

THE FIRST MARINERS EXPEDITIONS

KYTHIRA - CRETE



Project Outline (Sept 2013/ Sept 2014)

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The Greek island of Kythira lies 20 kilometres below the southern tip of the Peloponnese. It is a small island whose role in the march of civilisation is remarkably disproportionate to its size. The love goddess Aphrodite was born here and over the past 4000 years the island has been occupied by the Minoans, Phoenicians, Byzantines, Venetians, Turks, French, Germans and the British. Most significantly for a country with such a maritime history, is the island's strategic position at the western edge of the Aegean Sea which made Kythira the ancient seafarers' gateway to western Europe.

Looking south on a clear Kythiran day you can see the rugged outline of two islands. The first is tiny (pop. 41) Antikythira, only 37 kilometres away. Some 90 kilometres further south is Crete which in human times has always stood alone, its tall, snow-clad mountain tops easily visible from Kythira. It is Crete, we believe, that may have been the destination of Europe's first sailors.

THE FIRST MARINERS EXPEDITIONS

KYTHIRA - CRETE

Until recently archaeologists had not been able to put a human presence on the Greek islands past 12,000 years. But that changed dramatically with the recent discovery of stone tools on Crete, and its mini outlier Gavdos, which have been dated to at least 130,000 years earlier.

At that time both Kythiran islands formed a single landmass with the Peloponnese and that meant that the southern tip of Antikythira was as far as our land-bound ancestors could go. Crete was always there, enticingly visible but isolated by the sea in between. But the human animal is extraordinarily capable of dealing with physical limitations. We may never fly like a bird or swim like a fish but to be sure we will always find a way to get to where we want to be.

*It was now that Crete's archaic toolmakers clearly stepped onto the Aegean, but from where? Libya could be a candidate because the type of the stone tools found on Gavdos can be traced back to *Homo erectus* there almost a million years ago. But as ingenious as the world's first sailors might have been, it was unlikely that they would have set out without a visible destination, which at 200 kilometres way, Crete wasn't.*

While scholars endlessly speculate what drove the ancients to build a vessel to carry them offshore, there was one remarkable man to whom the answer was quite plain.



Crete and Gavdos.

THE FIRST MARINERS EXPEDITIONS

KYTHIRA - CRETE



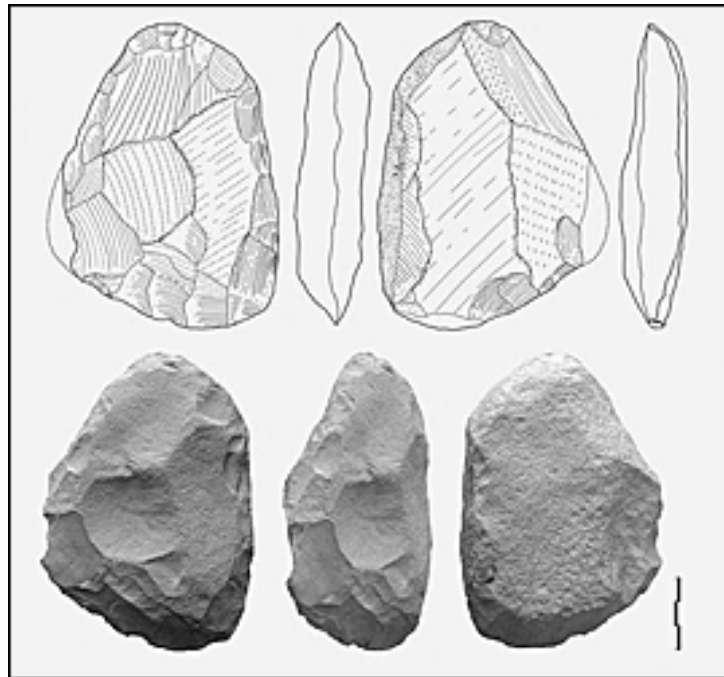
Paul Yves Sondaar

When he died in 2003, Dutch palaeontologist Dr. Paul-Yves Sondaar had become one of the world's best known authorities on island fauna and island dwarfism. He was particularly involved in the exotic menagerie of Crete's ancient fauna which included miniature elephants and hippopotamus, an endemic otter and several species of deer; some no larger than a modern sheep and one with long legs which behaved like a giraffe.

The ancestors of the dwarf hippo (*Hippopotamus creutzburgi*) – which stood not more than a metre tall - had come to Crete before humans as a full-sized hippopotamus, as did the herds of swimming elephants. Dr. Sondaar surmised that if Europe's first mariners did reach Crete 130,000 years ago, or potentially much earlier as some artefact finds are suggesting, then this was the tame and easily-hunted game he found there. It was a situation not far short of paradise and man would have doubtless taken full advantage of it. Paul Sondaar would therefore not have been surprised by the recent stone tool finds on Crete and Gavdos which place ancient man on the islands about the time of the faunal extinctions. The dwarf hippo, dwarf mammoth and the giant rat – according to palaeontologist Alexandra van der Geer, went extinct about 125,000 years ago, which correlates to the suspected arrival by sea of the Cretan and Gavdos toolmakers.

THE FIRST MARINERS EXPEDITIONS

KYTHIRA - CRETE



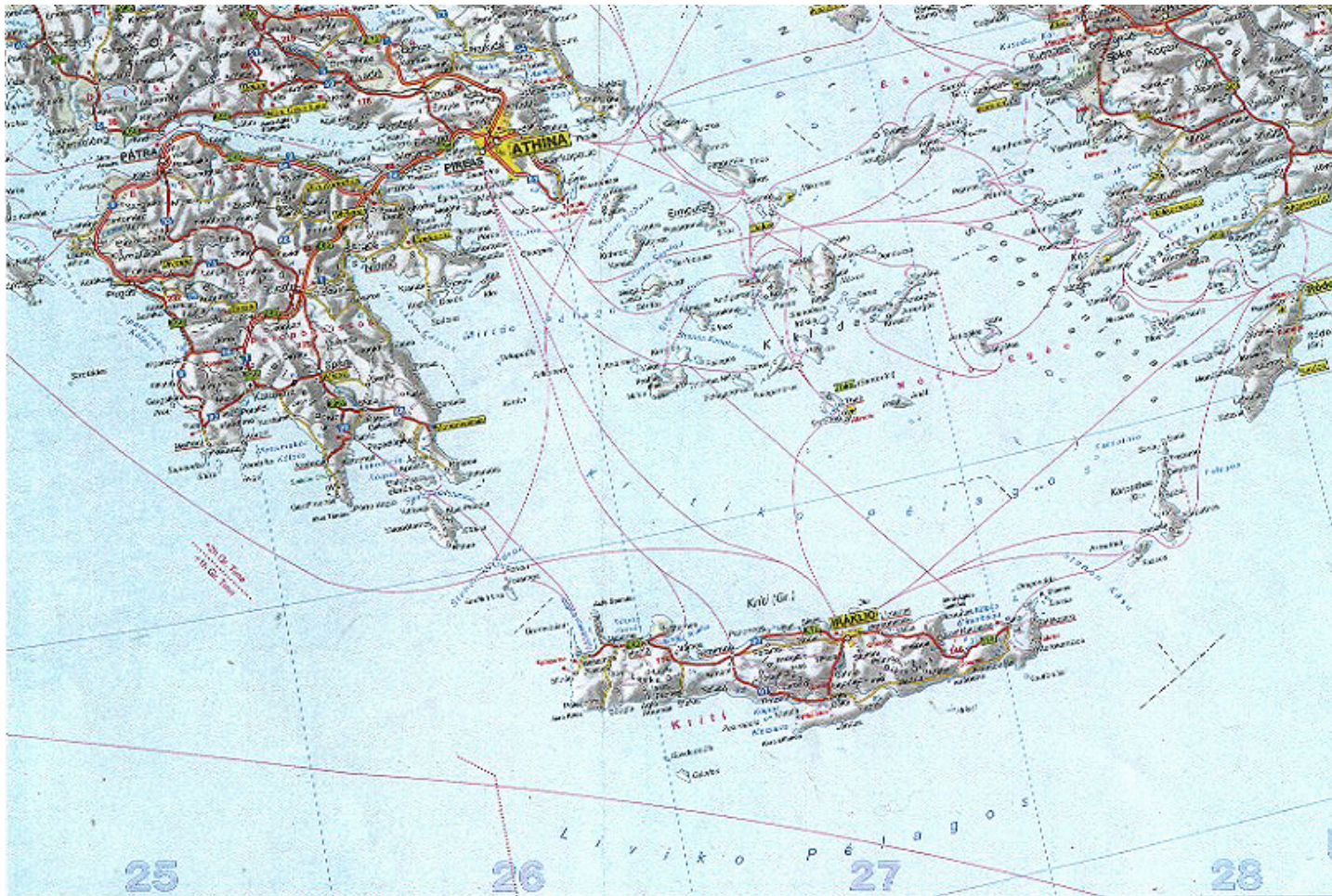
Handaxe (Sarakiniko).

Dr. Sondaar's work on the island of Flores in eastern Indonesia is largely credited for establishing that *Homo erectus* was making sea crossings between the Lesser Sunda islands as long as 800,000 years ago.

It was natural, he would explain, for herd animals like deer, hippos and elephants – all herbivores and natural swimmers – to navigate their way to safe havens, and especially across straits left by low sea levels to islands where their traditional enemies, all poor swimmers like the predatory big cats couldn't follow. On the island the newcomers adapted easily to their new and protected environment; some of them in remarkable ways. The dwarf hippo for example developed a special ankle joint which allowed it to climb Crete's rock-strewn terrain. Like the elephant it also became smaller and more nimble so it was easier to forage for food. Without enemies a defensive bulk was no longer necessary.

According to Paul Sondaar's model, man reached the islands in the Mediterranean during a global climatic upheaval of magnificent proportions, a prolonged 'super quake' which turned grazing plains into deserts. Temperatures plunged. With his food source dwindling, man became a desperate survivor and at the edge of the Mediterranean he began to take a greater interest in the offshore islands such as the then combined Corsica and Sardinia, Cyprus and Crete which he had seen for the best part of a million years but could never be reached because of the sea which surrounded them. Not without a boat.

THE FIRST MARINERS EXPEDITIONS

KYTHIRA - CRETE

Southern Greece - Kythira and Crete.

Man had already become the supreme hunter. He had overcome the mystery of fire, could convert a stone into a tool and a weapon and could clothe himself against the cold and build himself a shelter. But these accomplishments were relatively modest when placed alongside the challenge he now faced.

Some say it is man's greatest technological achievement, to create a device that would make him amphibious.

THE FIRST MARINERS EXPEDITIONS

KYTHIRA - CRETE

It was much colder than now - the planet was in the grip of a massive ice age - but other than that it is not possible to know with any precision what climatic conditions were like on earth 300,000 years ago when our hungry ancestors - prowling the edge of the gradually shrinking Mediterranean - began planning how to get to its offshore islands.

Sea levels were different also, in some cases up to 200 metres lower than they are now. It is quite likely that even in modern human times - with a combination of low sea levels and tectonic adjustments of the Earth's unstable crust - just about all of the Greek Islands were simply high peaks on a single land mass. There was no gap between Kythira and Antikythira, which made them a single island that was presumably joined to the Peloponnese and thence to the great continent of Eurasia.

Crete stands out as one of the rare exceptions. Like Cyprus, Corsica-Sardinia, and Mallorca further to the west in the Mediterranean, it was always separated from the mainland by a body of water.

Nowadays from the high, vertical cliffs at the bottom of the island of Antikythira - the original mainland - the distance to Crete is just under 30 kilometres. To a modern terrestrial the distance doesn't look so intimidating. But the Mediterranean has a fearful temper and a long and imperious history of disdain for mariners. When its wicked wind quartet, the 'mistral', 'sirocco,' 'tramontana' and the 'meltemi' which the Kythirans call 'provetza' attack without warning, the result can be very uncomfortable.



The east coast of Antikythira.

THE FIRST MARINERS EXPEDITIONS

KYTHIRA - CRETE



The small boat harbour at Kapsali, Kythira where the raft will be built.

There is supposed to be little tidal influence in the land locked Mediterranean Sea, but that is not quite true. There is not a gap between islands which escapes the turmoil of eccentric whirlpools and currents moving in all directions and very often with power and malevolence of a great ocean.

Such are the thalassic conditions in the Mediterranean which then, as of now, the archaic inhabitants of Kythira would have faced in order to cross the sea to Crete.

The question of how they went about it is what brings the First Mariners' team to Greece. There are no tangible reminders left to indicate how they did it. It was a technology which utilized only biodegradable elements. Even in Australia where the original settlers have recorded their social activities and material culture in 40,000 year old rock paintings, there is no known image of the vessel which transported them there. The blueprints of these experiments have vapourised along with the primitive people who drew them in their minds and perhaps with a stick in the wet sand left behind by the tide.

It is only by replicating what we think they did that we can gather the data necessary to explain how our remote ancestors conquered mankind's most frustrating barrier. Until now we don't know much. But we do know that it happened at more or less the same time in very much different separated parts of the world.

THE FIRST MARINERS EXPEDITIONS

KYTHIRA - CRETE



The tiny harbour at the north end of Antikythira.

Two years before our first Kythira and Crete investigations I am in southeast Asia standing on a beach on the east coast of Bali. From here I can see quite clearly Bali's neighbouring island, Lombok. It is not much further than Crete is from Antikythira on the other side of the world. Some 800,000 years ago there were nomadic hunting people here on this same beach where the waves wash in from the deep and forbidding Lombok Strait. Following their game animals out of Africa it had taken them thousands of years to reach what truly was the end of the terrestrial world, for it is here that in human times the continent of Euro-Asia stopped. These *Homo erectus* were here for the first time confronted with a barrier of water they couldn't possibly detour. A turbulent one at that.

On the beach in front of me there is a large raft. It is made from 29 lengths of bamboo, each 11 metres long which a half-dozen local fisherman have lashed together with vines, secured them to five curved branches and then laid on top some lathes of knitted-together coconut palm fronds. The palm fronds are to sit on but will be raised as a primitive sail in case we get a following wind the next morning when 14 of us would board this primitive contrivance to repeat man's first successful maritime adventure, to try to cross the Lombok Strait.

THE FIRST MARINERS EXPEDITIONS

KYTHIRA - CRETE



The construction of "Nale Tasih II" nears completion on Timor.

The suggestion for it came about in the middle of the last century when Theodore Verhoeven, a Dutch missionary and classical archaeologist, discovered on the island of Flores, some 500 kilometres to the east of Lombok, the remains of long-extinct elephants, giant rats and the relics of stone tools and concluded that there might be a connection between his finds and the bones of the early hominid, *Homo erectus*, which had already been found on the island of Java. Java was then joined to Bali and Verhoeven assumed that the same people had crossed to Lombok on a land bridge to widen their hunting activities to the chain of islands which stretch east from there almost to Australia.

Verhoeven was the first to produce this now irrefutable fact; that ancient hominids coexisted on the islands east of Bali with now long-extinct animals. But he was wrong in assuming that man and the animals before him got there on foot. The Lesser Sunda islands might have been joined to each other but in human times they were never part of a continent, there was never a land bridge. The *Homo erectus* hunters of the long-gone *Stegodon* - the people responsible for producing the stone tools - could have arrived there only by sea, and perhaps via the shortest and most demanding route - from Bali across the Strait to Lombok. After that the crossings between the volcanic islands would have been smaller and easier. Sometimes the islands wouldn't have been separated by water at all.

THE FIRST MARINERS EXPEDITIONS

KYTHIRA - CRETE



The palm fronds raised as a primitive sail.

The tortoise was on Flores long before man, probably before the islands were separated or had actually appeared because of volcanic upheaval. The elephant, the full-sized ancestor of the *Stegodon* arrived later, most likely by swimming.

There was no wind the following morning so we set off paddling. The tides which rage north-south were no help but a gentle west wind came along and we landed on Lombok, 50 kilometres away, 14 hours later. Six months earlier a first attempt was abandoned by a fierce and sudden southerly storm which drove us north into the Java Sea.

Three months before that, also on the second attempt, it took five of us 13 days on a larger bamboo raft to cross 650 kilometres of Timor Sea to reach Australia to demonstrate how, in all probability, the original inhabitants of Australia first made the journey some 60,000 years ago.

THE FIRST MARINERS EXPEDITIONS

KYTHIRA - CRETE



“Nale Tasih IV” under paddle and woven mat power heads away from Bali.

On none of these voyages was it our intention to prove that this was how stoneage mariners crossed - or failed to cross - a stretch of water. But we did establish that such a thing wasn't impossible by riding on a bundle of twigs. What is more important is that the success of both voyages confirmed that our choice of vessel for the experiments was a wise one. Some thousands of years later, seafarers in the Neolithic would have almost certainly made the journey by dugout canoe. But to build such a vessel requires, as much now as it did then, not only a certain technological sophistication but also an assemblage of tools which simply weren't available a quarter of a million years ago.

It is clear that the vessel which carried the first humans to Crete was in principle similar to that which first crossed the habitually terrifying Lombok Strait. A raft that is, a buoyant and stable platform capable of carrying a sizeable hunting party and seaworthy enough to withstand the Mediterranean's sudden bouts of fury.

All the First Mariners' rafts made in Indonesia were from bamboo. It is light, easy to harvest, to work, is available everywhere and grows in such weed-like profusion it is easy to select the culms with the best curve or the most prodigious length and girth.

THE FIRST MARINERS EXPEDITIONS

KYTHIRA - CRETE



“Nale Tasih II” sets out from Timor to reach Australia 13 days later.

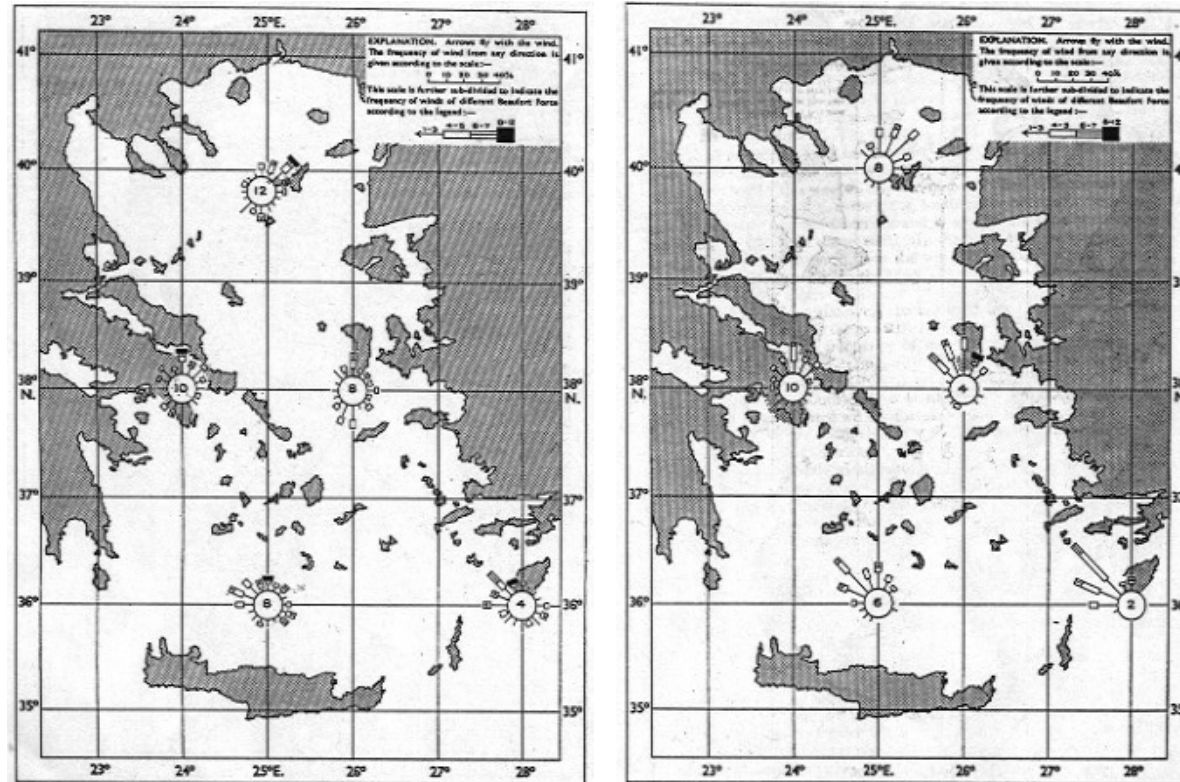
For the bamboo-less Mediterranean, inflated animal skin was considered then been ruled out because of its complex preparation procedure and vulnerability. The raft for the voyage to Crete will be made from the cane *Arundo donax* which is something between bamboo and very tall grass. In Spain it is *canya* and in Greece *kalamia*. It grows, as expected, in the self-irrigated valleys and rocky crevices on Kythira, just as it does everywhere along the endless shoreline of the Mediterranean.

There are other potential raft component plants growing on Kythira which can be exploited to bind the cane stalks together. The local *psathi* for example is a bullrush whose thin, dried stalks are still a favourite weave for the seats of chairs. The foliage of almost any palm can be used as a binding - some more effective than others - when it is stripped, dried and twisted into rope to lash the cane stalks together. Even *kalamia* itself can be used. When green it can be split and split again to produce flexible and strong silica-rich strips suitable for binding.

Tests with scale models have already been made but the final design will not be known until further tests on Kythira where the First Mariners team begin harvesting the *kalamia* in September, 2013. The cane – about 7,000 pieces of it – will be trimmed, bundled and stored for seasoning through the winter. Both the raft construction and the attempted crossing to Crete are scheduled for the summer of 2014.

THE FIRST MARINERS EXPEDITIONS

KYTHIRA - CRETE



Wind pattern and strength for April and July between Kythira and Crete. (Royal Navy Hydrographic Department).

On the premise that the model for modern sails didn't make an appearance before Austronesian speakers who went on to conquer the Pacific during the late Neolithic, the Crete raft will carry only the most rudimentary, woven-mat substitute. Otherwise it's dozen crew will use paddles.

On Bali we were able to fashion a reliable wooden paddle from the branch of a Beach Hibiscus tree with tools knapped from dark grey microcrystalline sedimentary silica.

On Kythira, with the cooperation of Prof. Nena Galanidou, Greece's leading stone tool expert, we are hoping to build the raft with an assemblage of stone tools based on the recent finds on Crete and Gavdos which have added more than 100,000 years to the human settlement of Crete. The finds on Crete were near the town of Plakias and made by a team of Greek and American geologists and archaeologists led by Eleni Panagopoulou of the Greek Ministry of Culture and Thomas L. Strasser, from Providence College, USA.

THE FIRST MARINERS EXPEDITIONS

KYTHIRA - CRETE



The “kalamia” harvest.

The team expected to find material remains of more recent artisans of the Mesolithic and Neolithic periods, some 11,000 years ago, like blades, spear points and arrowheads. But from the 2,000 items uncovered, archaeologists found a style of hand axes known as Acheulean which had been made by *Homo erectus* people in North Africa 700,000 years ago. Tools from the Lower Paleolithic (200-125K) were already found on the island of Gavdos and continuing archaeological work there is indicating that the tool industries there could have started even further back in time.

According to local knowledge, my own observations made during a reconnaissance by small boat of the straits between Kythira, Antikythira and Crete, and information from the “Mediterranean Pilot, Vol. IV” (Royal Navy Hydrographic Department), the most ideal conditions for such a voyage occur between June and September.

The project would have gone ahead almost a decade ago but for the untimely death of its mentor, Dr. Paul Sondaar, to whom the project is dedicated. It is now planned, in the early summer of 2014 to construct the raft at Kapsali, a beach and harbour at the southern end of Kythira. Construction should take three weeks.

KYTHIRA - CRETE

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KYTHIRA - CRETE

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On the island of Crete the project received the enthusiastic support of the then Mayor of Achios Nikolaos, Mr. Adonis Zervos, a major force in the proposed project to make a museum site of the dwarf hippo graveyard on the Katharo plateau.

Mayor Zervos's counterpart on Kythira, Mayor Artemis Kalligeros, also provided invaluable support at the time.

But the primary work on Kythira, would not have been as productive, enjoyable and indeed possible without the generosity, enthusiasm, sound practical advice and the friendship of Mr. Panagotis Defterevos who will host the First Mariners' team once again.

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