

Roman Coins in Malta: a Preliminary Study

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Over thirty years ago I was lucky enough to help work on the Roman coins in the National Museum. The detail still needs further work, but the rough outlines of the numbers of coins of each emperor and each period of striking have been used several times in comparison with other collections in the Mediterranean area. As a new method has been developed for comparing collections in the last few years, I thought it might be of interest to give a short account of the method and how the National Museum collection appears when viewed in this particular way. Though the method was published in 1995 in the British journal *Britannia*, I have not applied it to any collection in detail so this is the first article written which puts the method to a particular use. I shall use the shorthand 'Malta' from now on, but we need to remember that this is not strictly true because it relies on the contents of only the one collection.

In 1969 there were about 3,787 Roman coins that could be identified closely enough to give a date within about twenty years. The numbers and the dates are given below:

to AD 41	189	180-193	67	348-364	259
41- 54	57	193-222	133	364-378	90
54- 69	62	222-238	225	378-388	56
69- 96	205	238-260	328	388-402	51
96-117	156	260-295	505	402-425	13
117-138	186	295-317	301	425-455	4
138-161	174	317-330	237	455-494	3
161-180	172	330-348	314		

These numbers can be put in diagram form in fig 1. If the coins are turned into coins per thousand then fig 2 results. The shape is exactly the same, but the collection can now be compared directly with any other collection that we turn into coins per thousand. A first point would be to compare Malta with an average (the arithmetic mean) obtained by collecting together a number of sites throughout the empire. This is fig 3, and it will be seen that Malta is different from the empire in general. Instead of making our eyes move backwards and forwards from fig 2 to fig 3, we can take the average away from Malta and the result is fig 4. Malta is higher in early coins, but lower in later coins.

Another comparison we can make is between coin loss on Malta and constant coin loss - the loss of roughly the same number of coins every 20 years or so. If we add up constant, or smooth, coin loss we get a straight line as in fig. 5. Since the same number of coins were, in theory, lost in each period, then as we add them up from AD 1 to AD 500, the points will move up a straight line from 1 to 1000 (always in coins per thousand). Before we start there are none, 0. When we finish adding up, there must be 1000 coins per thousand.

If we do the same to the Malta coins, fig 6, we can see that the result is not too far away from the idea of constant coin loss. We can put the two together on fig 7 and we see Malta lose a little less than constant numbers up to 260 and then lose more than constant numbers in the fourth century. This becomes clearer in fig 8 when we have one line which represents just the difference between Malta and constant loss. We can do the same for the difference between Malta and Empire Average Loss and that is fig 9.

This is the method I now like to use because it means that, once an Empire Average has been established, we can express the coins from any site in the empire as a single line joining up a number of points, and so compare our site with any others.

In work that I have recently been doing I have followed this method and sorted sites throughout the empire out into groups which resemble one another in the shape of their curves. This means they had similar sorts of coin loss, and presumably it means that they used coins in a similar way, and lost coins in a similar way. Fig 10 is extracted from this work which will not be ready for publication for some time to give an example for Malta. It shows the Malta curve, already seen in fig 9 with some of its closest companions. The fit is not perfect but, compared with other possibilities, quite close. The companions are Af Ben - Benghazi on the North coast of Africa in Libya, and a near neighbour in terms of space; Ib Clun - Clunia, northern Spain, SE of Burgos; and Alésia, the Gaulish hill settlement which turned into a Roman town, near Dijon in modern France. These sites have a very similar rise above average — which is the 0 line — up to 260, variation between 260 and 300, and then uniform decline compared to the Empire Average. This last phrase is extremely important. The whole method is one of comparison, comparison with the straight line which represents the average of a large number of sites.

To talk about decline is to talk about decline in coin use in relation to other sites around the empire. If we refer back to the simplest diagram, fig 1, we can see that in sheer numbers more fourth century coins were lost on Malta than second century

coins, so there is no decline in absolute coin loss. It is simply that other sites lose even more coins in the fourth century, so Malta, while losing a good number, drops behind the average.

There is just one further complication to introduce. The large number of early coins on Malta, and at Clunia and especially Alésia mean that the “decline” in the fourth century is bunched up into a multiple line almost impossible to unravel. We can liberate the smaller number of later coins from the oppressive effects of the large number of early coins by considering the coins in two parts: early coins up to 260 and later coins from 260 to the end. This results in further comparisons. Again I have extracted the diagrams from the work in progress to give an interim report for Malta.

In the early period, fig 11, Malta is similar to a very disparate group of sites. I will not bother with site names, because most are totally unknown outside their own localities. The best indicators are the national names: Fr for France, Slo for Slovenia, G for Germany, Sa for the Saarland, and Br for Britain. At one level, such far flung comparisons seem odd. How can it be that a site in Britain loses early Roman coins at roughly similar rates to one in Slovenia and another in Malta? Presumably, this is a powerful demonstration of the uniformity of the Roman Empire. Virtually all coin was struck at this date in Rome, and sent out to the western provinces in roughly similar manner. The sites where the coins were used show roughly similar coin loss provided they have a roughly similar life history.

In the later diagram, fig 12, Malta is grouped with different sites in Bav, Bavaria, Rom, Romania (the great site of Histria on the Danube Estuary), France again, and Rh, the Rhineland. Here the fit is very close. All these sites have above average coin loss between 260 and 330, but then they come quickly down, as judged against the average. Other groups of sites show a later rise, and a later fourth century, or even fifth century fall, but these details will have to wait for the publication of all the sites (and diagrams) together.

The method is in place, and seems to work. The average is constructed from a mere 108 sites because those are the ones I had easily to hand in publications and offprints. While the number of sites in Germany and Britain in the sample could easily be multiplied by 10, I think at present the number of sites in France could not even be doubled. Asia Minor shows coins from Troy and Sardis, but the coins from the great cities of Ephesus, Priene, Pergamum, and so on have never been collected together and published. North Africa has some of the most remarkable Roman cities of the Empire, yet years of expatriate archaeology by colonial powers has not produced a single coin list.

I mention this not so much to complain at the terrible state of affairs as to explain why it is not possible to compare Malta with nearby sites like Cyrene (in course of study), Leptis (?), Syracuse (?), or Naples (?). Malta has good coin collections, well looked after and known in outline. In this it is far ahead of most other Roman cities of the Mediterranean world. It is for this reason that I offer this short analysis to encourage Malta to stay in the forefront of Mediterranean coin studies.

fig 1. Malta: number of coins through time

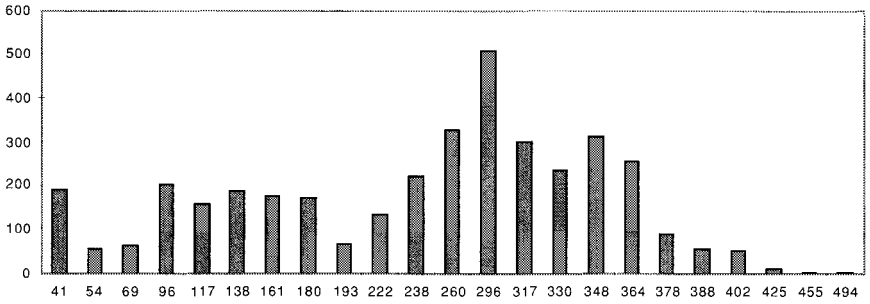


fig 2. Malta: coins per thousand through time

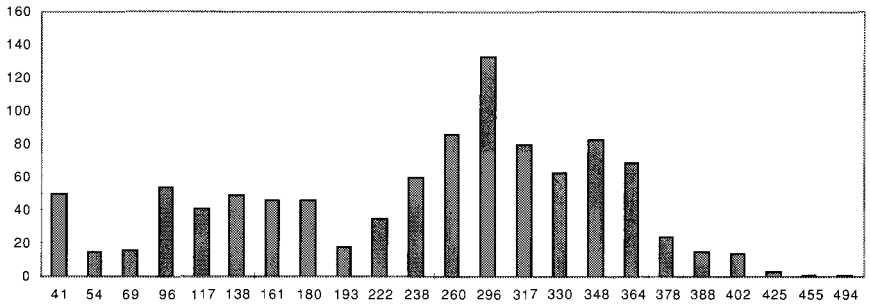


fig 3. Empire Average: coins per thousand through time

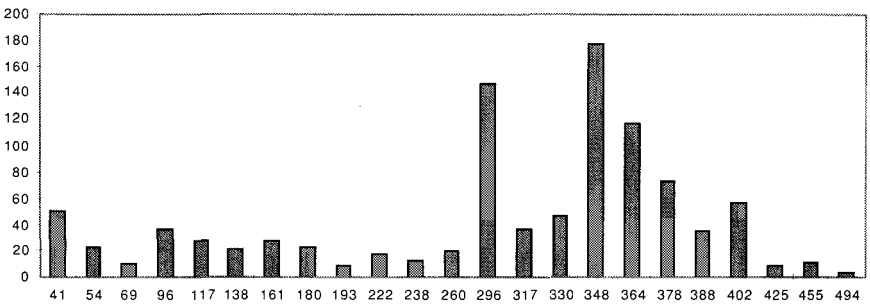


fig 4. Malta minus the Empire Average through time

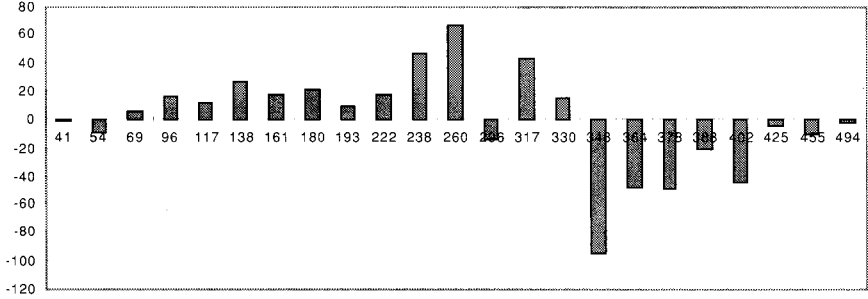


fig 5. Smooth coin loss added up through time

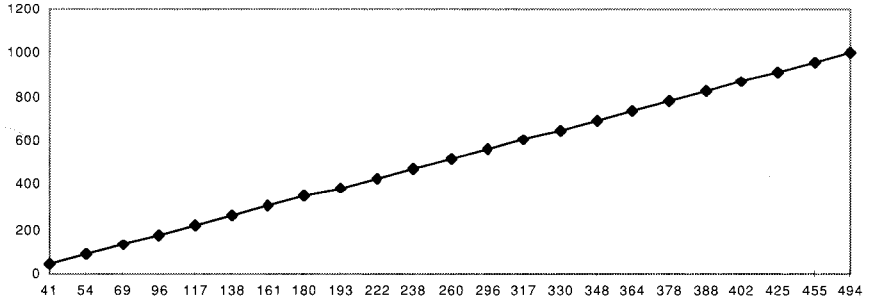


fig 6. Malta coin loss added up through time

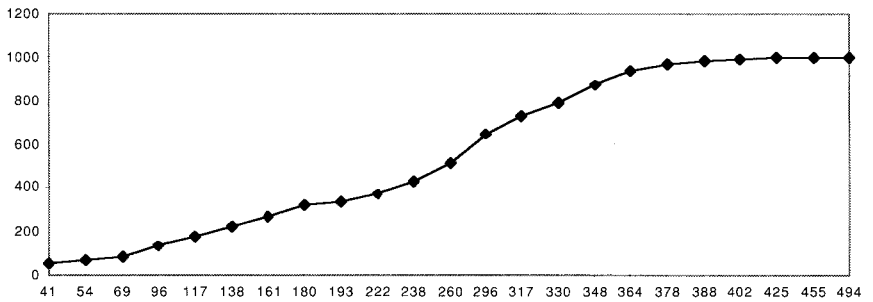


fig 7. Malta compared with smooth coin loss

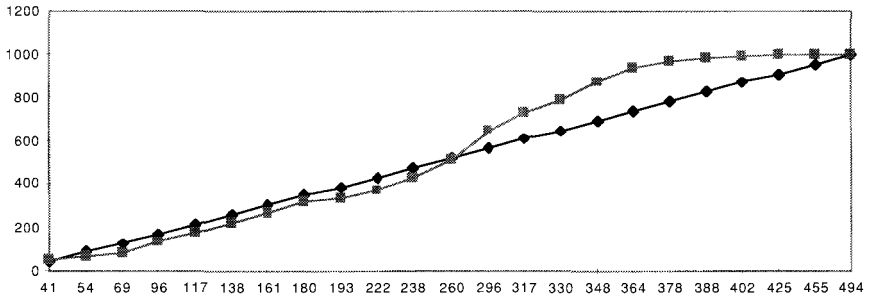


fig 8. Malta minus smooth coin loss

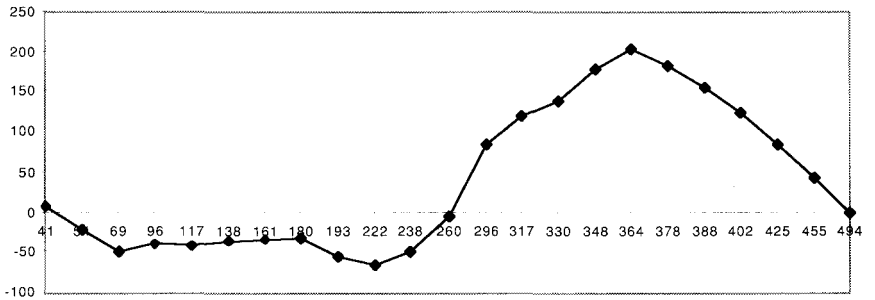
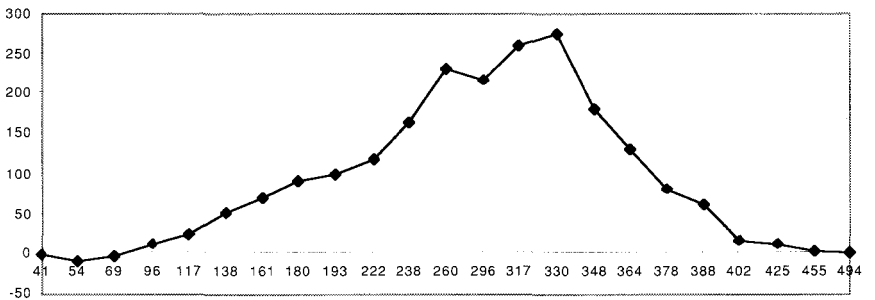
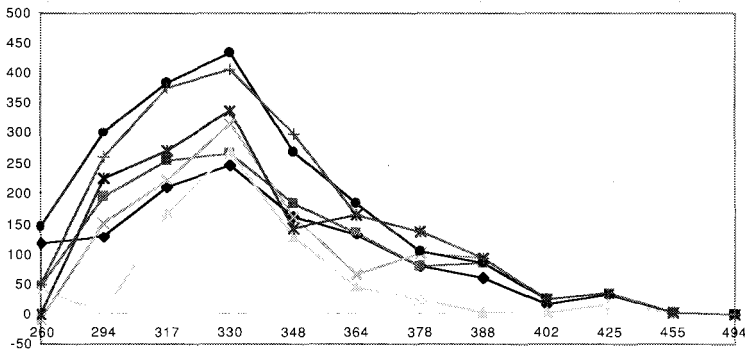
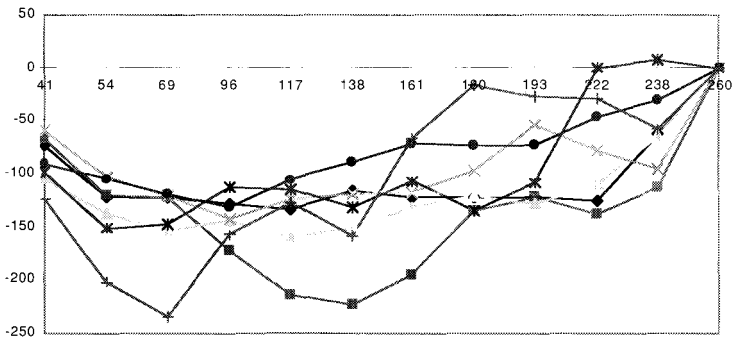
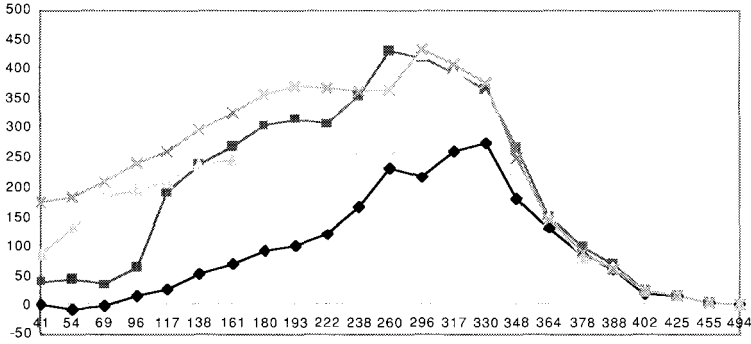
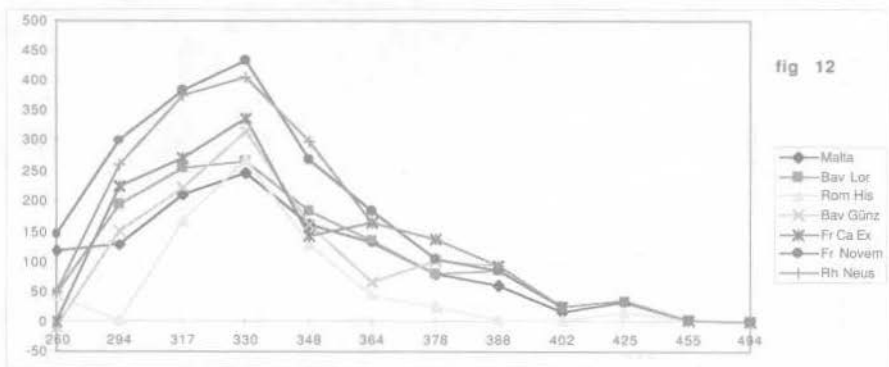
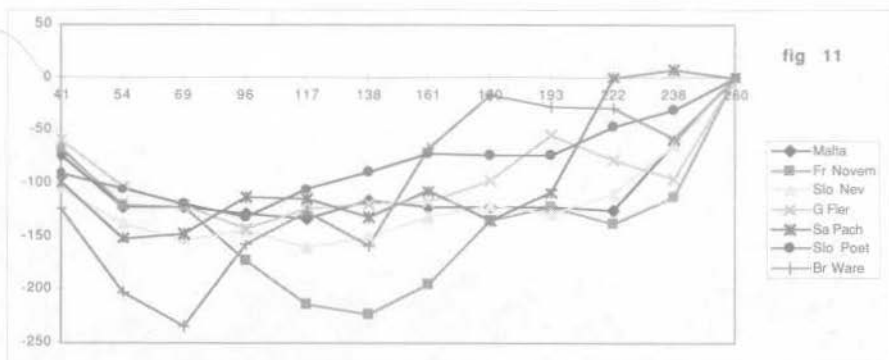
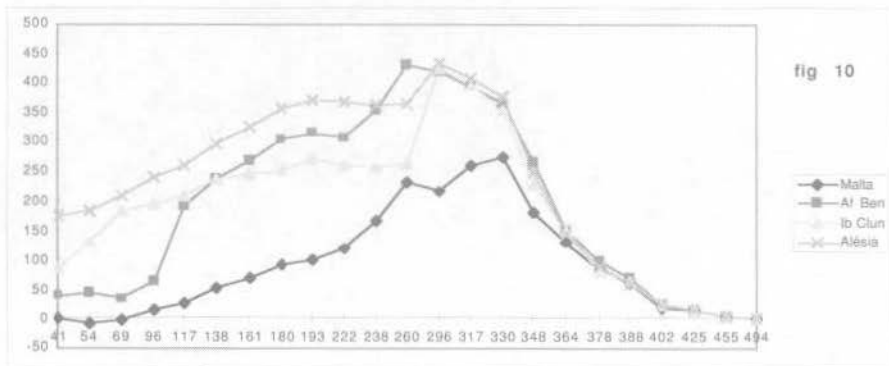


fig 9. Malta minus the Empire Average







	Malta	Malta %	Malta add	Malta - S	Malta - av	Average	Average+	Smooth					
41	189	49.90758	49.90758	6.429318	-1.04794	50.95552	50.95552	43.47826					
54	57	15.05149	64.95907	-21.9975	-9.87507	23.87862	74.83415	86.95652					
69	62	16.3718	81.33087	-49.1039	-3.50109	9.997811	84.83196	130.4348					
96	205	54.13256	135.4634	-38.4496	13.12059	37.51088	122.3428	173.913					
117	156	41.18356	176.657	-40.7343	25.30298	29.01116	151.354	217.3913					
138	186	49.11539	225.7724	-35.0972	51.61925	22.79912	174.1531	260.8696					
161	174	45.94686	271.719	-32.6288	69.41585	28.15006	202.3032	304.3478					
180	172	45.41854	317.1376	-30.6885	90.91282	23.92156	226.2248	347.8261					
193	67	17.6921	334.8297	-56.4747	99.8953	8.709627	234.9344	391.3043					
222	133	35.12015	369.9498	-64.8328	117.7286	17.28882	252.2212	434.7825					
238	225	59.41378	429.3636	-48.8972	164.2643	12.87807	265.0993	478.2609					
260	328	86.61209	515.9757	-5.76341	230.5403	20.3361	285.4354	521.7391					
296	505	133.3509	649.3266	84.10926	216.3614	147.5298	432.9652	565.2174					
317	301	79.48244	728.8091	120.1134	258.9502	36.89365	469.8589	608.6956					
330	237	62.58252	791.3916	139.2177	274.1986	47.33419	517.193	652.1739					
348	314	82.91524	874.3068	178.6547	179.7771	177.3367	694.5297	695.6522					
364	259	68.39187	942.6987	203.5683	131.0192	117.1498	811.6795	739.1304					
378	90	23.76551	966.4642	183.8555	81.8707	72.91402	884.5935	782.6087					
388	56	14.78743	981.2517	155.1647	61.19831	35.45983	920.0533	826.0869					
402	51	13.46712	994.7188	125.1536	17.31224	57.35319	977.4065	869.5652					
425	13	3.432796	998.1516	85.10811	12.53762	8.207409	985.6139	913.0435					
455	4	1.056245	999.2078	42.8861	2.473614	11.12026	996.7342	956.5217					
494	3	0.792184	1000	1.91E-05	0	3.265798	1000	1000					
	3787	1000											

fig 1		fig 2		fig 3		fig 4	
	Malta		Malta %		Average		Malta-Av
41	189	41	49.90758	41	50.95552	41	-1.04794
54	57	54	15.05149	54	23.87862	54	-8.82713
69	62	69	16.3719	69	9.997811	69	6.373987
96	205	96	54.13258	96	37.51088	96	16.62168
117	156	117	41.19356	117	29.01116	117	12.18239
138	186	138	49.11539	138	22.79912	138	26.31627
161	174	161	45.94666	161	28.15006	161	17.79659
180	172	180	45.41854	180	23.92156	180	21.49698
193	67	193	17.6921	193	8.709627	193	8.982477
222	133	222	35.12015	222	17.28682	222	17.83333
238	225	238	59.41378	238	12.87807	238	46.53571
260	328	260	86.61209	260	20.3361	260	66.27599
296	505	296	133.3509	296	147.5298	296	-14.1789
317	301	317	79.48244	317	36.89365	317	42.58879
330	237	330	62.58252	330	47.33419	330	15.24833
348	314	348	82.91524	348	177.3367	348	-94.4215
364	259	364	68.39187	364	117.1498	364	-48.7579
378	90	378	23.76551	378	72.91402	378	-49.1485
388	56	388	14.78743	388	35.45963	388	-20.6724
402	51	402	13.46712	402	57.35319	402	-43.8861
425	13	425	3.432796	425	8.207409	425	-4.77461
455	4	455	1.056245	455	11.12026	455	-10.064
494	3	494	0.792184	494	3.285798	494	-2.47361

fig 5		fig 6		fig 7			fig 8	
	Smooth		Malta add		Smooth	Malta		Malta - S
41	43.47826	41	49.90758	41	43.47826	49.90758	41	6.429318
54	86.95652	54	64.95907	54	86.95652	64.95907	54	-21.9975
69	130.4348	69	81.33087	69	130.4348	81.33087	69	-49.1039
96	173.913	96	135.4634	96	173.913	135.4634	96	-38.4496
117	217.3913	117	176.657	117	217.3913	176.657	117	-40.7343
138	260.8696	138	225.7724	138	260.8696	225.7724	138	-35.0972
161	304.3478	161	271.719	161	304.3478	271.719	161	-32.6288
180	347.8261	180	317.1376	180	347.8261	317.1376	180	-30.6885
193	391.3043	193	334.8297	193	391.3043	334.8297	193	-56.4747
222	434.7826	222	369.9498	222	434.7826	369.9498	222	-64.8328
238	478.2609	238	429.3636	238	478.2609	429.3636	238	-48.8972
260	521.7391	260	515.9757	260	521.7391	515.9757	260	-5.76341
296	565.2174	296	649.3266	296	565.2174	649.3266	296	84.10826
317	608.6956	317	728.8091	317	608.6956	728.8091	317	120.1134
330	652.1739	330	791.3916	330	652.1739	791.3916	330	139.2177
348	695.6522	348	874.3068	348	695.6522	874.3068	348	178.6547
364	739.1304	364	942.6987	364	739.1304	942.6987	364	203.5683
378	782.6087	378	966.4642	378	782.6087	966.4642	378	183.8555
388	826.0869	388	981.2517	388	826.0869	981.2517	388	155.1647
402	869.5652	402	994.7188	402	869.5652	994.7188	402	125.1536
425	913.0435	425	998.1516	425	913.0435	998.1516	425	85.10811
455	956.5217	455	999.2078	455	956.5217	999.2078	455	42.6861
494	1000	494	1000	494	1000	1000	494	1.91E-05

fig 9		fig 10				fig 11						
	Malta - av		Malta	Af Ben	Ib Clun	Alésia		Malta	Fr Novem	Sio Nev	G Fler	
41	-1.04794	41	-1.05242	37.27529	84.22696	173.1779		41	-74.0178	-67.675	-105.203	-60.3977
54	-9.87507	54	-9.87093	42.81706	130.3474	183.4591		54	-122.675	-120.963	-138.634	-103.743
69	-3.50109	69	-3.49913	32.81706	182.6676	207.9419		69	-122.959	-123.53	-153.735	-121.964
96	13.12059	96	13.12343	63.93451	193.0962	239.729		96	-128.697	-174.057	-143.878	-142.959
117	25.30298	117	25.30698	191.7873	207.231	260.1221		117	-133.839	-214.664	-161.203	-124.489
138	51.61925	138	51.62238	237.6147	238.1223	296.0092		138	-116.972	-224.475	-150.731	-120.053
161	69.41585	161	69.41904	268.2882	244.4881	324.8883		161	-123.202	-194.6	-131.844	-116.78
180	90.91282	180	90.91758	303.1918	250.2901	355.0134		180	-123.834	-135.816	-120.934	-96.8911
193	99.8953	193	99.89968	314.0896	270.3433	368.8498		193	-123.141	-122.987	-129.36	-54.825
222	117.7286	222	117.7298	306.6035	259.7647	366.1487		222	-126.668	-138.137	-110.043	-78.1414
238	164.2643	238	164.2636	352.5471	257.4312	362.5525		238	-63.8846	-114.429	-65.157	-96.0238
260	230.5403	260	230.5357	430.2463	261.0605	363.4327		260	0	-1.1E-13	-1.1E-13	-1.1E-13
296	216.3614	296	216.3566	419.9712	426.0904	433.4093						
317	258.9502	317	258.9491	392.8851	395.9118	409.1188						
330	274.1986	330	274.2018	365.1629	354.3344	375.3829						
348	179.7771	348	179.7768	266.2543	229.727	248.7724						
364	131.0192	364	131.0187	149.1043	148.0515	142.2325						
378	81.8707	378	81.87422	95.80216	80.89418	89.21637						
388	61.19831	388	61.20165	70.14608	63.65086	59.72454						
402	17.31224	402	17.30877	22.59	22.59	22.59						
425	12.53762	425	12.54157	14.39	14.39	14.39						
455	2.473614	455	2.477816	3.27	3.27	3.27						
494	0	494	1.14E-13		1.14E-13	0						

fig 11 continued			fig 12								
Sa Pach	Sio Poet	Br Ware		Malta	Bav Lor	Rom His	Bav Günz	Fr Ça Ex	Fr Novem	Rh Neus	
-98.4533	-90.9213	-124.231	260	116.8651	47.40057	42.25392	-7.13872	-0.43374	146.3462	51.2904	
-152.185	-106.169	-202.059	294	128.9454	194.6952	3.925861	150.8831	226.2343	299.4838	260.7171	
-148.055	-120.304	-234.073	317	211.2267	256.5916	168.7847	223.5066	272.6765	383.0073	376.1248	
-114.127	-131.976	-158.677	330	247.4585	265.469	268.9786	316.7337	337.1679	432.7856	406.1334	
-114.768	-106.482	-127.376	348	163.848	182.8969	126.8817	161.8942	142.7371	269.0451	297.9095	
-132.849	-89.0188	-159.187	364	132.7763	135.6318	46.69762	66.52613	164.2273	183.2946	164.2273	
-107.646	-71.9089	-68.4191	378	80.25761	81.09987	23.27107	101.9897	139.0267	104.4035	139.0267	
-135.861	-74.158	-17.3402	388	60.48624	84.19506	3.309246	93.3414	93.3414	86.21309	93.3414	
-109.416	-73.4713	-27.8804	402	15.75283	25.0078	2.499761	25.0078	25.0078	23.98947	25.0078	
-0.28511	-46.7237	-29.7051	425	32.21266	35.4519	16.1593	35.4519	35.4519	35.4519	35.4519	
7.590658	-30.762	-58.8145	455	2.130754	3.519	3.519	3.519	3.519	3.519	3.519	
0	1.14E-13	0	494	2.27E-13	0	-1.1E-13	-1.1E-13	0	0	1.14E-13	