

Recreating a possible Flavian map of Roman Britain with a detailed map for Scotland

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ABSTRACT

Since the rediscovery of Ptolemy's Geographia, many versions of a map of Roman Britain have been produced from the data it contains. Former reconstructions, however, did not take account of the variations in longitude scale which are discerned from Ptolemy's records. Two different scales had, in fact, been used by Ptolemy, in addition to other distortions, to accommodate Britain in a world which he believed to be one-sixth smaller than actual. By reversing Ptolemy's procedures so that his known places registered with their identified locations, it was possible, also, to bring his unknown places into their optimum relative positions on a scalable map. It became clear during this analysis that Ptolemy must have extracted his data from an authoritative map rather than from disparate lists or itineraries and it is likely that this would have been of military origin and from the Flavian occupation period. A possible arrangement for such a map has been deduced, and a hypothetical Flavian map constructed. This includes all of Ptolemy's data together with some that he was obliged or chose to omit and some recorded information for the period either prior to or contemporary with the Flavian period.

INTRODUCTION

Despite being subjected to a small amount of corruption over the centuries, the data of Ptolemy's *Geographia*, for Britain, still provides a remarkable representation of the spatial relationship of the places recorded. That is, providing we recognize latitude and longitude scales appropriate to a map generated from the data and are aware of individual inherent distortions that such a map displays. It is evident from previously published reconstructions of Ptolemy's map that he was forced to employ a variety of distortions in creating his map of the British Isles. Recognition of a vital clue in the *Geographia* data (which I A Richmond (1922, 288) had sought without success), namely Ptolemy's alignment of *Eboracum*, *Isurium* and *Cataractonium* directly north of London, allowed Strang (1994 & 1997) to comprehensively present an improved map-projection for Ptolemy's configuration of Britain and Ireland. This clue led to an understanding that Ptolemy had actually employed two different longitude scales in compiling his map and the resultant, improved map-projection is shown here in *illus 1*.

During a series of analyses (see Strang 1994, 1997, 1998 and forthcoming) it became clear that Ptolemy had been manipulating data which was remarkably precise about spatial relationships and which could have been assembled only by persons with a good knowledge of

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Britain and Ireland. In the first century AD, there was only one agency capable of generating this quality of data for Britain and that was the Roman military¹ who could co-ordinate legionary, naval and trader information of distances and bearings between these places. Because of the lack of awareness of longitude and latitude referencing, this extensive body of spatial information would only have been of military use if collated as a map (as opposed to being set out as numerous separate items of information or as itinerary representations) and this we know was ultimately conveyed to Alexandria.²

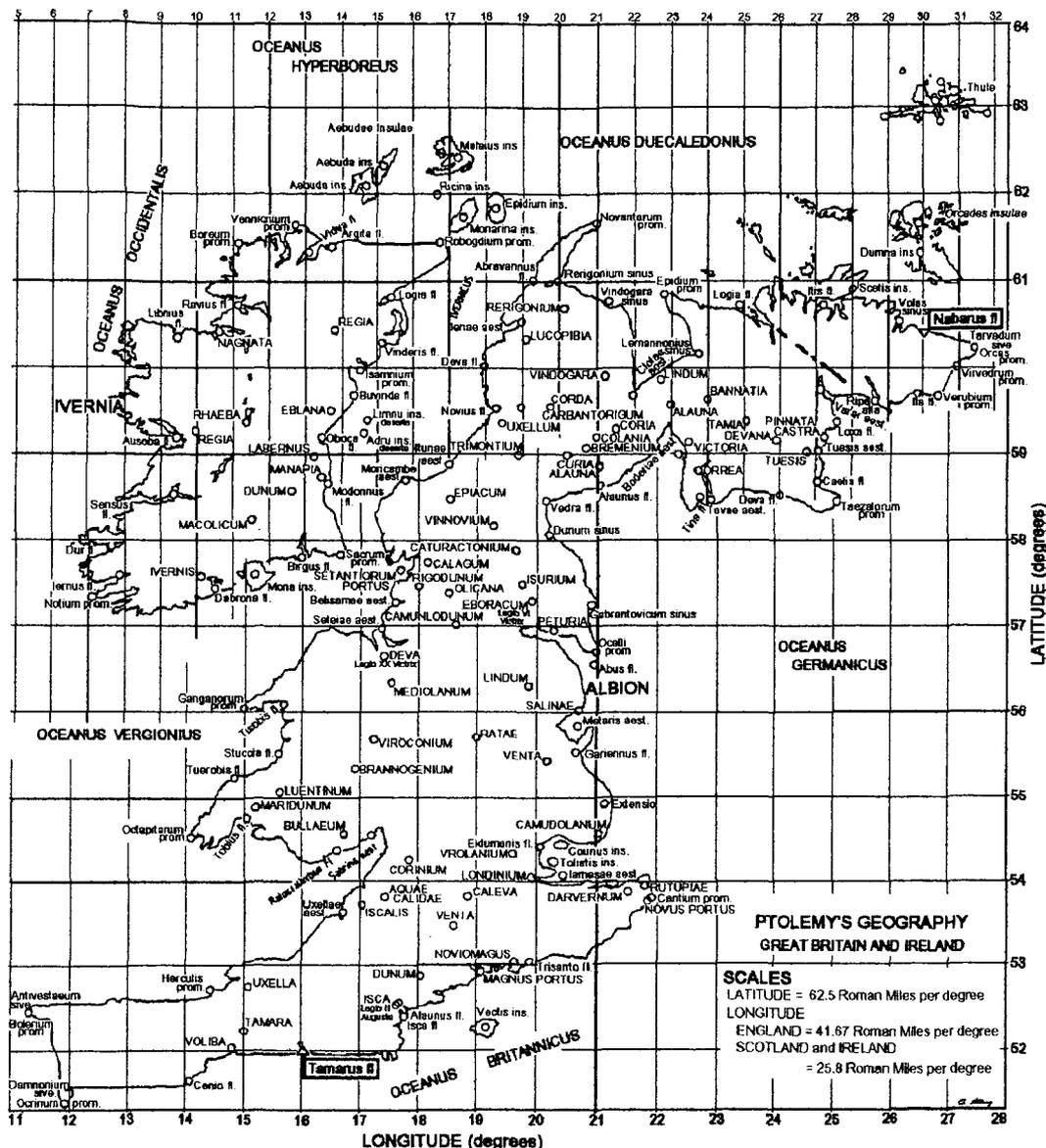
The resolution of the problems associated with Ptolemy's Roman Britain, allowing a direct comparison of Ptolemy's data with a modern, scalable map of Britain and Ireland, provided some clues for the projection and scalar-grid parameters to which a pre-*Geographia* map might have been drawn: a suitable map-grid on a rectangular projection with convenient horizontal and vertical scales and a likely reference origin. It is the purpose of this paper to use these clues in suggesting a hypothetical reconstruction.

The data incorporated in such a map would most likely have been pre-Trajanic and to have originated in the Flavian period of occupation. Unfortunately, Ptolemy concentrated on places defining coastal configuration and was less interested in interior chorography, other than for a few places required to indicate the disposition of tribal territories. In order to produce a more comprehensive Flavian map it has been necessary to supplement the *Geographia* list of places with others which Ptolemy may have chosen to omit or which were forced out by map distortions and others still of which he may not have been aware. This list has been drawn from various complementary literary sources. Other known Flavian sites and those whose Roman names are not yet known are included. Roman sites of known names, but without (apparently) Flavian-period historical or archaeological evidence are listed separately together with reasons for their exclusion from the reconstructed map, as it may yet be shown that some of these had earlier use. In addition to this map of Britain a more detailed map of Scotland has been presented.

SOME CLUES CONCERNING A POSSIBLE FLAVIAN MAP OF BRITAIN

We know of no Flavian military map of Roman Britain existing today, but much of the information may have been available for example to Marinus of Tyre, prior to Ptolemy's *Geographia*. From our understanding of the distortions which Ptolemy introduced, it has been possible to reverse his procedures and thence to speculate about a possible representation of a source map that may have been available to him or his contemporaries. To the archaeologist, of course, it is the locations of places on the map that are of critical importance and the recent analysis has made it possible to insert these with somewhat more confidence than before.

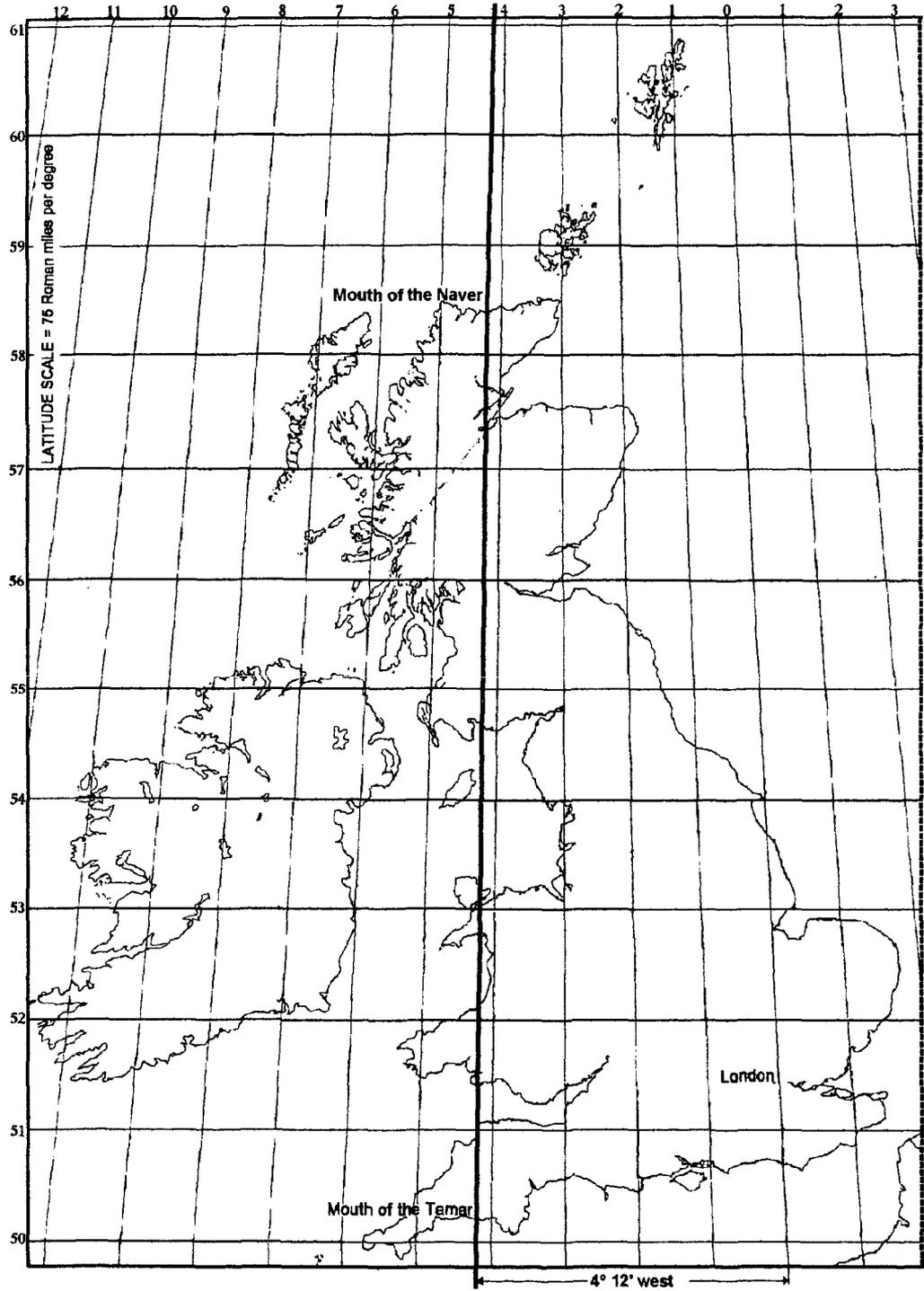
Whilst analysing and synthesizing Ptolemy's map of Roman Britain, a particularly intriguing point was the situation concerning two river mouths (*Nabarus* = Naver and *Tamarus* = Tamar) on the far north coast of Scotland and the south coast of England, respectively. These two specific locations, highlighted in illus 1, seemed to have escaped imposed displacements, although Ptolemy places to east and west of each appear to have been subjected to such adjustments. Now, on a modern map of Britain it is noted that their respective longitudes west of Greenwich are 4°14' and 4°10', indicating that these two (and probably well within Flavian tolerances) were regarded as directly north/south of each other at about 4°12', information most probably the result of Roman nautical determination. This then raised the question as to whether these locations could have defined some reference line from a previous map which Ptolemy wished to be retained within his much distorted representation (illus 1) of Britain and Ireland.



ILLUS 1 Ptolemy's map of Roman Britain and Ireland (after Strang 1994, 300)

The modern map of Britain and Ireland is presented in illus 2, showing this Tamar/Naver base line, which seems to conveniently bisect the east/west extent of the map.

Clues as to the overall extent of the map come from the consideration of the two longitude grid scales employed in Ptolemy's map (illus 1): 25.8 Rm [Roman miles] per degree for Scotland and Ireland and 41.67 Rm per degree for England (Strang 1997, 20). The larger scale of the southern section of the birectangular grid produces a ratio of $41.67 \div 62.5 = 0.667$ which is virtually identical to the value for Ptolemy's map of Gaul, giving England compatibility of longitude scale with this contiguous map to the south.



ILLUS 2 Modern map of Britain with rivers Tamar/Naver baseline

The value of 25.8 Rm per degree longitude will, of course, be true only for one particular latitude. To find this latitude, for Ptolemy's small-sized world, it is necessary to first find its cosine by dividing the figure 25.8 by the constant latitude scale (62.5 Rm per degree) which he used. This yields a value of 0.413 giving a latitude angle of 65.62° north.

The Ptolemy latitude of London is 54.02° so that the parallel of latitude that we are seeking to identify would, on his small world, have been $(65.62 - 54.02) \times 62.5 = 725$ Roman miles to the north of London. On the full-sized world, for which there are 75 Rm per degree, this equates to 9.67° north of London or a true latitude of 51.42 (the actual latitude of London) + 9.67 = 61.09° north, just sufficient to encompass the Shetland Islands (Strang 1994, 95). Has Ptolemy therefore chosen his northern (rectangular) scale to suit the furthest extremity of such a map representing Britain with a similar, erect north/south orientation?

A POSSIBLE FLAVIAN SCALE

A localized military map would be concerned with relative distance and direction (bearing) of locations and would not, at this early stage of cartographic development, be concerned with longitude/latitude or world context. However, sea voyages to neighbouring territories as well as land journeys would be recorded and regarded as important. Hence a rectangular, uniform grid orientated in the cardinal directions would be adequate and a convenient scale for such a map (at A4 size) might be 50 Roman miles (= 400 stades) per grid-space. The latitude scale, aligned with 61.09° north on a modern map, could therefore progress southwards in 18 intervals of 50 Roman miles each to a base line at 49.09° north (required to fully cover the south coast of England). On an equivalent Ptolemy latitude scale (shown in Table 1) this progression would reach the southern limit of Ptolemy's map of Britain at about 51° north on the Ptolemy scale, a range of some 925 Roman miles. For convenient practical comparison between Ptolemy and modern maps (see Strang 1994, 76 & 272), registration between distance and latitude (angular) scales occurs at *Londinium* (725 Roman miles to the south). This might well indicate that a grid scale of 25 Roman miles could have been used and also that, if significance attaches to London's location, the north/south grid scale could possibly have originated there, as shown by Table 1 (column 4). This arrangement has therefore been adopted in illu 3, supplemented both by modern latitude scales and those of Ptolemy's smaller world. Similarly, longitude gridlines could progress outwards from the hypothetical (Naver/Tamar) centreline of the map at intervals of 50 (or 25) Roman miles to 300 Roman miles east and west.

Then, using such a convenient and uniform scalar grid, Ptolemy's and other contemporary data can be incorporated to yield a plausible configuration for a possible Flavian map of Roman Britain, of the later first century.

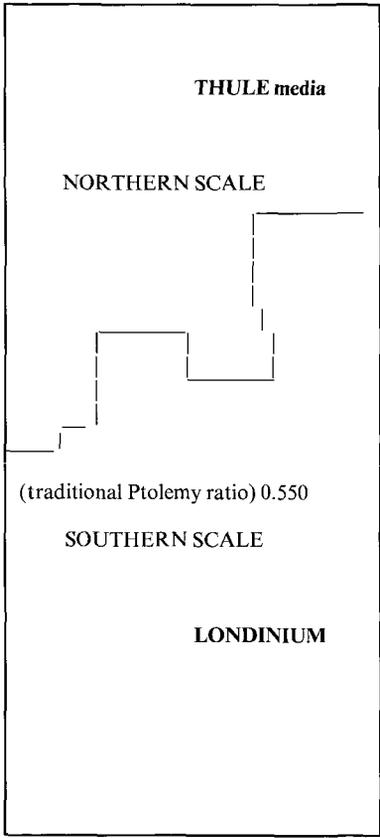
GEOGRAPHIC INFORMATION AND THE COMPLETE FLAVIAN MAP

Before the investigation described earlier was undertaken (Strang 1994 & 1997) there had been no satisfactory explanation of the 'turning of Scotland' and the majority of Ptolemy's *poleis* in Scotland remain unidentified. The geographic information included in the Flavian map (illu 3) has been derived from the *Geographia* and located according to that analysis, described and supplemented, where possible, from other sources as explained below.

TABLE I

Comparison between the modern and the Ptolemy longitudes and distances

LATITUDE		FLAVIAN MAP		PTOLEMY MAP	
degrees		Distance-re-map	Rom m'l's n/s L'nd'n	Scale Roman miles	Longitude ratio 'cosine (Lat. angle)
Actual	Ptolemy				
61.09	65.62	0	725	25.8	0.413
60.76	65.22	25	700		
60.59	65.02	37.5	687.5		
60.42	64.82	50	675		SHETLAND centre
60.09	64.42	75	650		
59.76	64.02	100	625		
59.42	63.62	125	600		
59.09	63.22	150	575		
58.92	63.02	162.5	562.5		
58.76	63.22	175	550		
58.42	62.42	200	525		
58.09	62.02	225	500		
57.76	61.62	250	475		
57.42	61.22	275	450		
57.09	60.82	300	425		
56.76	60.42	325	400		
56.42	60.02	350	375		
56.09	59.62	375	350		
55.76	59.22	400	325		
55.42	58.82	425	300		
55.09	58.42	450	275		
54.76	58.02	475	250		
54.42	57.62	500	225		
54.09	57.22	525	200		
53.76	56.82	550	175		
53.42	56.42	575	150		
53.09	56.02	600	125		
52.76	55.62	625	100		
52.42	55.22	650	75		
52.09	54.82	675	50		
51.76	54.42	700	25		
51.42	54.02	725	0		
51.09	53.62	750	-25		
50.76	53.22	775	-50		
50.42	52.82	800	-75		
50.09	52.42	825	-100		
49.76	52.02	850	-125		
49.42	51.62	875	-150		
49.09	51.22	900	-175		
	50.82	925	-200		
	50.42				
	50.02				
	49.62				
	49.22				
	48.82				
	48.42				
	48.22			41.67	0.667



PTOLEMY'S GEOGRAPHY

The majority of Ptolemy place-names are considered (Rivet & Smith 1979, Introduction) to be Romano-British, generally of Celtic derivation with some Latin qualification, and only a few are thought to be wholly Latin. The Romans also appear to have had a preference for strategically locating their sites in proximity to established native sites, often themselves of military or

defensive significance, and assuming names descriptive of these native sites. Ptolemy's *poleis* in Britain all appear to be of Roman military significance (based on original fort or camp installations) whereas the same cannot be said for Ireland, although defended native settlements may be appropriate.

As in the Strang analysis (1997, Post-script), *Curia Votadini*, when incorporated in the larger map-grid, is situated some 25 Roman miles south-east of *Bremenium* (High Rochester) and must certainly correspond with the early Roman site at Red Houses, Corbridge (Hind 1980, 165–71). The larger of Ptolemy's longitude grids, therefore, incorporates all *poleis* of the *Votadini* tribe and the *Boderiae aest* (the Firth of Forth). As these *poleis* are associated with Ptolemy's map-scale for England, rather than with the rest of Scotland, are we to conclude (from this selective integration of data) that the boundary of the *Votadini* tribe (together with that of the *Brigantes*, encompassing Birrens) somehow defined some early Flavian frontier? As Rivet has argued (1982, 322) 'Rome occupied tribal states rather than chunks of land'.

Ptolemy uses mainly the *Coritani* title for this tribe but *Coritavi* is chosen to be more in keeping with evidence from two centuries later which indicates *Corieltauvi* as the tribal name (Tomlin 1983, 353–5).

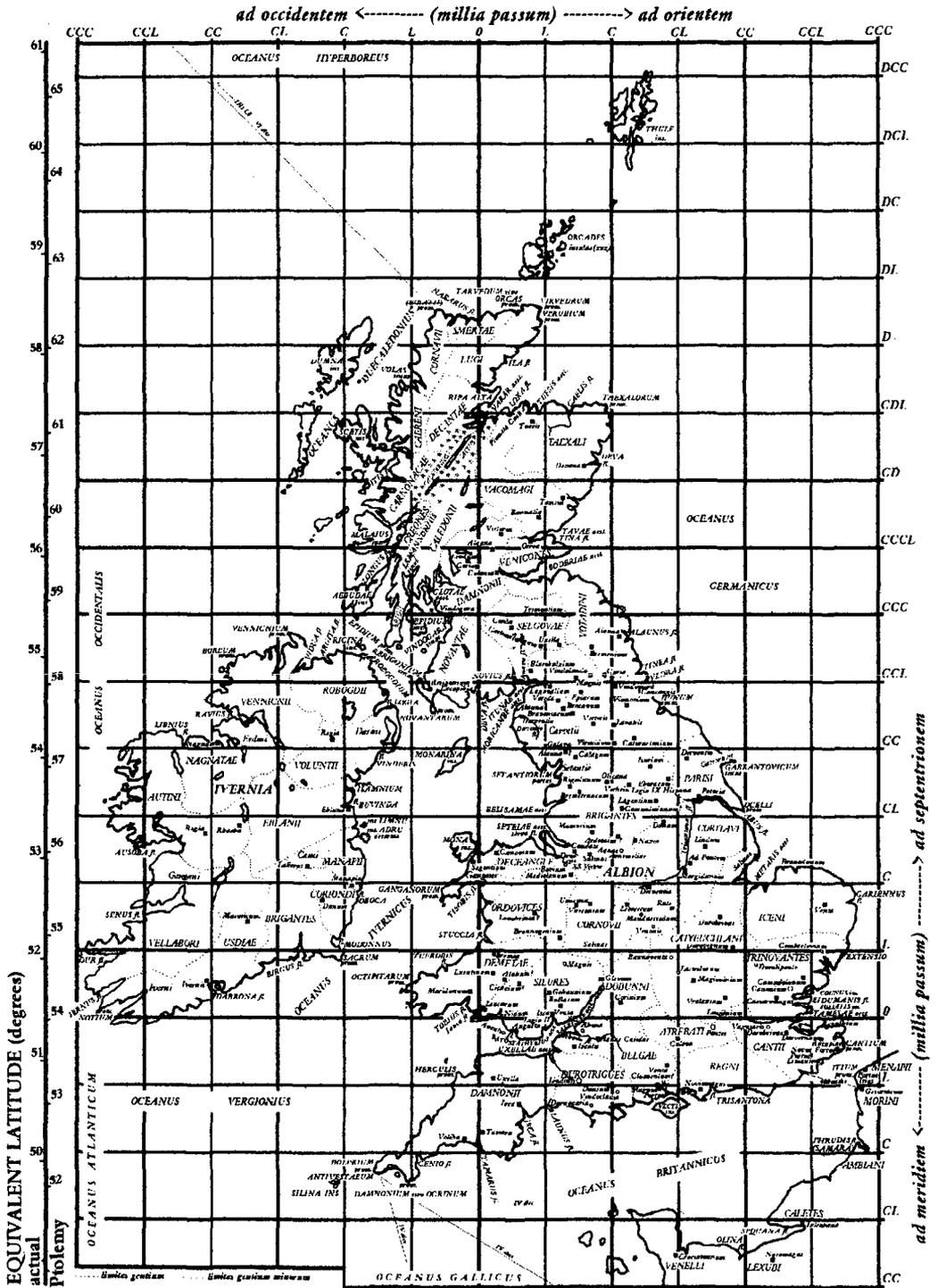
If we consider legionary forts in the west of Britain, each takes the name of the river that it stands on: *Isca* (Exeter), *Isca* (Caerleon) and *Deva* (Chester). Why should those in the east and north not do likewise? *Eboracum* (York) stands on the river Ouse, whose estuary is described by Ptolemy as *Aβov*, but Rivet and Smith had difficulty reconciling this name other than just with the Celtic root *ab-* for 'river'. Could this have in fact been transcribed from *Ebou*, providing the river name associated with (the later) *Eboracum*? In the north also, what more appropriate name than *Tava* (Tacitus spelling *Taum*) could be given to Inchtuthil, which was virtually surrounded by the river Tay (ie unless and until any evidence should indicate otherwise).

Ptolemy was obliged to omit the following two features. *Tinea flumen* (the Tyne) could not be included beside *Vedra flumen* (the Wear) in the angle between England and Scotland during Ptolemy's rotation of Scotland, but can now be reinserted. Also, Cape Wrath had to be omitted by Ptolemy to prevent its being interposed between *Orcades insulae* (Orkneys) and *Orcas prom.* (Duncansby Head) in his new configuration of Scotland. However, this cape must have been such an important feature in Flavian navigation that it demands a title and reinsertion. In the map it has been labelled as (*Wrath*) *prom.*

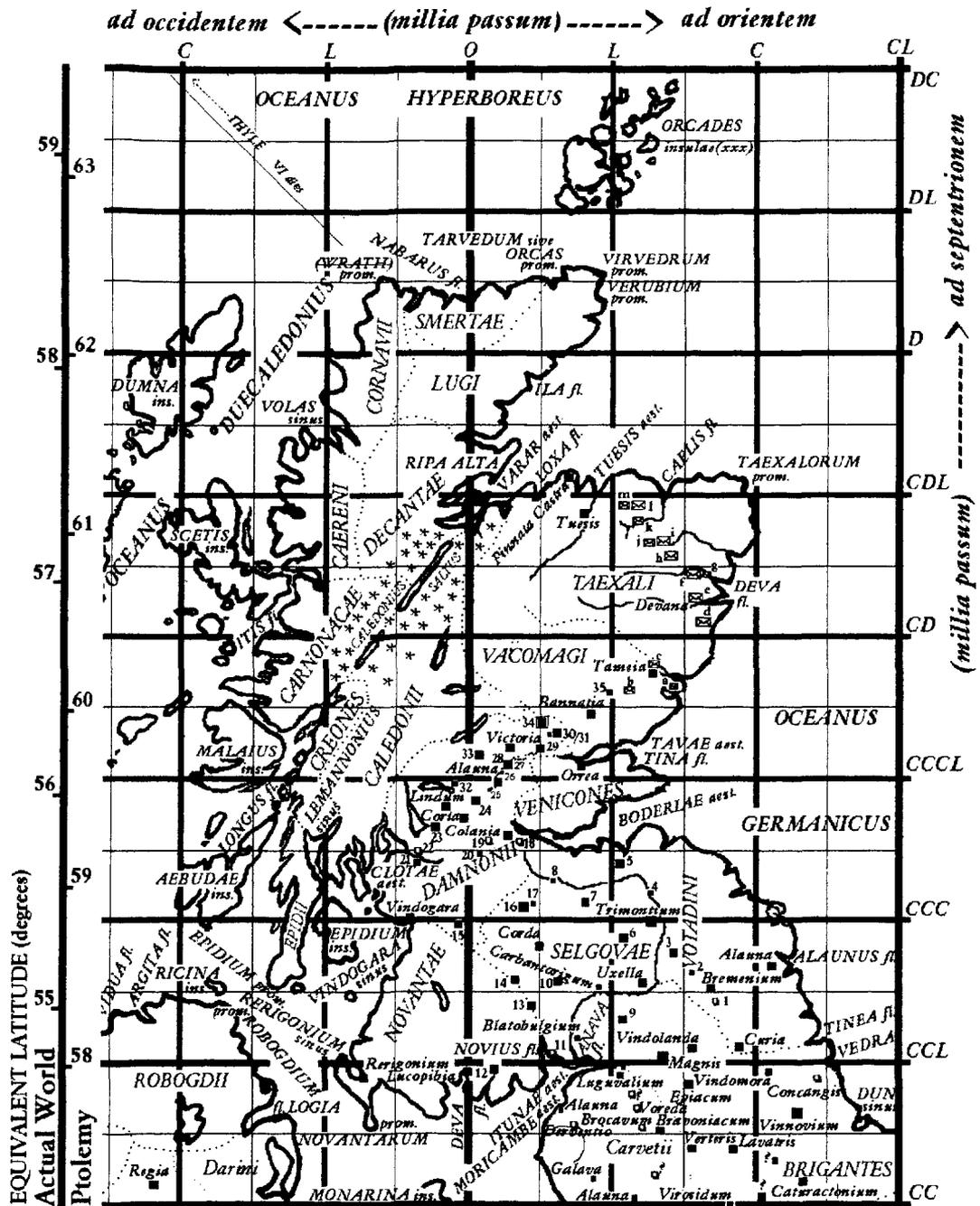
ARCHAEOLOGICAL AND HISTORICAL INFORMATION

Convenient lists of pre-Flavian forts and fortresses and Flavian military sites in Britain are provided by Jones & Mattingly (1990, Tables 4.4, 4.5 and maps 4.23, 4.31) and Frere (1987, 56–7, 88–9, 96) similarly lists military sites of the Julio-Claudian and Flavian periods. These need to be considered in conjunction with names of other Roman sites occupied in Britain during this period in assessing whether we have authoritative evidence to be able to ascribe names to these locations. Currently, only those with possible names have been inserted in the Flavian map.

In Scotland, *Blatobulgium* was not included by Ptolemy possibly because of its size. According to Robertson (1975, 278), 'there is no evidence of any larger Flavian fort there, of the massive regular character witnessed, for example at Malling, Bochastle, Fendoch, Cardean and Stracathro (E. Scotland)' (Robertson underlined those with a suspected Ptolemy name). In England, in addition to Ptolemaic and the few other foregoing Roman sites there are some 50 named pre-Flavian forts and fortresses and military sites of Flavian date listed by Jones & Mattingly (1990). These have also been incorporated in illus 3. On a larger scale map further



ILLUS 3 Hypothetical Flavian map of Roman Britain



ILLUS 4 Hypothetical Flavian map of Roman Scotland

development would be possible. It is likely, for instance, that any known Roman river names would themselves have been established from an early date and should be included. Such a map could be made even more comprehensive if Flavian sites so far unnamed (eg roads) were to be added.

TABLE 2

Historical Additions.

Source	Feature	Deduction
Strabo 64 BC-AD 21 +	Voyage to Gaul = 320 stades	= 40 Rm sailed between ebb tide in the evening and 8am ie 4 Rm per hour, sailing speed, in approximately 10 hours.
Diodorus Siculus fl 30 BC Pliny the Elder, AD 23-79	Belierium p. 4 days to Europe Oceanus Gallicus lies between Oceanus Britannicus and the Pyrenees Silina insulae Albion	= 375 Rm (3000 stades) distance at 4 Rm per hour identified as the Scilly Isles, Rivet & Smith 1979, 457-9 crossing from Morini shore (Gesoriacum/Boulogne) = 50 Rm
	Thyle ins. 6 days N of Britain	= 570 Rm (4500 st'des) NW of Cape Wrath reaches Iceland
Mela Pomponius fl AD 40	Oceanus Atlanticus W of Europe eg 30 Orcades	
Tacitus c AD 56-115 + Ravenna Cos'y c AD 650	Trisantona flumen Tinea flumen Anava flumen	identified as the river Trent, Rivet & Smith 1979, 478 identified as the river Tyne, Rivet & Smith 1979, 473 identified as the river Annan, Rivet, Brit 1982 13, 321
Ant Itinerary c AD 2-6 cent	Blatobulgium	identified as Birrens, Rivet & Smith 1979, 268-9

Table 3 (Appendix) lists all the Ptolemy named Roman places included in the Flavian map. Table 4 presents additional Roman place-names identified in England and Wales, and cites by whom or where recorded, with actual or possible modern names and an appropriate source for this identification. Listed in Table 5 are several more Romano-British names, known for Britain, with reasons why they cannot be included in *illus 3*. However, some of these locations may also have had these names in Flavian or earlier periods. Complementary information that it is believed to have also been available to the Flavian military is contained in Table 2.

SPECULATIVE FLAVIAN MAP OF ROMAN SCOTLAND

In Scotland a considerable number of Roman places were named by Ptolemy (with suggested identities by Strang). There are many more sites, though, which show evidence of a Flavian presence but which have no Romano-British names associated with them. If these are combined, a more comprehensive Flavian map of Roman Scotland results (*illus 4*). For Scotland, Table 6 lists sites of known or suspected Flavian presence but whose Roman name is not yet known. For the north-east of Scotland, possible Flavian camps (identified so far) have been included in both the map and Table 6. As no Roman forts have as yet been discovered in this part of Scotland these camps may yet be shown to be associated with Ptolemy's *Devana*, *Tuesis* and *Pinnata Castra*.

ACKNOWLEDGEMENTS

Gratitude is expressed to Mark Hassall for being the first to suggest the concept of an 'Agricolan map of Roman Britain' based on my analytical work on Ptolemy's *Geographia* of Roman Britain. I am doubly grateful for David Shipstone's invaluable assistance on presentation. Any

deficiencies, omissions and dubious or controversial statements are entirely my own responsibility. I trust that the result goes some way towards a preliminary model from which, by stimulating welcome improvement, Mark's vision might some day be achieved.

NOTES

- 1 Rivet & Smith (1979, 25), Frere (1980, 419) and Jones & Mattingly (1990, 18) also regard Ptolemy's geographical sources for Britain as primarily military.
- 2 *Geographia* would then result from (an *Agathodaimon*?) fitting data to Ptolemy's small world.

APPENDIX: TABLES 3–6

SELECT BIBLIOGRAPHY FOR TABLES 3–6

- Breeze = Breeze, D J 1982 *The Northern Frontiers of Roman Britain*. London.
- Brit = *Britannia*. Society for Promotion of Roman Studies.
- Crawford = Crawford, O G S 1949 *Topography of Roman Scotland*. Cambridge.
- Daniels = Daniels, C 1986 'A Roman Camp at the Foths', *Pop Archaeol*, April (1986), 10–12.
- Frere = Frere, S S 1987 *Britannia*. BCA. London.
- Hanson = Hanson, W S 1987 *Agricola and the Conquest of the North*. London.
- Hector = Hector, W 1880 *Vanduarda*. Paisley.
- Howard = Howard, P 1969 *Birdoswald Fort on Hadrian's Wall*. Huddersfield.
- J & M = Jones & Mattingly 1991.
- Johnstone = Johnstone, D E 1977 *The Saxon Shore*. CBA Res Rep 18. London.
- Maxwell 89 = Maxwell, G S 1989 *The Romans in Scotland*. Edinburgh.
- Maxwell 90 = Maxwell, G S 1990 *A Battle Lost*. Edinburgh.
- Nash W = Nash-Williams, V E 1954 *The Roman Frontier in Wales*. Cardiff.
- O.S. = Ordnance Survey 1991 *Roman Britain Map*. Southampton.
- Potter = Potter, T W 1979 *Romans in North-West England*. Kendal.
- Richmond = Richmond 1956.
- Rix & Taylor = Rix, B & Taylor, S 1988 'Excavations at Bannaventa, 1970–1', *Britannia* 19, (1988), 299–339.
- R & S = Rivet & Smith 1979.
- Webster = Webster, G 1981 *Rome Against Caratacus: AD 48–58*. London.
- Wilson = Wilson, R J A 1988 *A Guide to the Roman Remains of Britain*. London.

TABLE 3

Identification of places (in *Geographia* order) for Ptolemy's Britain & Ireland

Ptolemy Place name	Preferred Identification	Location Type	Ptolemy Place name	Preferred Identification	Location Type	Ptolemy Place name	Preferred Identification	Location Type	Ptolemy Place name	Preferred Identification	Location Type	Ptolemy Place name	Preferred Identification	Location Type
BRITANNIA	IRELAND & BRITAIN	Islands	ALBION	ENGLAND & SCOTLAND	Island	VIRVEDRUM	DUNCANSBY HEAD	Promontory	EPIACUM	Whitley Castle?	Fortif'd site	VERUBIUM	NOSS HEAD	Promontory
IVERNIA	IRELAND	Island	DUECALEDONIUS	THE MINCHES	Ocean	VERUBIUM	HELMSDALE	River mouth	VINNOVIUM	BINCHESTER	Fortif'd site	ILA	HELMSDALE	River mouth
HYPERBOREAN	NORTH ATLANTIC	Ocean	NOVANTARUM	RHINNS OF GALLOWAY	Peninsula	ILA	Hill of Nigg	High bank	CATURACTONIUM	CATTERICK	Fortif'd site	RIPA ALTA	BEAULY FIRTH	Estuary
BOREUM	BLOODY HEAD	Promontory	NOVANTARUM	MULL of GALLOWAY	Promontory	RIPA ALTA	BEAULY FIRTH	Estuary	CALAGUM	BURROW-	Fortif'd site	VARAR	LOCH RYAN	Bay
VENNICNIUM	MALIN HEAD	Promontory	REGIONIS	LOCH RYAN	Bay	VARAR	LOCH RYAN	Bay	ISURUM	ALDBOROUGH	Fortif'd site	LOXA	CLYDE	Estuary
VIDUA	FOYLE	River mouth	VINDOGARA	IRVINE BAY	Bay	LOXA	CLYDE	Estuary	RIGODUNUM	near Lancaster?	Fortif'd site	TUEGIS	LOCH FYNE	Estuary
ARGTA	BANN	River mouth	CLOTAE	CLYDE	Estuary	TUEGIS	LOCH FYNE	Estuary	OLICANA	Elsack	Fortif'd site	TAEXALORUM	MULL of KINTYRE	Promontory
RHOBOGDIIUM	FAIR HEAD	Promontory	LEMANNONICUS	Loch Fyne	Bay	TAEXALORUM	MULL of KINTYRE	Promontory	ERORACUM	YORK	Fortif'd site	DEVA	FIRTH of Lorne	River mouth
OCCIDENTALIS	To west of Ireland	Ocean	EPIDIUM	FIRTH of Lorne	River mouth	DEVA	FIRTH of Lorne	River mouth	CAMUNLODUNUM	SLACK	Fortif'd site	ITIS	in Sound of Sleat	River mouth
RAVLUS	Erne	River mouth	LONGUS	FIRTH of Lorne	River mouth	ITIS	in Sound of Sleat	River mouth	PETUARIA	BROUGH on HUMBK	Fortif'd site	VOLAS	Loch Broom	Bay
MAGNATA	Carnote	City	ITIS	in Sound of Sleat	River mouth	VOLAS	Loch Broom	Bay	MEDIOLANUM	WHITCHURCH	Fortif'd site	(WRATH)	CAPE WRATH	Promontory
LIBNUS	Moy	River mouth	WRATH)	CAPE WRATH	Promontory	(WRATH)	CAPE WRATH	Promontory	BRANNOGENIUM	LEINTWARDINE	Fortif'd site	NABARUS	NAVER	River mouth
AUSOBA	Clare	River mouth	NABARUS	NAVER	River mouth	NABARUS	NAVER	River mouth	DEVA	CHESTER	Fortif'd site	TARVEDUM / ORCAS	DUNNET HEAD	Promontory
SENSU	SHANNON	River mouth	TARVEDUM / ORCAS	DUNNET HEAD	Promontory	TARVEDUM / ORCAS	DUNNET HEAD	Promontory	ALANUS	ALN	Fortif'd site	IENUS	Luce Water	River mouth
DUR	Maine	River mouth	IENUS	Luce Water	River mouth	IENUS	Luce Water	River mouth	VEDRA	(TYNE)	Fortif'd site	ABRAVANNUS	Wigtown Bay	River mouth
IERNUS	Kenmare	River mouth	ABRAVANNUS	Wigtown Bay	River mouth	ABRAVANNUS	Wigtown Bay	River mouth	DUNUM	WEAR	Fortif'd site	DEVA	DEE	River mouth
NOTIUM	Dursy Head	Promontory	DEVA	DEE	River mouth	DEVA	DEE	River mouth	GABRANTOVICUM	TEESMOUTH	Fortif'd site	NOVLIS	NITH	River mouth
VERGIONIS	To south of Ireland	Ocean	NOVLIS	NITH	River mouth	NOVLIS	NITH	River mouth	OCELLUS	Bridlington Bay	Bay/h'thour	ITUNAE	SOLWAY FIRTH	River mouth
DABRONA	Lee	River mouth	ITUNAE	SOLWAY FIRTH	River mouth	ITUNAE	SOLWAY FIRTH	River mouth	ABUS	SPURN HEAD	Promontory	MORICAMBE	Wavermouth Bay	Estuary
BIRJUS	BARROW	River mouth	MORICAMBE	Wavermouth Bay	Estuary	MORICAMBE	Wavermouth Bay	Estuary	METARIS	HUMBER	River mouth	SETANTIORUM	Mercamble Bay	Harbour
SACRUM	CARNSORE POINT	Promontory	SETANTIORUM	Mercamble Bay	Harbour	SETANTIORUM	Mercamble Bay	Harbour	GABRIENUS	THE WASH	Estuary	BELISIMA	RIBBLE	Estuary
HIBERNICUS	IRISH SEA	Ocean	BELISIMA	RIBBLE	Estuary	BELISIMA	RIBBLE	Estuary	Promontia Itonis	YARB	River mouth	SETEIA	MERSEY	Estuary
MADONNUS	Avoca	River mouth	SETEIA	MERSEY	Estuary	SETEIA	MERSEY	Estuary	EIDUMANIS	Orford Ness	River mouth	GANGANORUM	BRAICH Y PWLL	Promontory
MANAPIA	Rathfium	Fortified site	GANGANORUM	BRAICH Y PWLL	Promontory	GANGANORUM	BRAICH Y PWLL	Promontory	IAMESA	Blackwater	River mouth	STUCCIA	PRYSOR	River mouth
OBGCA	Liffey	Fortified site	STUCCIA	PRYSOR	River mouth	STUCCIA	PRYSOR	River mouth	LUCCOPIA	THAMES	Estuary	TUERORIS	Yawth	River mouth
EBLANA	Tara	Fortified site	TUERORIS	Yawth	River mouth	TUERORIS	Yawth	River mouth	REGIONUM	Gatcrose of Fleet	Fortified site	OCTAPITARUM	Teah	River mouth
BOVINDAS	BOYNE	River mouth	OCTAPITARUM	Teah	River mouth	OCTAPITARUM	Teah	River mouth	BARBANTORIGUM	Raebunfoot	Fortified site	TOBIS	ST. DAVID'S HEAD	Promontory
ISAMUNDUM	Cooley Point	Promontory	TOBIS	ST. DAVID'S HEAD	Promontory	TOBIS	ST. DAVID'S HEAD	Promontory	UXELLA	Strathendrick	Fortified site	RATOSTHENEES	TWYI	River mouth
LOGIA	Dundrum bay	River mouth	RATOSTHENEES	TWYI	River mouth	RATOSTHENEES	TWYI	River mouth	SABRINA	Ardfoch	Fortified site	SABRINA	USK	River mouth
REGIA	EMAIN MACHA	Fortified site	SABRINA	USK	River mouth	SABRINA	USK	River mouth	UXELLA	Ardfoch	Fortified site	UXELLA	USK	River mouth
HAERBA	'by Loch Res. Athlone'	Fortified site	UXELLA	USK	River mouth	UXELLA	USK	River mouth	HERCULIS	near Irvine	Fortified site	HERCULIS	USK	River mouth
LABERUS	Dun Ailin near Kildare	Fortified site	HERCULIS	USK	River mouth	HERCULIS	USK	River mouth	Antvasejaem/Boierium	Strathendrick	Fortified site	BRITANNICUS	ENGLISH CHANNEL	Promontory
MACOLICUM	Mag Haicha	Fortified site	Antvasejaem/Boierium	Strathendrick	Fortified site	Antvasejaem/Boierium	Strathendrick	Fortified site	THE LIZARD	Malling	Fortified site	CENIO	CHANNEL	Island
REGIA altera	Mag T. Cunga	Fortified site	THE LIZARD	Malling	Fortified site	THE LIZARD	Malling	Fortified site	ENGLISH CHANNEL	Fendoch	Fortified site	TAMARUS	KENWYN	Island
DUNUM	Dun Gallion Rathgal	Fortified site	ENGLISH CHANNEL	Fendoch	Fortified site	ENGLISH CHANNEL	Fendoch	Fortified site	KENWYN	Red Hic Corbridge	Fortified site	ISCA	TAMAR	Island
HIBERNIS	Cork	Fortified site	KENWYN	Red Hic Corbridge	Fortified site	KENWYN	Red Hic Corbridge	Fortified site	TAMAR	Leenchild	Fortified site	ALANUS	EXE	Island
AEBUDA	ISLAY	Island	TAMAR	Leenchild	Fortified site	TAMAR	Leenchild	Fortified site	AXE	HIGH ROCHESTER	Fortified site	MAGNUS	SOLENT	Island
IBUDA	JURA	Island	AXE	HIGH ROCHESTER	Fortified site	AXE	HIGH ROCHESTER	Fortified site	SOLENT	CARDEAN	Fortified site	TRISANTONA	ROTHER	Island
RHICINA	RATHLIN	Island	SOLENT	CARDEAN	Fortified site	SOLENT	CARDEAN	Fortified site	ROTHER	STRACATHRO	Fortified site	NOVUS	DOVER	Island
MALAEUS	MULL	Island	ROTHER	STRACATHRO	Fortified site	ROTHER	STRACATHRO	Fortified site	South FORELAND	Harbour	Fortified site	CANTUM	South FORELAND	Island
EPIDUM	ARRAN	Island	South FORELAND	Harbour	Fortified site	South FORELAND	Harbour	Fortified site	NORTH SEA	Carpow	Fortified site	GERMANICUS	NORTH SEA	Ocean
MONAOEDA	MAN	Island	GERMANICUS	NORTH SEA	Ocean	GERMANICUS	NORTH SEA	Ocean	DEVANA	Normandy/kes?	Fortified site	DEVANA	NORTH SEA	Ocean
MONA	ANGLESEY	Island	DEVANA	Normandy/kes?	Fortified site	DEVANA	Normandy/kes?	Fortified site	CURIA	Red Hic Corbridge	Fortified site	ALUNA	ALUNA	River mouth
ADRU deserta	HOWTH	Island	CURIA	Red Hic Corbridge	Fortified site	CURIA	Red Hic Corbridge	Fortified site	BREMNIUM	Leenchild	Fortified site	BREMNIUM	ALUNA	River mouth
LIMNU deserta	LAMBAY	Island	BREMNIUM	ALUNA	River mouth	BREMNIUM	ALUNA	River mouth	BANNATA	HIGH ROCHESTER	Fortified site	BANNATA	ALUNA	River mouth
			BANNATA	HIGH ROCHESTER	Fortified site	BANNATA	HIGH ROCHESTER	Fortified site	TAMEIA	CARDEAN	Fortified site	TAMEIA	ALUNA	River mouth
			TAMEIA	CARDEAN	Fortified site	TAMEIA	CARDEAN	Fortified site	PINNATA CASTRA	Thomhill?	Fortified site	PINNATA CASTRA	ALUNA	River mouth
			PINNATA CASTRA	Thomhill?	Fortified site	PINNATA CASTRA	Thomhill?	Fortified site	TUSIS	Ab'lour?	Fortified site	TUSIS	ALUNA	River mouth
			TUSIS	Ab'lour?	Fortified site	TUSIS	Ab'lour?	Fortified site	ORREA	Carpow	Fortified site	ORREA	ALUNA	River mouth
			ORREA	Carpow	Fortified site	ORREA	Carpow	Fortified site	DEVANA	Normandy/kes?	Fortified site	DEVANA	ALUNA	River mouth
			DEVANA	Normandy/kes?	Fortified site	DEVANA	Normandy/kes?	Fortified site						

TABLE 4

Additional, significant, named pre-Flavian/Flavian sites/locations in England & Wales

Site/Location	Identity	Appropriate Source		Site type	Sym.
Latin Name	Modern Name	Latin Name	Date/Occupation		
Gobannium	Abergavenny	Nash W 54,77	Nash W 54,77	FORT	■
Galava	Ambleside	R&S 79, 365	Wilson 88, 258	FORT	■
Vindocladia	Badbury	R&S 79, 500	Brit. vii, 282	Min'r Set't	○
Combretorium	Baylam House	R&S 79, 313	J&M 91, 88	prob. FORT	□
Clausentum?	Bitterne/S'ton water	R&S 79, 308	Frere 87, 276	prob. FORT	□
Lavatris	Bowes	R&S 79, 384	Wilson 88, 246	FORT	■
Branodunum	Brancaster	R&S 79, 274	Johnst'n 77, 28a	FORT	■
Cicucium?	Brecon Gaer (Y Gaer)	Nash W 54, 63	Wilson 88, 200	FORT	■
Virosidium	Brough by Bainbridge	R&S 79, 506	J&M 91, 99	FORT	■
Navio	Brough on Noe	R&S 79, 423	J&M 91, 99	FORT	■
Verteris	Brough u' Stainmore	R&S 79, 496	Wilson 88, 250	FORT	■
Brocvum	Brougham	Wilson 88, 250	poss. 2nd c.	FORT	■
Aqu' Armetetiae	Buxton	R&S 79, 254	Frere 87, 88	site	○
Canovium	Caerhun	Nash W 54,148	Wilson 88, 211	FORT	■
Isca	Caerleon	Nash W 54,18	Wilson 88, 190	LEG. FORT	■ ■
Segontium	Caernarvon	Nash W 54, 28	Wilson 88, 212	FORT	■
Venta Silurum	Caerwent	R&S 79, 493	Frere 87, 56	prob. FORT	□
Duroliponte	Cambridge	R&S 79, 351	Frere 87, 56	prob. FORT	□
Luguvallium	Carlisle	R&S 79, 402	Wilson 88, 312	FORT	■
Magnis	Carvoran	R&S 79, 407	Breeze 82, 68	FORT	■
Lagentium	Castleford	R&S 79, 383	J&M 91, 99	FORT	■
Margidunum	Castlehill	R&S 79, 413	Frere 87, 56	FORT	■
Caesaromagus	Chelmsford	R&S 79, 287	J&M 91, 88	FORT	■
Vindolanda	Chesterholm	R&S 79, 502	Hanson 87, 162	FORT	■
Concangis	Chester le Street	R&S 79, 314	Brit. xv, 281	FORT	■
Danum	Doncaster	R&S 79, 329	J&M 91, 99	FORT	■
Durnovaria	Dorchester	R&S 79, 345	Wilson 88, 70	prob. FORT	□
Salinae?	Droitwich	R'venna106/31	J&M 91, 99	FORT	■
Magiomnium	Dropshot farm	R&S 79, 406	J&M 91, 88	FORT	■
Vindomora	Ebchester	R&S 79, 502	Wilson 88, 245	FORT	■
Levobrinta?	Forden Gaer	Nash W 54,48	Nash W 54,48	FORT	■
Glevum	Glo'cester/Kingsholm	R&S 79, 369	Wilson 88, 110	LEG. FORT	■ ■
Durovigutum	Godmanchester	R&S 79, 354	J&M 91, 88	FORT	■
Venenis	High Cross	R&S 79, 492	Brit. i, 184	prob. FORT	□
Lindinis	Ilchester	R&S 79, 392	Brit. vii, 357	Maj. Set't	○
Verbeia?	Ilkley	R&S 79, 493	Wilson 88, 238	FORT	■
Canonium	Kelvedon	R&S 79, 297	J&M 91, 88	Maj. Set't	○
Magnis	Kenchester?	R&S 79, 407	J&M 91, 99	prob. FORT	□
Bravoniacum	Kirby Thore	R&S 79, 276	J&M 91, 99	FORT	■
Derventia	Littlechester	R&S 79, 334	Brit. vi, 244	LEG FORT	■ ■
Alabum?	Llandoverly	Nash W 54,67	Nash W 54,67	FORT	■
Bremia	Llanio	Nash W 54,40	Nash W 54,40	FORT	■
Leucarum	Loughor	Nash W 54, 89	Nash W 54, 89	FORT	■
Portus Lemanis	Lypne	R&S 79, 387	2nd c. Wilson	Harbour	↗
Derventio	Malton	R&S 79, 334	Wilson 88, 237	FORT	■
Manuessedum	Mancetter	R&S 79, 412	J&M 91, 88	VEX FORT	▼
Manucium	Manchester	R&S 79, 410	Wilson 88, 394	FORT	■
Alauna	Maryport	R&S 79, 245	Wilson 88, 254	prob. fortlet	■
Ardotalia?	Melandra	R&S 79, 257	Wilson 88, 165	FORT	■
Nidum	Neath	Nash W 54, 91	Wilson 88, 203	FORT	■
Condate	Northwich	R&S 79, 316	Webster 81, 102	FORT	■
Voreda	Old Penrith	R&S 79, 508	J&M 91, 99	FORT	■
Derventio	Papcastle?	R&S 79, 334	J&M 91, 99	FORT	■
Regulbium	Reculver	R&S 79, 446	Wilson 88, 35	FORTLET	■
Uxacona	Redhill	R&S 79, 482	J&M 91, 88	FORT	■
Bremetenacum	Ribchester	R&S 79, 277	Wilson 88, 239	FORT	■
Dorobrivae	Rochester	R&S 79, 348	Frere 87, 56	prob. FORT	□
Abona	Sea Mills	R&S 79, 240	Wilson 88, 118	prob. FORT	□
Vagniacis	Springhead	R&S 79, 485	Brit. ii, 191	Min'r Set't	○

Pontes	Staines?	R&S 79, 441	J&M 91, 88	Maj. Set't	○
Ad Pontem	Thorpe by N'ark	R&S 79, 241	J&M 91, 88	FORT	■
Bovium	Tilston?	O.S. 91, map	J&M 91, 99	Min'r Set't	○
Lactodurum	Towcester	R&S 79, 383	Frere 87, 56	prob. FORT	□
Letocetum	Wall	R&S 79, 388	Wilson 88, 181	VEX FORT	▼
Alauna	Watercrock	R&S 79, 244	Potter 79, 358	FORT	■
Durobrivae	Water Newton	R&S 79, 348	Wilson 88, 179	FORT	■
Bannaventa	Whilton Lodge	R&S 79, 265	Rix&Taylor 88, 337	Min'r Set't	○

TABLE 5

Roman named sites in Britain excluded from Flavian map

Latin name	Modern name	Reference	Exclusion
Bibra	Beckfoot	R&S 79, 268	
Othona	Bradwell	Brit. xxiv, 302	3rd cent.
Sulloniacis	Brockley Hill	R&S 79, 463	
Garrianum	Burgh Castle	Wilson 88, 155	c. AD 275
Magis	Burrow Walls	Brit. viii, 179	prob. 2nd cent.
Tripontium	Caves Inn	Brit. iv, 288	2nd cent.
Noviomagus	Crayford	R&S 79, 428	
Durocobrivis	Dunstable	Brit. xi, 17.	
Mediobogdum	Hardknott	Wilson 88, 255	Hadrianic
Bannovallum	Horncastle	Wilson 88, 186	third cent. AD
Camboritum	Lackford	R&S 79, 163	
Longovicium	Lanchester	Wilson 88, 244	
Segelocum	Littleborough	R&S 79, 453	
Salinae	Middlewich	Brit. vii, 321	
Gabrosentum	Moresby	Frere 87, 120	after AD 128
Maglone	Old Carlisle?	R&S 79, 407	
Sorviodunum	Old Sarum	R&S 79, 461	
Anderitum	Pevensey	Wilson 88, 41	Sax. Shore 4th cent.
Glannoventa	Ravenglass	Potter 79, 359	early Hadrianic
Verlucio	Sandy Lane	R&S 79, 494	
Villa Faustini	Scole?	R&S 79, 163	
Portus Ardaoni?	Portchester	Brit. xxv, 31	3rd/4th cent.
Causennis	Saltersford	Brit. xxv, 269	2nd + cent.
Calcaria	Tadcaster	R&S 79, 289	
Tanatis	Thanet	R&S 79, 468	
Pennocrucium	Water Eaton	R&S 79, 437	
Ariconium	Weston u' Penyard	Brit. xxv, 271	?
HADRIAN'S WALL REGION			
Arbeia	South Shields	Wilson 88, 277	Hadrianic
Segedunum	Wallsend		Hadrianic
Pons Aelii	Newcastle		Hadrianic
Condercum	Benwell		Hadrianic
Vindobala	Rudchester		Hadrianic
Onnum	Halton		Hadrianic
Cilurnum	Chesters		Hadrianic
Brocolitia	Carrowburgh		late Hadrianic
Vercovicium	Housesteads		Hadrianic
Aesica	Great Chesters		Hadrianic
Banna	Birdoswald	Howard 69	Trajanic sig.st'n
Camboglanna	Castlesteads		Hadrianic
Uxelodunum	Stanwix		Hadrianic
Aballava	Burgh by Sands		Hadrianic
Concavata	Drumburgh		Hadrianic?
Maia	Bowness		Hadrianic
C'stra Explor'torum	Netherby		Hadrianic
Fanum Cocidi	Bewcastle		Hadrianic
Habitancum	Risingham	Wilson 88, 315	prob. 2nd cent.
SCOTLAND			
Veluniate	Carriden	Richmond 56/7	prob. Antonine
Vanduara	Paisley	Hector 1880, xiii	fictitious?

TABLE 6

Un-named, probable Flavian sites in Roman Scotland

Site No	MODERN NAME	RELEVANT SOURCE	SITE TYPE	SITE PERIOD	SITE STATUS	SITE SIZE
1	BLAKEHOPE	Wilson 88, 316	fort	Agricolan	uncertain	uncertain
2	CHEW GREEN	Maxwell 89	fortlet	Agricolan		small
3	CAPPUCK	Maxwell 89	fort	Agricolan		small
4	OXTON	Maxwell 89	fortlet	Agricolan	possible	large
5	ELGINHAUGH	Maxwell 90	fort	Agricolan		standard
6	OAKWOOD	Maxwell 89	fort	Agricolan		standard
7	EAST'R HAP'REW	Maxwell 89	fort	Agricolan		standard
8	CASTLE GREG	Maxwell 89	fortlet	Agricolan		small
9	BROOMHOLM	Maxwell 89	fort	Agricolan		standard
10	TASSIEHOLM	Maxwell 89	fort	Agricolan		standard
11	WARD LAW	Maxwell 89	fort	Agricolan	possible	standard
12	GLENLOCHAR	Maxwell 89	fort	Agricolan		standard
13	DALSWINTON	Maxwell 89	fort	Agricolan		large
14	DRUMLANRIG	Maxwell 89	fort	Agricolan		small
15	LOUDON HILL	Maxwell 89	fort	Agricolan		standard
16	CASTLEDYKES	Maxwell 89	fort	Agricolan		large
17	BANKHEAD	Maxwell 89	fortlet	Agricolan		small
	CRAMOND	Brit 27, 402 & R'berts'n 1983, 421	fort	Flavian?	uncertain	
18	MUMRILLS	Maxwell 90	fort	Agricolan		standard
19	CASTLECAR	Maxwell 90	fort	Agricolan		standard
20	MOLLINS	Maxwell 90	fortlet	Agricolan		large
	CADDER	Hanson 87, 101		Agricola?	possible	
21	BAROCHAN	Maxwell 90	fort	Agricolan		standard
22	DUMBARTON	Maxwell 89	fort	Agricolan	possible	standard
23	DRUMQUHASSLE	Maxwell 90	fort	Agricolan		standard
24	DOUNE	Maxwell 90	fort	Agricolan		large
25	GLENBANK	Maxwell 90	fortlet	Flavian		small
26	KAIMS CASTLE	Maxwell 90	fortlet	Flavian		small
27	STRAGEATH	Maxwell 90	fort	Agricolan		standard
28	GASK RIDGE	Maxwell 90	towers	Flavian		small(17)
29	BERTHA	Maxwell 90	fort	Agricolan	possible	large
30	CARGILL MAINS	Maxwell 90	fortlet	Flavian		large
31	CARGILL	Maxwell 90	fort	Flavian		standard
32	BOCHASTLE	Maxwell 90	fort	Agricolan		standard
33	DALGINROSS	Maxwell 90	fort	Agricolan		standard
34	INCHTUTHIL	Maxwell 90	fortress	Agricolan		legionary
35	INVERQUHARITY	Maxwell 90	fortlet	Flavian		large
Temp Camps — Marching etc. N of Inverquharity				S = Stracathro type		hectares
a	DUN	Maxwell 90	Camp	Flavian	possible	c. 3
b	FINAVON	Maxwell 90	Camp	Flavian	possible	c. 15
c	STRACATHRO	Maxwell 90	Camp	Agricolan	possible	S c. 16
d	RAEDYKES	Maxwell 90	Camp	Agricolan	possible	c. 38
e	NORMANDYKES?	Maxwell 90	Camp	Agricolan	possible	c. 43
f	KINTORE 1	Maxwell 90	Camp	Agricolan	possible	c. 46
g	KINTORE 2	J&M 90, 86	Camp			c. 8
h	DURNO	Maxwell 90	Camp	Agricolan	possible	c. 58
i	YTHAN WELLS 1	Maxwell 90	Camp	Agricolan	possible	c. 45
j	YTHAN WELLS 2	Maxwell 90	Camp	Agricolan	possible	S c. 14
k	BURNFIELD	Maxwell 90	Camp	Flavian	possible	c. 8 +
l	MUIRYFOLD	Maxwell 90	Camp	Agricolan	possible	c. 44
m	AUCHINHOVE	Maxwell 90	Camp	Agricolan	possible	S c. 14
n	BELLIE	Crawford 49	Camp	Agricolan	possible	c. 4
o	THOMSHILL?	Brit, 17, 372	Camp	Agricolan	possible	> 1.3

REFERENCES

- Frere, S S 1980 'Review article in Naming Roman Britain', *Britannia*, 11 (1980), 419–23.
- Hind, J G F 1980 'The Romano-British name for Corbridge', *Britannia*, 11 (1980), 165–71.
- Jones, B & Mattingly, D 1990 *An Atlas of Roman Britain*. London.
- Richmond, I A 1922 'Ptolemaic Scotland', *Proc Soc Antiq Scot*, 56 (1922), 288–301.
- Richmond, I A 1956 'Castellum Veluniate and civilians on a Roman frontier', *Proc Soc Antiq Scot*, 90 (1956–7), 1–6.
- Rivet, A L F 1982 'The Brittones Anavionenses', *Britannia*, 13 (1982), Notes 321–2.
- Rivet, A L F & Smith, C 1979 *The Place-Names of Roman Britain*. London.
- Robertson, A S 1975 *Birrens (Blatobulgium)*. Edinburgh.
- Robertson, A S 1983 'Roman coins found in Scotland, 1971–82', *Proc Soc Antiq Scot*, 113 (1983), 405–48.
- Strang, A 1994 *Ptolemy's Geography Reappraised*. Unpub PhD thesis. University of Nottingham.
- Strang, A 1997 'Explaining Ptolemy's Roman Britain', *Britannia*, 28 (1997), 1–30.
- Strang, A 1998 'The Analysis of Ptolemy's Geography', *Cartographic J*, 35 (1) (1998), 27–47.
- Strang, A forthcoming 'Ptolemy's Geography of the lower Danube region'.
- Tomlin, R S O 1983 'Non Coritani sed Corieltauvi', *Antiq J*, 63 (1983), 353–5.