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NEW LATE BRONZE AGE CHRONOLOGY FROM THE IALYSOS REGION, RHODES

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ABSTRACT

The prehistoric settlement of Ialysos (Trianda) in Rhodes (28° 9' Long., 36° 25' Lat.) is inhabited uninterruptedly from the Middle Bronze Age until the Late Helladic III A2 period. The stratigraphy of the site has already provided valuable evidence for the relative chronology of the prehistoric Aegean. New high precision radiocarbon dates derived from the above settlement contribute to the solution of the major problem of absolute chronology of the Aegean. In addition, the Early Bronze Age site at Asomatos near Kremasti (28° 7' Long., 36° 25' Lat.), within the wider region of Ialysos has already provided safe evidence for the preceding period. This fact is confirmed by the vertical stratigraphy of the neighbouring site at Serayia on Kos (27° 17' 30" Long., 36° 53' 25" Lat.), where continuous habitation from the end of the Early Bronze Age until the late Mycenaean period is observed. More specifically, the new dates contribute to the period preceding the eruption of the volcano, the interval between the temporary abandonment of the settlement and the ash fall in the south-eastern Aegean and the succeeding Late Minoan IB period. Although the study is still in progress and new Middle Bronze Age samples are under analysis, this study proposes a chronological framework for the rest of the Aegean.

KEYWORDS: Bronze age, chronology, Rhodes, Trianta, Radiocarbon

INTRODUCTION

The discovery of the distinct tephra layer (Doumas and Papazoglou 1980), which covered the LM IA ruins of the Bronze Age settlements at both Ialysos (Trianda) on Rhodes (28° 9' Long., 36° 25' Lat.) and Serayia on Kos (27° 17' 30" Long., 36° 53' 25" Lat.) (Fig. 1), triggered some new chronological issues about the Late Bronze

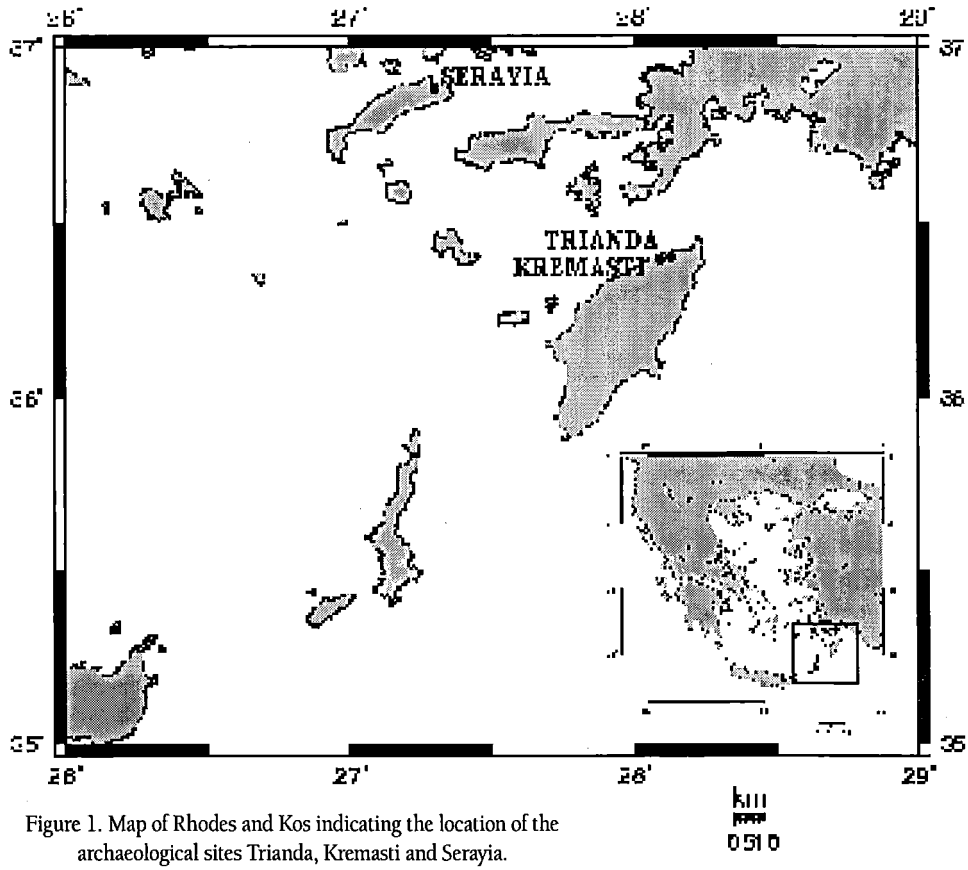

Figure 1. Map of Rhodes and Kos indicating the location of the archaeological sites Trianda, Kremasti and Serayia.

Age (LBA) I/Late Minoan (LM) I period and the relevant synchronism among the above sites and Akrotiri on Thera (Marketou 1990a, 1998; Manning 1995, 200-29, 1999, 72-3, 331). Strong evidence for a tephra fall and a pre-existing earthquake, witnessed so far at Akrotiri, has appeared at both Trianda and Serayia, as well as on Crete (Manning 1999). Nearly a decade ago a first attempt to date the sequences of occupation within the LBA with approximate dates in years BC was undertaken. The study, which was based on the stratigraphy and the synchronism between Kos and Rhodes, has shown a high chronology for the eruption (Marketou 1990a, 106, Table 1) from the archaeological perspective. Thus a chronology in accordance with the frost-ring date of ca 1665-1625 BC (LaMarche 1984, 126; Hammer et al. 1987; Manning 1988, 1989) has been proposed before radiocarbon dating of the charcoal samples.

However, the problem of a "high" (1628 BC) and "low" (1550 BC) chronology of the Thera eruption is still under investigation. Although many scholars have already accepted the "high" chronology for the Thera eruption (Betancourt 1987; Manning 1988, 1989, 1995; Michael and Betancourt 1988; Manning 1999,28-45), the traditional "low" chronology through establishing synchronism with historical Egyptian and Mesopotamian chronologies is still in use and under further re-assessment (Warren and Hankey 1989; Dickinson 1994, 18-21).

The prehistoric settlement at Ialysos has

already shown a clear stratigraphical evidence for divisions of LM IA and LM IB up to Late Helladic (LH) IIIA periods (Furumark 1950). The site is both chronologically and culturally related with other key sites of the Aegean, such as Miletus and Iasos at Asia Minor, Serayia on Kos, Ag. Irini on Keos, Phylakopi on Melos, centres on Minoan Crete and mainly Akrotiri on Thera (Marketou 1988, 1990a, 1998; Marthari et al. 1990). Whilst the stratigraphy of Ialysos covers the earliest phases of LM IA until the LH IIIA2, Serayia has provided a stratigraphy of greater value, since a continuous occupation from Early Bronze Age (EBA) 3 until the latest phases of the LH IIIC period is incorporated (Marketou 1990a, 101, Figs.4,6). Thus, Serayia not only confirms the LBA I/LM IA stratigraphy appearing at the settlement of Ialysos but also is correlated with the so far horizontal stratigraphy of Ialysos, showing a continuous occupation from the EBA period to the Middle Bronze Age (MBA). Early occupation of Ialysos is dispersed on the fertile plains of the wider region of Ialysos (Trianda, Kremasti). The EBA 3 settlement at Asomatos near Kremasti (28° 7' Long., 36° 25' Lat.) within the wider region of Ialysos, consisting of megaroid buildings (Marketou 1990b, 1997), though clusters of MBA habitation are extended south of the LBA settlement of Ialysos and on Mt Plilerimos; evidence also exists for a MBA habitation in the deeper layers of the settlement itself (Marketou 1990, 1998).

Attention has also been drawn to the tephra layer found at Serayia (Marketou 1990a), since it has shown measurable stratigraphical evidence. It has been argued that tephra layer had sealed the LMIA late phase and the successive strata up to the distinct EBA3 stratum. The stratigraphy incorporates a MBA stratum (of an average thickness of 0.20 m) including architectural remains of a single architectural phase within a context of characteristic MBA pottery, carinated cups, high necked jugs, similar to pottery found in the relevant layers at Ialysos (Marketou 1998, 43-45). The continuity from both the EBA to MBA and MBA to the beginning of LBA IA/LM IA early is also witnessed by the presence of mixed strata of EBA and MBA.

THE ARCHAEOLOGICAL EVIDENCE

The many excavations conducted at Ialysos provided strong evidence for the successive phases of occupation. In the meanwhile some characteristic MBA strata were uncovered in the deeper layers of the prehistoric settlement at Ialysos. The MBA occupation together with the EBA settlement at Asomatos completes the settlement pattern of the region. This fact is confirmed by the vertical stratigraphy at Serayia on Kos, where continuous occupation from the end of the EBA until the late Mycenaean period is observed (Marketou 1990a, Figs. 1,2,4,6). It is however, the tephra layer that has provided not only a safe dating for the impressive isodomic buildings and their contexts at Ialysos, but also protected intact all the remains where the tephra fell (Marketou 1990a, Figs. 7,9,-13). It has also been accepted that the inhabitants of Ialysos were repairing the ruins of the pre-eruption earthquake (Marketou 1990a, 105-107), when the tephra fell.

It is apparent that pottery and several finds, walls and features covered by tephra belong to the period which occurred after the pre-eruption earthquake at the mature LBA IA/LM IA period (e.g. Manning 1988, 38-49; Marketou 1990a; Marthari 1990). Within this period several deposits were concentrated after the earthquake-destruction. There are both primary and secondary deposits from clearing up the fallen and destroyed features and other household equipment, such as fragments of frescoes, broken ceramics, animal bones, stone tools and small pieces of charcoal. Nevertheless, all the above finds discovered underneath tephra have been proved of most value for the chronology of the period of the last occupation before the eruption and after the earthquake.

The tephra layer on the other hand provided a *terminus post quem* for the LM IB period. The period is clearly represented with the foundations of its structures immediately above the tephra (Marketou 1990a, 109, Fig. 16).

Thus, despite the effects of the tephra fall at Ialysos it seems that life continued above the tephra. What is still an important problem for further investigation is how long did the intervals last between the earthquake-destruction, the period of the repair and the final fall of tephra, since it seems that life continued at the northernmost areas of the LBA IA/LM IA settlement. On the other hand, the duration of the LM IB period is another matter under examination.

Within the archaeological framework presented previously (Marketou 1988, 1990a, 1998) an attempt will be undertaken to suggest a new chronological framework from calibrated radiocarbon dating perspective. High precision 14C dating of charcoal samples derived from the successive phases mentioned above until the LM IB will be presented within their archaeological context. The measured samples concern mostly the crucial period of LM IA/LM IB. However, some earlier samples of EBA and MBA have been also measured. Nevertheless, the problem over the final chronology of the obscure MBA is still under analysis, particularly since most recent excavations at Trianda have now provided a number of charcoals from clear stratigraphy. Nevertheless, the MBA samples presented here are rather helpful for a preliminary report of the period related with some dates of the EBA periods.

Precise radiocarbon dating together with the archaeological data has proved helpful for the chronology of the finds and their context. It is the precise chronology, on the other hand, that in many cases contributes to the explanation of the successive phases.

DATING BRONZE AGE IALYSOS WITH RADIOCARBON.

A set of 18 charcoal samples was radiocarbon dated in the Laboratory of Archaeometry of NCSR "Demokritos" originating from the sites of Trianda and Asomatos Kremastis on Rhodes and from Serayia on Kos. Table 1 presents all the necessary information (laboratory code number, location, date of sampling, type of the sample) concerning these samples. In addition to the above sample details, the conventional radiocarbon dates sorted by age, as well as the calibrated age of the average radiocarbon date of each cultural phase is also given. For the age correction due to the isotopic fractionation the usual value $\delta^{13}C$ = -25.00‰ was used for the charcoal samples (Stuiver and Polach 1977; Polach 1976; Burleigh et al. 1984). The $\delta^{13}C$ values quoted in the table with an asterisk (*) were measured using a portion of homogenized sample in the Radiocarbon Accelerator Unit of the Research Laboratory for Archaeology and the History of Art of the Oxford University. The calibration of the conventional radiocarbon ages was performed with the latest issue of the international calibration curve INTCAL98 using the Calib rev.4.3 Radiocarbon Calibration Program (Stuiver and Reimer 1993; Stuiver *et al.* 1998). Figure 2 presents the distribution of calibrated ages (black bars) of the samples sorted by cultural phase. The gray bars represent the average calibrated age of each cultural phase. On the other hand, the length of each bar represents the age range and the height represents the percent probability that the real age of the sample lies in the specific range.

Within the above theoretical and archaeological framework the new radiocarbon dates from Ialysos appear as following:

1. Early Bronze Age 3

Two samples from Asomatos and Serayia have been measured. DEM-862, a charcoal found in the main hall of the megaroid building at Asomatos (Marketou 1997) (Fig. 1), is grouped together with DEM-864 derived from an EBA 3 stratum at Sector A of the Thalassinos property at Serayia (Kantzia 1984; Marketou 1990a, 101-102, Fig. 4). Both the samples give an average calibrated age of 1σ 2455-2290/2σ 2460-2215 cal BC for EBA 3 period of the South-eastern Aegean. In contrast, another sample from Serayia, DEM-863 found a little higher within the same stratigraphy, shows a later age of 1σ 1937-1774/2σ 2010-1742 cal BC. The last sample is most probably regarded as a MBA

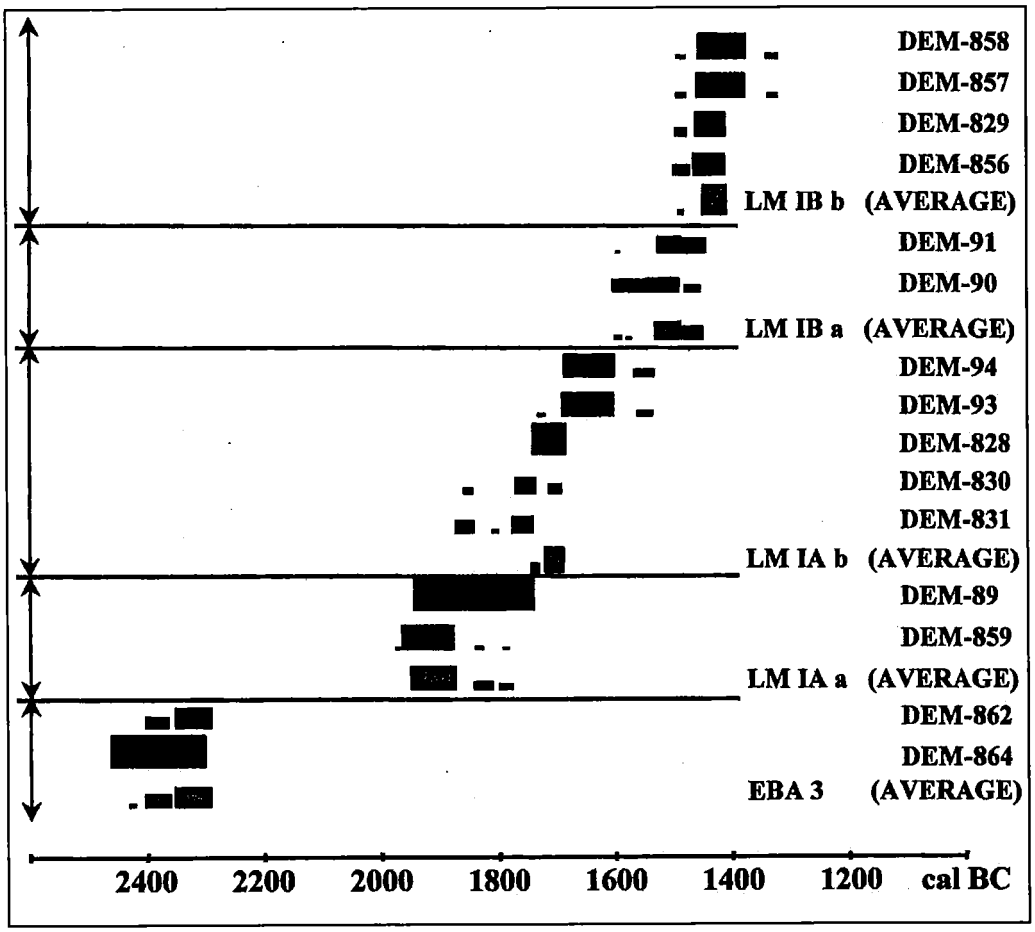

Figure 2. The distribution of calibrated ages (black bars) of the samples from the sites of Trianda and Asomatos Kremastis on Rhodes and from Serayia on Kos sorted by cultural phase. The length of the bars represents the age range and the height represents the percent probability that the real age of the sample lies in the specific range. The gray bars represent the average calibrated age of each cultural phase.

sample, since the stratigraphy of the upper layers of the EBA 3 period were disturbed by MBA occupation.

2. Middle Bronze Age

As stated above, MBA charcoal samples are only preliminary included in this study, since more precise chronology will appear soon, collected from a well-defined group of MBA strata most recently recovered at Ialysos. Although DEM-95 is derived from a MBA floor at Ialysos, where some burnt beams were fallen, its calibrated radiocarbon dating of 1σ 2450-2300/2σ 2560-2200 cal BC fits with the previous period. Most possibly the sample should be regarded either as an old wood used for later building activities or as a long-life sample it might also be considered as a part from the interior rings of the wood. On the contrary, although DEM-92, from the Markos plot, is derived from a MBA level it gives a radiocarbon calibrated dating relevant to the dating of the

transition from MBA to the LM IA period (1σ1870-1620/2σ 1880-1530 cal BC). Since the above samples are not representative of the strata they were recovered from an average radiocarbon date and calibrated age for the period could not yet be proposed. Given the measurement of DEM-863 and the above samples a terminus post quem for the MBA might have been regarded around 2200/2000 BC (Fig. 2).

3. Late Bronze Age IA/LMIA early phase.

LBA IA is divided into two sub-phases, since the division is documented by two distinct architectural phases along with change in pottery style and production (Marketou 1998). Remains of the earlier period were destroyed by later building activities, most of them belong to impressive LBA IA – mature buildings. In comparison the seismic destruction (SDL) level at Akrotiri (Marthari 1990, 66-67, Table 1) has shown many similarities with the LBA IA/LM IA early phase of Ialysos and Serayia and it has been argued that all the three settlements were destroyed in the same time. The chronology of the destruction was firstly defined from stratigraphy and pottery typology contemporaneous with the Akrotiri evidence (Marketou 1990a, 105-107). However, the beginning of the period is highly problematic, for the origins of the Aegean LBA are closely connected with a number of different cultural assemblages. Moreover, the problem over the definition of the beginning of the period is connected with the end of the MBA in the Aegean, particularly since few relevant radiocarbon dates are available. In addition the debate over synchronism with historical chronologies of Egypt and Mesopotamia, as well as with correlated Syro-Palestinian finds differ because of several interpretations. The early phase of the LBA /LM IA was previously defined as Middle Minoan (MM) IIIB or even as a transitional MM III-LM IA period. Although this is a matter of terminology, it has been argued by Warren (1991) and Popham (1984) as a distinct early LM IA phase (Marketou 1998, 45-47).

The samples DEM-89 and DEM-859, however, give an average calibrated age 1σ 1950-1780/2σ 2020-1750 cal BC. DEM-89 is derived from an early LBA IA floor at Liamis property. DEM-859 was found under the tephra layer and it belongs to a piece of beam used as building material. The above average in years BC defines the end of the MBA and the beginning of the mature LB IA/LM IA respectively.

4. Late Bronze Age IA/LMIA mature phase

Given the terminus post quem for the early phase of the period in 1780/1750 cal BC, we have to deal with the final stage of the LM IA, which is connected with the Thera eruption. It has been suggested that the tephra fall occurred before the end of the period (Manning 1999, 331-333), the interval between the end of the period and the beginning of LM IB has not been measured yet. The samples DEM-830 and -831 from the Platsis property (Gregoriadou and Marketou 1993), DEM-93 from the Markos property and DEM-828 from the Liamis property, together with DEM-94 from the Ioannides property (Marketou 1988, 66-67, 61) give an average age of 1σ 1740-1690/1860-1670 cal BC for the LBA IA/LM IA mature period.

It should be considered, that DEM-94 is the unique sample measured until now from the LBA IA/LM IA cemetery (Marketou 1998, 60-61). A date spanning from the earlier to the later phases of the LBA IA was suggested for the cemetery, since there were no finds to give a more precise archaeological dating. However, the above calibrated chronology falls into the mature phase of the period, suggesting that the burials might be connected with the last phases of the settlement. According to a recent find at the Paraskevas property (Zervaki and Farmakidou 1995, 795) a similar burial laid outside a polythyron in the occasionally abandoned settlement, was within the LM IA mature

horizon. Thus, even a single piece of charcoal from the cemetery proved useful for both the chronology and the explanation of the find. The calibrated radiocarbon chronology suggested above shows a high chronology for the mature LBA IA/LM IA period and it gives a terminus post quem for the tephra fall, but does not give a chronology for the eruption itself in years BC. It dates the abandonment of the site during building activities which were still in progress (Marketou 1990a).

5. Late Bronze Age IB/LM IB

Another chronological issue based on new calibrated radiocarbon dates is the duration of the succeeding LBA IB/LM IB phases. The LM IB phase, previously considered as lasted 50 years and in some cases as little as 25 years, is now suggested as a period "quite long, and very possibly longer than LMIA" (Manning 1999,334). Evidence from excavations at Trianda could be added to similar data from other sites thoroughly examined by Manning (1999, 330-340).

Since the inhabitants at Trianda have abandoned the settlement for some time, the beginning of the new period in the settlement is not clear. What is clear however, is the erection of new buildings above the tephra, as stated above. We have grouped our charcoal samples into two categories, according their calibrated age. Two of the samples from a clear LBA IB/LM IB context, DEM-91 and -90, gave a calibrated age of 1σ/1600-1450/2σ 1600-1430 cal BC. Thus, a terminus post quem for the beginning of the period is proposed. The other group consisted of DEM-858, -857, -829 and –856. The samples were also derived from clear LBA IB/LM IB levels associated with characteristic for the period pottery from the same excavation. An average calibrated age is therefore given in 1σ 1490-1409/2σ 1500-1321 cal BC. The beginning of the second group in years BC overlaps with the end of the first group, while a long duration of the period of more than a century is suggested. LM IB however, has been considered as a short period of half a century due to the excavations of Evans at Knossos (Manning 1999,333). From our new radiocarbon evidence it has been shown that the earliest phase of the period could be really regarded as longer than the final phase.

CONCLUSIONS

Given the above radiocarbon dates from the EBA until the final LM IB periods, further debate could be raised for the absolute chronology of the Aegean and in particular of the Ialysos:

1. Ialysos, Serayia and Akrotiri suffered from similar or the same destruction that had taken place in the same period, therefore there is a need for further synchronism for calibrated ages from all the sites.
2. There is a gap in our calibrated ages between the EBA 3 and the end of the MBA due to lack of MBA samples, now available from clear stratigraphic evidence from Ialysos.
3. The beginning of the early LB IA period goes back to the end of the MBA around 2020-1950 BC.
4. The duration of the mature LB IA seems more or less compatible with Akrotiri and Kommos radiocarbon determinations (according to Manning 1999, 243, Table 8, 250-252, Table 9).
5. The average calibrated age of the late LB IA concerns some time before the eruption and the tephra fall.
6. The LBA IB/LM IB lasted more than a century and it could be divided into two sub-phases. The previously known LM IB period is marked by several Minoan imports and belongs to the final phase of the period. The early period, which lasted longer is not easily recognised most probably due to the absence of characteristic imported pottery, since it is a period of recovery from the earthquake and the global effects of the tephra fall.

The above chronological issues have confirmed some of the remarks argued about nearly a decade ago concerning the chronology of Ialysos,

when a "high" chronology was proposed for the mature LBA IA period. New chronological issues has also been raised mainly concerning the duration of the MBA and the interval between the final stage of the LBA IA after the tephra fall, if there is any, or the beginning of the LBA IB/LM IB. The so far proposed longer duration of the LBA IB/LM IB period is followed by a LM II period lasted since c/ 1500/1490 to c. 1440/1425 BC (Manning 1999, 240). Thus the beginning of the next period LMIIIA1/LHIIIA1, previously considered as started in 1390 BC (Warren and Hankey 1989), seems closer to the new chronology of the same period, as proposed above.

In the meanwhile work is still in progress for more precise chronology, from a major number of samples, both long-lived and short-lived. Small twigs from olive trees and red-pine-trees, or holm-oaks, as well as shells and animal bones allow us to date precisely and to have a chance to explain material culture and society through the dialectical interrelation among context, space and time.

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TABLE 1: Summary of the radiocarbon dating results of the samples from the sites of Trianda and Asomatos Kremastis at Rhodes and from Serayia at Kos sorted by age. The calibration of the conventional radiocarbon ages was performed with the latest issue of the international calibration curve INTCAL98 using the Calib rev.4.3 Radiocarbon Calibration Program (Stuiver and Reimer 1993, Stuiver et al. 1998). The individual age ranges of the calibrated ages shown in Figure 2 are not quoted here.

(* $\delta 13C$ value measured in the Radiocarbon Accelerator Unit of the Research Laboratory for Archaeology and the History of Art of the Oxford University).

LAB CODE	LOCATION	DATE OF SAMPLING	TYPE OF SAMPLE	$\delta^{13}C$ (‰) (‰)	RADIOCARBON AGE (yr BP)	CALIBRATED AGE (cal BC)	PROBABILITY
DEM-862	Asomatos Kremastis, Rhodes, Square E2, Layer Γ',Passageway Γ'	26-7-1989	Charcoal	-25.0	3869 ± 23	2428 – 2291 2459 – 2213	1σ (68.3%) 2σ (95.4%)
DEM-864	Serayia, Kos (Thalassinos property) Room A' Depth 5.20-5.35 m	13-7-1984	Charcoal	-25.0	3895 ± 59	2460 – 2300 2560 – 2200	1σ (68.3%) 2σ (95.4%)
EBA 3	**AVERAGED CALIBRATED AGE OF THE ABOVE 2 SAMPLES**				**3873 ± 24**	**2455 – 2290 BC 2460 – 2215 BC**	**1σ (68.3%) 2σ (95.4%)**
DEM-92	Trianda, Rhodes (Markos property) Square Γ4Δ5 Depth 3.67-3.92 m	16-5-1983	Charcoal	-25.0	3417 ± 65	1870 – 1620 1880 – 1530	1σ (68.3%) 2σ (95.4%)
DEM-863	Serayia, Kos (Thalassinos property) AE 109, Room A' Depth 4.95-5.12 m	13-7-1984	Charcoal	-25.0	3538 ± 45	1937 – 1774 2010 – 1742	1σ (68.3%) 2σ (95.4%)
DEM-95	Trianda, Rhodes (Bournis property) Square A2, Floor XIII Depth 4.99 m		Charcoal	-25.0	3907 ± 61	2470 – 2300 2560 – 2200	1σ (68.3%) 2σ (95.4%)
DEM-94	Trianda, Rhodes (Ioannides property) Square B2 Depth 2.85-2.93 m	12-7-1988	Charcoal	-25.0	3347 ± 46	1687 – 1531 1739 – 1521	1σ (68.3%) 2σ (95.4%)
DEM-93	Trianda, Rhodes (Markos property) AE 716, Square AB1 Depth 3.61-3.66 m	14-8-1984	Charcoal	-25.1*	3358 ± 48	1731 – 1534 1742 – 1522	1σ (68.3%) 2σ (95.4%)
DEM-828	Trianda, Rhodes (Liamis property) Room II, Layer ΣΤ' Depth 3.59-3.66 m	10-5-1989	Charcoal	-25.0	3407 ± 25	1740 – 1665 1855 – 1623	1σ (68.3%) 2σ (95.4%)
DEM-830	Trianda, Rhodes (Platsis property) AE 56, Western stone heap trench Layer V Depth 3.88-4.00 m	4-5-1993	Charcoal	-25.0	3449 ± 21	1859 – 1692 1876 – 1688	1σ (68.3%) 2σ (95.4%)
DEM-831	Trianda, Rhodes (Platsis property) AE 27, Destruction layer northwards wall Nr 4 Depth 2.65-2.98 m	4-4-1993	Charcoal	-25.0	3466 ± 23	1874 – 1740 1878 – 1692	1σ (68.3%) 2σ (95.4%)
LM IAb	**AVERAGED CALIBRATED AGE OF THE ABOVE 5 SAMPLES**				**3426 ± 15**	**1740 – 1690 1860 – 1670**	**1σ (68.3%) 2σ (95.4%)**

LAB CODE	LOCATION	DATE OF SAMPLING	TYPE OF SAMPLE	$\delta^{13}C$ (‰) (‰)	RADIOCARBON AGE (yr BP)	CALIBRATED AGE (cal BC)	PROBABILITY
DEM-89	Trianda, Rhodes (Liamis property) Square B1,under the Floor II Depth 3.01-3.10 m	27-6-1988	Charcoal	-25.0	3517 ± 83	1940 – 1700 2120 – 1620	1σ (68.3%) 2σ (95.4%)
DEM-859	Trianda, Rhodes (Platsis property) AE 43, Western wall Nr 6 trench Ash layer Depth 2.74-2.99 m	26-4-1993	Charcoal	-25.0	3568 ± 44	2009 – 1783 2030 – 1754	1σ (68.3%) 2σ (95.4%)
LM IAa	**AVERAGED CALIBRATED AGE OF THE ABOVE 2 SAMPLES**				**3555 ± 41**	**1950 – 1780** **2020 – 1750**	**1σ (68.3%)** **2σ (95.4%)**
DEM-858	Trianda, Rhodes (Liamis property) AE 329, Square B2, under the floor Depth 3.03-3.16 m	31-10-1988	Charcoal	-25.0	3138 ± 50	1490 – 1320 1520 – 1270	1σ (68.3%) 2σ (95.4%)
DEM-857	Trianda, Rhodes (Liamis property) AE 236, Square Γ2, Layer Hæ, from pit Depth 3.84-4.00 m	7-10-1988	Charcoal	-25.0	3142 ± 52	1490 – 1320 1520 – 1270	1σ (68.3%) 2σ (95.4%)
DEM-829	Trianda, Rhodes (Liamis property) Square Γ2, Layer ΣT' Depth 2.77-2.93/3.03 m	23-9-1988	Charcoal	-25.0	3171 ± 33	1494 – 1409 1518 – 1324	1σ (68.3%) 2σ (95.4%)
DEM-856	Trianda, Rhodes (Liamis property) AE 224, Square Γ2, Layer E', from pit Depth 3.10-3.30 m	5-10-1988	Charcoal	-25.0	3175 ± 41	1497 – 1410 1522 – 1321	1σ (68.3%) 2σ (95.4%)
LM IBb	**AVERAGED CALIBRATED AGE OF THE ABOVE 4 SAMPLES**				**3161 ± 23**	**1490 – 1410** **1500 – 1320**	**1σ (68.3%)** **2σ (95.4%)**
DEM-91	Trianda, Rhodes (Markos property) AE 273, Square AB1, Layer Δ' Depth 2.46-2.68 m	29-6-1983	Charcoal	-27.1*	3240 ± 35	1596 – 1443 1604 – 1430	1σ (68.3%) 2σ (95.4%)
DEM-90	Trianda, Rhodes (Markos property) AE 273; Square AB1, Layer Δ' Depth 2.46-2.68 m	1-7-1983	Charcoal	-24.1*	3258 ± 54	1600 – 1450 1680 – 1420	1σ (68.3%) 2σ (95.4%)
LM IBa	**AVERAGED CALIBRATED AGE OF THE ABOVE 2 SAMPLES**				**3245 ± 32**	**1600 – 1450** **1600 – 1430**	**1σ (68.3%)** **2σ (95.4%)**