other data that could directly affect the current understanding of known fleet bases or prove the existence of further, as yet unknown, naval stations. This is particularly true in view of ongoing archaeological research at three key sites closely related to the four fleets studied: *Noviodunum* in Romania, Cologne in Germany and Boulogne in France.

The nature of fleets on the northern frontier during the Principate

As early as 1988, Saddington suggested that there was a significant difference between naval activity in general and established fleets. He pointed out that while there are several references to the use of ships and fleets in literary sources of the Republic and Early Empire, none of these actually refer to any of the provincial *classes* by name¹⁸²⁸. This, according to Saddington, meant that modern scholarship should distinguish between ‘invasion fleets’, i.e. *ad hoc* created units for a specific campaign such as the German campaigns of Augustus or

¹⁸²⁸ See survey of literary evidence for fleet activity in Chapter I, pp. 3-9 above.

Trajan's Dacian wars, and 'standing fleets', units with established bases that were assigned to a provincial army and had a hierarchy of command resembling that of land based units as well as a more or less clearly defined range of operational duties¹⁸²⁹.

This argument has been substantiated by all four discussions above: while ancient literary sources identify a naval element during all early occupation campaigns in the northern provinces, there is no evidence to show that any of the four fleets studied were involved in these events. Although the data from *Siscia* appears to confirm literary accounts of naval action involving Roman ships and native dugouts during the Augustan occupation of the Balkans, the site produced no evidence to indicate that the CLASSIS PANNONICA ever operated there¹⁸³⁰. The large harbours at Velsen and Haltern in Germany furthermore seem to verify literary sources which state that the Augustan campaigns in the Rhineland and northern Germany were carried out with significant naval involvement. Neither site, however, produced any evidence related to the CLASSIS GERMANICA¹⁸³¹. The same applies to the lower Danube, where there is no evidence for the involvement of the CLASSIS MOESICA in the occupation campaigns of the early 1st century AD, while the earliest reference to the CLASSIS BRITANNICA is literary and, as it dates to AD 70, cannot be connected to the earlier invasions of Caesar, Caligula or Claudius¹⁸³².

Early fleet chronology

This observation has a direct bearing on common assumptions regarding the establishment of the provincial fleets in the northern provinces. It has been suggested that the CLASSIS PANNONICA may have been created for the earliest Pannonian campaigns in 35 BC or

¹⁸²⁹ Saddington (1988), pp. 301-304. See also Saddington (2007), Saddington (1990a); Saddington (1990b) as well as pp. 20&21 above.

¹⁸³⁰ On the siege of *Siscia* see note 12; for the discussion of *Siscia* see pp. 71&72 above.

¹⁸³¹ For the Augustan occupation campaigns in Germany see note 13; for the discussion of Velsen see pp. 144-150, for Haltern pp. 178-181 above.

¹⁸³² For references to the early occupation of the lower Danube see note 12, for the invasions of Britain see notes 4 and 14 above. A discussion of evidence related to the establishment of the CLASSIS MOESICA can be found on pp. 87&88 above. For the earliest reference to the CLASSIS BRITANNICA see note 1431 above.

the Augustan advance to the Danube in 15/12 BC¹⁸³³. The Moesian fleet has, similarly, frequently been seen as an Augustan creation, established c. AD 12/15¹⁸³⁴. There is, however, no reliable data to indicate that either of the Danube fleets existed in the Julio-Claudian period. While the only evidence for the existence of the CLASSIS PANNONICA in the 1st century AD is its honorific FLAVIA, the earliest possible date for the CLASSIS MOESICA is provided by a military diploma that may, but need not, indicate the fleet's existence in AD 66¹⁸³⁵. On the Rhine, the creation of the CLASSIS GERMANICA has long been linked with the Augustan occupation campaigns in 12 BC or, in more recent research, attributed to the reign of Tiberius¹⁸³⁶. The only indicator for the early history of the German fleet, however, is its evident association with the fort at Cologne-Alteburg, which was established as a permanent base in the Claudian period¹⁸³⁷. As discussed above, the earliest reference to the CLASSIS BRITANNICA is literary, and dates to AD 70. As such it cannot be related to traditional views of the fleet's creation which date it to various points between 55 BC and AD 43¹⁸³⁸.

More importantly than merely confirming an existing thesis, however, the above analyses have shown that there was no such thing as a 'Roman Navy' in the modern sense of the word. The development of each of the four fleets must be seen as a direct result of the historical development of their area of operations, while their geographical distribution and related evidence indicate that elements such as tile production or operational tasks were influenced directly by local events and requirements. As such, there is no evidence for any overall Roman naval policy. Instead, it appears that the four fleets studied must be seen as independent units similar to auxiliary *alae* and *cohortes*, a fact reflected in their commands' being equestrian praefectures.

¹⁸³³ See p. 29 above.

¹⁸³⁴ See notes 557&558 above.

¹⁸³⁵ For a discussion of the early history of the CLASSIS PANNONICA see p. 29 above; for a discussion of the military diploma, CIL XVI, 37, see note 561 above.

¹⁸³⁶ See pp. 140&141 above.

¹⁸³⁷ For a discussion of Cologne-Alteburg see pp. 185-191 above.

¹⁸³⁸ See pp. 140&141 above.

Geographical distribution of fleets

In view of the above observations, the distribution maps of fleet related evidence (Figs. 2.17, 3.34, 4.25, 5.21) demonstrate that contemporary scholarship has a distorted impression of the areas controlled by the CLASSES PANNONICA, MOESICA, GERMANICA and BRITANNICA. The data suggests that far from controlling long stretches of river frontier and coastlines, often covering several provinces as currently believed (Fig. 1.7), the fleets of continental Europe were each based in only one province.

Evidence related to the CLASSIS PANNONICA is only found in *Pannonia Inferior*, rather than along the Danube from Regensburg to Belgrade and along the Save and Drave rivers, as currently assumed¹⁸³⁹. Instead of controlling the entire Danube from *Viminacium* to its mouth, as well as the western shores of the Black Sea, evidence for the CLASSIS MOESICA only exists in the Danube delta region of *Moesia Inferior*, as well as along the Black Sea littoral from *Tomis* to the Crimea¹⁸⁴⁰. The CLASSIS GERMANICA was evidently based at Cologne-Alteburg, as generally accepted by current scholarship, but there is no evidence that it maintained several stations along the Rhine, as has been argued¹⁸⁴¹. The data for the CLASSIS BRITANNICA underlines recent research, proving that there is no evidence for the several fleet stations around the coastline of the British Isles that are generally assumed. The only bases that could be identified are those at Boulogne and Dover¹⁸⁴².

While this observation confirms the impression gained from military *diplomata*, namely that the continental fleets belonged to the armies of the respective *Inferior* provinces, it means that current discussions of problems regarding the fleets' authority when acting in other provinces are entirely unwarranted, as there is no evidence to suggest that any conflict

¹⁸³⁹ See 'Evaluation of evidence for the CLASSIS PANNONICA', pp. 83ff. above.

¹⁸⁴⁰ See 'Evaluation of evidence for the CLASSIS MOESICA', pp. 136ff. above.

¹⁸⁴¹ See 'Evaluation of evidence for the CLASSIS GERMANICA', pp. 217ff. above.

¹⁸⁴² See 'Evaluation of evidence for the CLASSIS BRITANNICA', pp. 285ff. above. See also Rankov (2005).

of jurisdictions ever existed during the Principate¹⁸⁴³. A final important point concerns the nature of the four provincial fleets. While, with the exception of the CLASSIS BRITANNICA, they are traditionally seen as riverine, it has been shown that only the CLASSIS PANNONICA acted solely in a river environment¹⁸⁴⁴. There is clear evidence that the CLASSIS MOESICA operated in the Black Sea, while the concentration of CGPF stamped tiles in the Rhine delta area may well suggest that the CLASSIS GERMANICA occasionally reached the shores of the North Sea¹⁸⁴⁵.

Size of fleets

While no definite bases could be identified for the two Danube fleets¹⁸⁴⁶, a fort of the CLASSIS GERMANICA can be identified at Cologne-Alteburg. It is also clear that the CLASSIS BRITANNICA maintained stations at Boulogne and Dover. As there is no evidence that the two fleets maintained other bases, the size of these forts may be used as an indication of their strength, an area that has received particularly little attention in past research: while current scholarship is more than ready to offer interpretations regarding the extent of fleet operations and to identify large numbers of naval bases, little thought is given to the numbers of ships or soldiers such models would require.

Estimates based on reconstructed sizes of ships and evidently exaggerated ancient literary references to fleets of ‘a thousand ships’, as suggested by Tacitus *Annales* II, 6¹⁸⁴⁷ have resulted in some entirely unrealistic estimates regarding the strength of the CLASSIS GERMANICA, but there have been more balanced studies of both the German and British

¹⁸⁴³ See pp. 30&31 above. It does remain unclear, however, through which province the CLASSIS BRITANNICA, which maintained stations in both *Gallia Belgica* (Boulogne) and *Britannia* (Dover), was administered. See also note 1822 above.

¹⁸⁴⁴ See Starr (1993), pp. 124-166 (‘Naval Power on the Northern Frontier’) and Reddé’s discussion of the continental fleets, entitled ‘Les fleuves’ (Reddé [1986], pp. 288-308).

¹⁸⁴⁵ There is, however, no evidence that the German fleet maintained any permanent base on the Dutch coast, as has frequently been suggested. See pp. 221&222 above.

¹⁸⁴⁶ The evidence from the lower Danube has furthermore shown that the identification of *Noviodunum* as headquarters of the CLASSIS MOESICA is by no means secure (see pp. pp. 118 above).

¹⁸⁴⁷ See note 13 above.

fleets¹⁸⁴⁸. If one accepts the usually applied references to fort sizes as a guide to their garrison, it is possible to infer a rough estimate of the number of men stationed at these forts – provided, of course, they were manned to full capacity¹⁸⁴⁹. The fort at Boulogne measures c. 12.45 ha, while that at Dover extends little over 1ha¹⁸⁵⁰. It is therefore possible to estimate that a maximum of c. 4500 men were based in both forts together¹⁸⁵¹. The CLASSIS GERMANICA base at Cologne-Alteburg extends to 7.1ha and could therefore have accommodated no more than 2400-2500 soldiers¹⁸⁵². As such, these numbers reflect the fleets' status as auxiliary units indicated by the equestrian praefectures of their command. While the above figures can at best serve as rough guidelines, they nonetheless throw up interesting questions when converted into actual ship numbers.

It is generally assumed that the provincial fleets on the northern frontier used *liburnae* and occasional *triremes* for their day-to-day operations. In the case of the CLASSIS BRITANNICA, such vessels must furthermore have been seagoing and therefore significantly more substantial than the river vessels that the CLASSIS GERMANICA could have used on the Rhine. The only direct evidence for military vessels are the ships from Mainz, which have been identified as *naves lusoriae* and appear to have been manned by a minimum of 35 men. As they are late Roman, however, they cannot serve as a guide to ship sizes of the Principate¹⁸⁵³. For ships used by the provincial fleets during the 1st-3rd centuries, theories regarding vessel sizes vary: Rankov follows the arguments of Morrison and Coates, who, after

¹⁸⁴⁸ For the wholly unrealistic estimate of the CLASSIS GERMANICA by Gechter (1987) see note 900 above. More plausible interpretations of the fleets' sizes can be found in Rankov (2005), p. 65, who suggests that the CLASSIS BRITANNICA could only have maintained around 70 *liburnae* or 17 *triremes*, and Konen (2000), p. 303, who states that the CLASSIS GERMANICA is unlikely to ever have maintained more than 40-50 warships.

¹⁸⁴⁹ Any estimates of manpower based on fort sizes are notoriously difficult. The figures below are the result of the application of the tables by Richmond, which are largely accepted as a guide for garrison numbers across the continent (see Baatz, [2000], p. 30). There are, however, problems with this approach. See Bennet (1986).

¹⁸⁵⁰ For a discussion of the fort at Dover see pp. 269-273 above. For Boulogne see pp. 273-276..

¹⁸⁵¹ See also Rankov (2005), p. 65; Mason (2003), p. 106. While Philp (1981) suggested that the fort at Dover could have held a garrison of up to 700 men, Breeze (1983) succinctly argued that this number need to be revised drastically to c. 200. As such, the above estimate is a median between the two, leaving the fort at Boulogne with a garrison of c. 4000 soldiers. These numbers clearly show how much more important Boulogne must have been as a CLASSIS BRITANNICA base.

¹⁸⁵² For a discussion of Cologne-Alteburg see pp. 185-191 above.

¹⁸⁵³ See Pferdehirt (1995), p. 7. There is furthermore no way that these vessels could ever have operated in anything else but a river environment due to their construction and size.

all, reconstructed a functional trireme, to suggest that *liburnae* were manned by c. 55 men while *triremes* had a crew of c. 245¹⁸⁵⁴. Konen, on the other hand, suggests that a riverine *liburna* was manned by c. 80 men, basing his calculations on the figures of Ellmers and Viereck, but modifying them on the basis of iconographic considerations¹⁸⁵⁵. While Reddé does not provide a size for *liburnae*, as there is not enough evidence, he suggests that *triremes* must have been manned by a minimum of 220/230 men¹⁸⁵⁶.

Even if the smallest of these estimates is accepted, fleets made up solely from *liburnae* would suggest that the CLASSIS BRITANNICA had around 80 ships at its disposal, while the CLASSIS GERMANICA could have maintained no more than c. 45 vessels. These numbers, however, are based on the maximum number of possible soldiers in all three forts, as well as the smallest vessel type. They furthermore assume that *all* soldiers based in Boulogne, Dover and Cologne-Alteburg actively served on vessels. As the provincial fleets clearly had a corps of officers, as well as administrative staff (e.g. the *scriba* attested at *Taurunum*¹⁸⁵⁷), clearly not all fleet personnel were involved in the sailing or manning of ships. The existence of at least one *trireme* of the CLASSIS GERMANICA is furthermore implied by literary evidence, while it is likely that the dedication from Boulogne, reading III RAD, also refers to a ship of this type, indicating that the CLASSIS BRITANNICA also used *triremes*¹⁸⁵⁸. Even if each fleet only had one or two vessels of this size, and c. 50 soldiers are deducted for any administrative staff, this would put the remainder of the fleets' strength at a hypothetical maximum of c. 36 *liburnae* for the CLASSIS GERMANICA and 70 vessels for the CLASSIS BRITANNICA¹⁸⁵⁹. In view of the above factors, actual numbers are very likely to have been even lower.

¹⁸⁵⁴ Rankov (2005), p. 65, esp. note 35.

¹⁸⁵⁵ Konen (2000), pp. 210-229 & 303. See also Viereck (1996), pp. 19-91; Ellmers (1978).

¹⁸⁵⁶ Reddé (1986), pp. 104-111.

¹⁸⁵⁷ See pp. 80-81 above.

¹⁸⁵⁸ For the reference to a *trireme* of the CLASSIS GERMANICA see note 16 above.

¹⁸⁵⁹ As these figures rely on a combination of largest possible number of troops and smallest possible vessel size, this offers the interesting possibility that Tacitus *Historiae* IV, 15-16 (*donec universa quattuor et viginti navium classis transfugeret aut caperetur*), which has been interpreted by Starr (1993), p. 144 to refer to 24 ships of the German fleet that "were in the area", may actually be speaking of the *entire* CLASSIS GERMANICA.

The fact that the praefectures of the CLASSIS BRITANNICA and CLASSIS GERMANICA were centenary while those of the CLASSIS PANNONICA and CLASSIS MOESICA were sexagenary suggests that the former were deemed more important by the Roman administration¹⁸⁶⁰. It is likely that this may directly reflect their size, suggesting that the two Danube fleets were even smaller than their British and German counterparts.

Fleet operations

These figures can clearly not be related in any way to the operational tasks current scholarship associates with the provincial fleets of the northern frontier. While this has been pointed out recently by Rankov with regard to the British fleet, the accepted view of the CLASSIS BRITANNICA is still that it was in charge of supplying the entire army of Britain and securing the island's shores¹⁸⁶¹. This, however, would evidently not have been feasible if the numbers of ships at its disposal were as limited as argued above. It is generally assumed that the three continental fleets controlled and policed the Rhine and Danube frontiers, with some studies even suggesting regular river patrols by these units¹⁸⁶². While this may well have been a feature of late Roman river control, the evidence does not support such a model for the 1st-3rd centuries¹⁸⁶³. It would clearly have been impossible for a CLASSIS GERMANICA that consisted of at most 36-45 ships to exert any degree of control over 400km of Rhine between Cologne and the North Sea, let alone patrol it on a regular basis. If the Danube fleets were

¹⁸⁶⁰ Pferdehirt (2002), pp. 56&57. It is interesting to note that, while the praefectures of the British and German fleets were of an equal ranking, the above calculations estimate the CLASSIS BRITANNICA at roughly twice the size of the CLASSIS GERMANICA. This could imply either that the German fleet may have had a second base of similar size to that discovered at Cologne-Alteburg which has not been discovered to date, or that the British fleet did not actually use all the space provided in the fort at Boulogne. This is suggested by Konen (2000), p. 301, who argues that sections of the CLASSIS BRITANNICA base at Boulogne may have been kept vacant to accommodate any troops en route from the continent to Britain or vice versa. Any such speculations must, however, remain entirely hypothetical pending the discovery of further evidence.

¹⁸⁶¹ Rankov (2005). For a recent study of the CLASSIS BRITANNICA identifying it as large unit in charge of supply and coastal control see Mason (2003).

¹⁸⁶² Höckmann (1998c).

¹⁸⁶³ On late Roman river patrols see Höckmann (1986); see also p. 8 above for references to naval patrols on the Danube in late Roman sources.

even smaller, they could not have hoped to police the more than 2000km of Danube between Regensburg and its mouth, as has been suggested.

In actual fact, no evidence related to the four provincial fleets of the Principate indicates that they were engaged in frontier control of any sort; the only operational duties that can be identified in the analyses above are not military in nature. The CLASSIS GERMANICA was clearly engaged in the supply of stone, quarried near Bonn, for the construction of a *colonia* at Xanten¹⁸⁶⁴. It furthermore played a role in major quarrying projects of the *exercitus Germaniae Inferioris* in the Brohltal. While such projects may have been linked to the rebuilding of the lower German frontier forts in stone, this cannot be proven¹⁸⁶⁵. The CLASSIS BRITANNICA, on the other hand, was evidently involved in the large-scale iron production that took place in the Weald of Kent and Sussex, although its actual role in this is not clear¹⁸⁶⁶. Both fleets furthermore seem to have supplied building materials for construction work at various sites other than their established bases, which is also true of the CLASSIS MOESICA¹⁸⁶⁷. Soldiers of this fleet evidently also hunted wild animals in the mountains of Bulgaria, although it is unlikely that this was a regular task, and engaged in joint operations with LEG I ITALICA along the northern shores of the Black Sea as well as the Crimea. The precise form of the latter actions, however, is not fully understood¹⁸⁶⁸.

The only actual evidence for the provincial fleets' involvement in any military activity is circumstantial and based on various *cursus honorum* that mention the four provincial fleets. An inscription from Burneri in the Thracian Chersonese has been identified as indicating a joint command over the CLASSIS GERMANICA and CLASSIS PANNONICA, or at least parts

¹⁸⁶⁴ See p. 207 above.

¹⁸⁶⁵ See pp. 219-220 above.

¹⁸⁶⁶ See pp. 286&287 above.

¹⁸⁶⁷ For the CLASSIS MOESICA, see pp. 133ff. above; for the CLASSIS GERMANICA see pp. 210ff.; for the CLASSIS BRITANNICA pp. 280ff. For a discussion of fleet involvement in construction see also Pferdehirt (1995), pp. 63-69.

¹⁸⁶⁸ For the *venatio caesariana* inscription from Montana, see p. 129 above; on combined operations between the CLASSIS MOESICA and LEG I ITALICA see note 862 above.

thereof¹⁸⁶⁹. Further inscriptions refer to a joint command of the CLASSIS GERMANICA and CLASSIS PANNONICA (IK 13, 783) as well as one of all four northern fleets (CIL VI, 1643). There is also evidence for a vexillation made up from units of the two Praetorian fleets as well as the CLASSIS BRITANNICA (AE 1956, 124)¹⁸⁷⁰. These inscriptions have been identified as special commands as their progressions do not make sense if read as *cursus honorum*. By virtue of their identification as special commands, however, all four inscriptions have been associated directly with the temporary deployment of large naval forces in the context of major conflicts such as the Dacian or Marcomannic wars¹⁸⁷¹. As such, they must be seen as further support for Saddington's thesis of 'invasion fleets', and cannot be taken as evidence for regular fleet operations.

While it is impossible to reconstruct the regular operational tasks of the CLASSIS PANNONICA, CLASSIS MOESICA, CLASSIS GERMANICA and CLASSIS BRITANNICA, therefore, the data related to these units show that they cannot have been sole agents of riverine frontier control, as is generally assumed.

Naval policy on the northern frontier

On the contrary, the analyses of data above indicate that the organization of naval frontier control during the Principate involved several units other than the established provincial fleets. Inscriptions from the lower Danube indicate that LEG VII CLAVDIA may have had a naval detachment at its base in *Viminacium*, while it is almost certain that LEG I ITALICA maintained a naval squadron at *Novae*¹⁸⁷². On the Rhine, various data from Mainz prove that warships were used by LEG XXII PRIMIGENIA and indicate that this legion may have built ships

¹⁸⁶⁹ See pp. 77&78 above.

¹⁸⁷⁰ See Appendix VI. This appendix includes a further inscription that mentions several fleets. CIL VIII, 9358 is not discussed here, however, as it could well indicate a regular *cursus honorum* progression rather than joint command.

¹⁸⁷¹ Konen (2000), pp. 373-389; Reddé (1986), p. 382. Starr 1993, p. 161 (note 58), however, argues that the four fleet praefectures in CIL VI, 1643 were consecutive, but without giving any reason for this argument.

¹⁸⁷² On the thesis of a legionary naval detachment at *Viminacium* see pp. 130&137; for a similar discussion of *Novae* see pp. 135&138.

in its own *navalia*¹⁸⁷³. Evidence of harbour facilities at Bonn may similarly suggest a naval squadron attached to LEG I MINERVIA, but this is not conclusive¹⁸⁷⁴. The direct involvement of legions in naval activity is further suggested by the discovery of an anchor stamped by LEG V ALAVDAE that was discovered in the Rhine at Duisburg-Homburg¹⁸⁷⁵. There is also evidence that a COHORS I CLASSICA was based at Vleuten de Meern¹⁸⁷⁶, while a *trierarchus* from Vechten may indicate yet another unit engaged in naval activity, but not related to the CLASSIS GERMANICA¹⁸⁷⁷. In Britain, the presence of a *gubernator* of LEG VI VICTIX found at Brough-on-Humber, as well as the existence of a COHORS I AELIA CLASSICA based at Ravenglass could well indicate that naval operations in northern *Britannia* may have been organized without the involvement of the CLASSIS BRITANNICA¹⁸⁷⁸. Final evidence for naval activity not related to the provincial *classes* is provided by the finds of two warships at the Roman fort of Oberstimm in Bavaria (Fig. 6.1). These are clearly military and have been dated to the early 2nd century AD by dendrochronology, a time at which the Danube in Bavaria was still the frontier of *Raetia*, but no conflicts are known¹⁸⁷⁹. As has been shown above, there is no evidence that the CLASSIS PANNONICA ever operated in *Raetia*. These vessels must therefore have belonged to an auxiliary unit that maintained naval vessels. Unfortunately, the garrison of Oberstimm has not been identified to date.

It appears, therefore, that across Rome's northern provinces, naval activity was not limited to the four established provincial fleets. Far from being substantial units in charge of frontier control, supply and troop transports, as generally believed, these appear to have been relatively small units with geographically limited areas of operations and hence, presumably, tasks. Indeed, it appears that the control of Rome's river frontiers from the 1st-3rd century,

¹⁸⁷³ See discussion of Mainz, pp. 199-203 above.

¹⁸⁷⁴ See pp. 192-194 above.

¹⁸⁷⁵ Horn (1987), p. 150. See also Sarnowski (1987), p. 262.

¹⁸⁷⁶ See p. 161 above.

¹⁸⁷⁷ See p. 165 above.

¹⁸⁷⁸ See p. 285 above.

¹⁸⁷⁹ Bockius (2002), pp. 13&14.

contrary to popular opinion, may in fact not have involved these four units in any significant role.

The existence of naval detachments of several units other than the four provincial fleets may furthermore explain why evidence for these fleets ceases in the late 3rd century – a time when there is a marked increase of depictions of warships on coins, suggesting that naval operations along the northern frontier became ever more important¹⁸⁸⁰. In view of the findings above, the end of the four established fleets, the CLASSIS PANNONICA, CLASSIS MOESICA, CLASSIS GERMANICA and CLASSIS GERMANICA need by no means have spelt the end of naval activity on the northern frontier.

This study has shown that there are a number of misconceptions regarding the character and roles of the provincial fleets on the northern frontier during the Principate. While it has been minimalist in its approach and rigorous in its examination of data related to the fleets, this methodology has highlighted a number of core issues that ought to be addressed in future research, affecting our understanding not only of Roman naval activity, but also of Roman Frontier studies in general. At the same time, however, it is clear that a reliance on concrete evidence, rather than conjectured speculation on the basis of literary sources alone, can be constructive, in so far as a number of perceived issues regarding the fleets' operations could be eliminated¹⁸⁸¹. It is clear, however, that a significant amount of further research and excavation is required – particularly in the Balkan countries – before any complete picture of Rome's provincial fleets on the northern frontier during the Principate can begin to emerge.

¹⁸⁸⁰ See pp. 8&9 above.

¹⁸⁸¹ This is particularly true with regard to arguments about the inter-provincial operations of fleets on the Danube, see discussion p. 30&31, as well as p. 84 above.

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