

# Odysseus Unbound - The Search for Homer's Ithaca

## Appendix 6 Sequel: 2005-2007

This is a new appendix composed for the Greek edition of this book: its provenance is explained in the introductory Preface. It brings together some of the material that has been published on the project website at [www.odysseus-unbound.org](http://www.odysseus-unbound.org) since October 2005, mainly at the Research Results web page.

### Geological Tests

In August 2005 John Underhill and IGME undertook a preliminary marine seismic survey of the bays of Livadi and Agia Kiriaki, to the south and north of the Thinia isthmus. The results of this were analysed in conjunction with other field observations and announced in January 2007 (see below).

In December 2005 additional data was provided aimed at quantifying Homer's description that in comparison to the other nearby islands, 'Ithaca itself lies low' (*Od.* 9.25). New facilities provided in the *Global Mapper* software program made it possible to calculate and compare the average elevation above sea level of both Paliki and Ithaki.

Region	Area	Volume	Elevation	Elevation
	km <sup>2</sup>	km <sup>3</sup>	Highest, m	Average, m
Ithaki	93	23	810	247
Paliki	130	19	518	146
E Paliki	40	2	170	50
W. Kefallinia	99	44	1065	444

**Figure A6.1: Elevation of the Homeric landscape**

The results of these calculations are provided in Figure A6.1. The average elevation of today's island of Ithaki above sea level is approximately 247 metres, with its highest point being 810 metres above sea level. By contrast, the average elevation of Paliki is only 146 metres, with its highest point at 518 metres. Furthermore the eastern coastline of Paliki slopes gently down to the sea with an average elevation of only 50 metres above sea level, supporting the poet's use of the adjective 'low-lying'.

Elsewhere in the poem (*Od.* 4.845) Homer describes Ithaca as lying on one side of a sea strait with ‘rugged Samos’ on the other. If Paliki was Homer’s Ithaca then this new data supports the poet’s description accurately, with eastern Paliki’s average of 50m compared to that of Samos (W. Kefalonia) which averages 444m. However, if Ithaki was Homer’s Ithaca then the poet’s words are directly contradicted by the landscape, because the coastline of Ithaki adjoining the strait is very rugged, while the opposite shore of Samos (the northern peninsula of Kefallinia called Erissos) is much less steep.



**Fig. A6.3a & b: Cliff collapse on Kefalonia after the 1953 earthquake.**

[Image credits: British Pathe newsfilm.]

**Figure A6.2: The predicted course of Strabo’s Channel**

[Image credits: as Figure 20.1.]

In September 2006 the first of several scientific articles about the project was published by *Geoscientist*, the monthly magazine of The Geological Society of London. This summarised the geological issues and it also presented new evidence regarding the predicted course of Strabo's Channel within the Thinia isthmus (Figure A6.2). Its northern exit is now diagnosed as having emerged further to the west than indicated on Figure 27.11, coinciding in fact with the earlier observation at Figure 12.10. A photograph in this article also showed the effects of large-scale cliff collapse after the 1953 earthquake (Figures A6.3a & b), vividly identifying a slope failure mechanism similar to that which may have buried Strabo's Channel.

In October 2006 a trial borehole was drilled in Thinia towards the southern exit of the predicted channel course (Figure A6.4) and the results of this and other tests were announced in January 2007. The elevation of the borehole above sea level was 107.6 metres and on both its western and eastern margins there is solid limestone bedrock of the Paleogene period (from 65 to 24 million years old). Further to the east there is bedrock of the Cretaceous period (between 144 and 65 million years old). The test drilling itself took place at the end of an unpaved road that is abruptly cut off on its northern limit by a landslide that can be dated to within the last few centuries.



**Figure A6.4: Drilling the 122 metre (400 foot) test borehole**

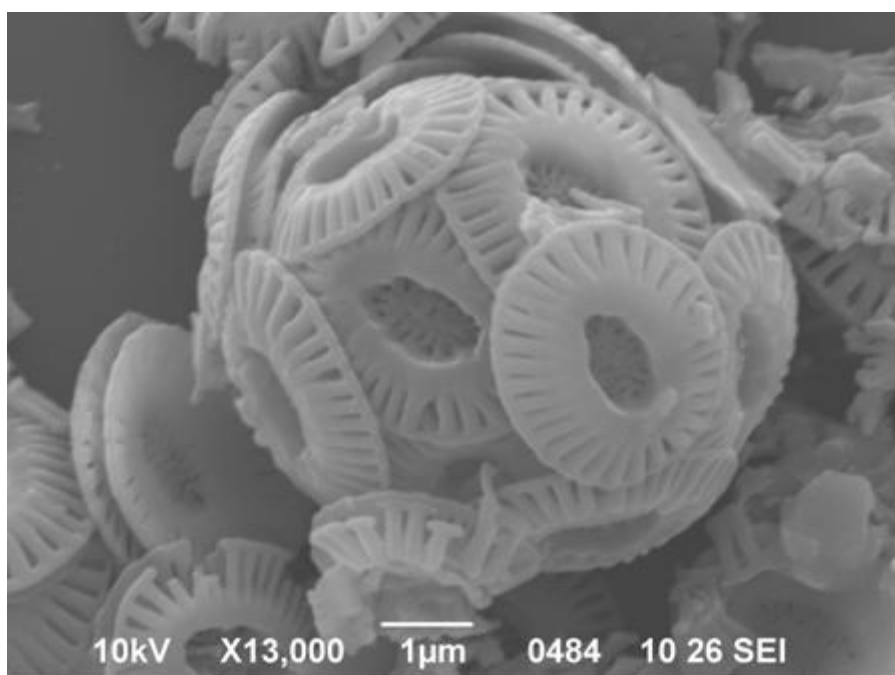
*No solid limestone bedrock was encountered between the surface and sea level*

Although there is loose rockfall material at the borehole site, the usual presumption would be that this is replaced by solid limestone bedrock a few metres below the surface. However, the borehole was drilled to a depth of 122.25 metres without encountering any limestone bedrock at all, apart from a few loose boulders. This represents a depth of 14.65 metres below today's sea level. Since the whole island has been thrust upwards by periodic earthquakes, this is estimated to correspond to a depth of as much as 20 metres below the ancient sea level of 3,000 years ago.

Drill cuttings were collected from the borehole and analysed for natural radioactivity, dateable carbon-14 material and nanofossil sediment content. Nanofossils are microscopic marine organisms

of distinctive structure and their analysis was performed by Dr. Kristalina Stoykova, Associate Professor at the Geological Institute of the Bulgarian Academy of Sciences. This involved inspecting the drill cuttings under a normal polarising microscope and also a scanning electron microscope, thereby identifying the very small marine fossils that are characteristic of different ages.

Her tests indicated that there are rich and diverse nanofossils present throughout the borehole, and this has enabled some of the sediments to be dated within approximate limits. The results indicate that the rockfall and landslide debris extends to a depth of about 40m beneath the surface (c. 67m above present sea level) and that the layers below it consist of marl. This is consistent with the drilling rig not being positioned exactly over the centre of the former channel but having instead drilled into its eastern sidewall. It is also probable that slumps of marl have descended into the channel from the east, in some cases impelled by the force of a rockfall. To eliminate the possibility that a layer of original marl continues above sea level across the isthmus, it is intended that additional boreholes will be drilled at key locations along the isthmus corresponding to the centreline of the diagnosed channel course.



**Figure A6.5: *Emiliana huxleyi* nanofossil from the Thinia borehole**

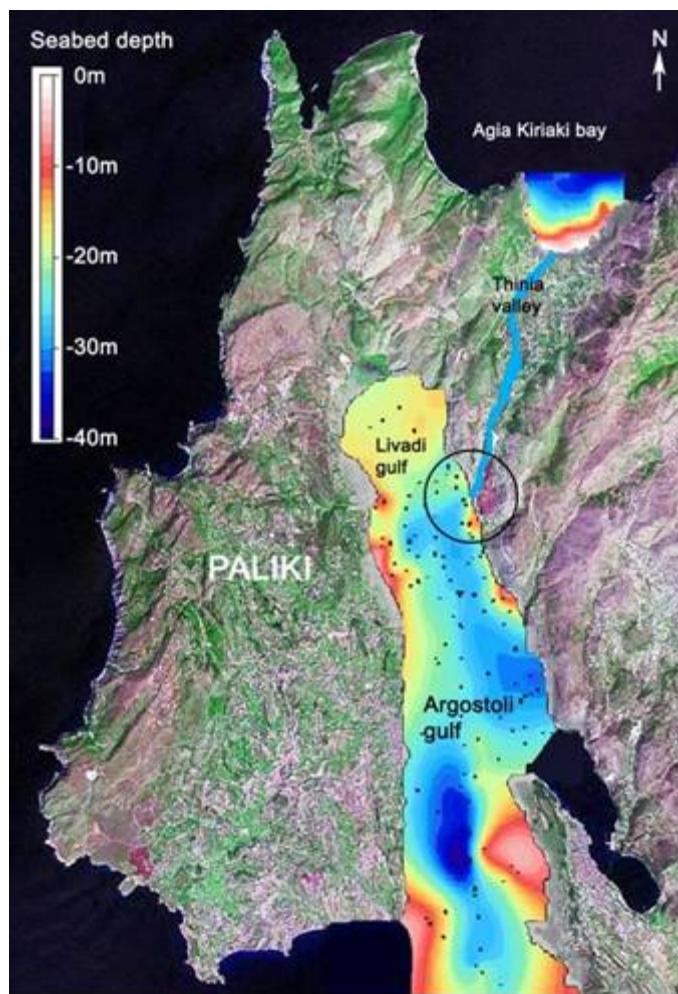
*Captured on the scanning electron microscope at the Bulgarian Academy of Sciences  
by Dr Kristalina Stoykova (scale bar is a micron, one-thousandth of a millimetre)*

Of significant interest in the upper levels of the borehole is the identification of a nanofossil called *Emiliana huxleyi* (Figure A6.5), an organism that has bloomed in the eastern Mediterranean since only 80,000 years ago.

This presence of this tiny marine organism within the buried sediment of a drillhole at an elevation well above sea level is consistent with the impact of a catastrophic high volume rockfall event on a relatively enclosed narrow body of water. This would have displaced and ejected a large quantity of

water vertically at high speed out of the channel. Its narrow walls would have forced the water upwards for a considerable distance, mixing with the rockfall material in the process and creating the type of composition that has now been analysed. An alternative mechanism is a co-seismic tsunami advancing up the confined gulf of Argostoli.

This evidence provides us with an upper time limit for this event of 80,000 years ago, but as John Underhill explains below, at that time sea levels were much lower than today and so the area was then dry land. The sea did not return to Thinia until about 8,000 years ago and so this inundation must have taken place some time after that date.



**Figure A6.6: Depth of bedrock beneath the Argostoli Gulf**

*The marine contours line up precisely with the diagnosed route of Strabo's Channel.*

The results of the marine seismic survey of 2005 are summarised in Figure A6.6. At the southern bay the sub-sea profile confirms the existence of a former drainage valley extending from the Thinia area into the Livadi gulf. The colours show the depth of the pre-Holocene seabed (the bedrock layer 10,000 years old or more that lies beneath the younger layers of sediment on top), with the darker blue areas indicate a deeper seabed.

The map shows a distinctive offshore marine valley of about 28m in depth (circled) that lines up exactly with the diagnosed south-western exit of Strabo's Channel onshore, thus providing strong and independent support for the proposal that this was the site of a former marine seaway. John Underhill comments:

*We now know the mechanism by which this valley was formed. Starting about 125,000 years ago, sea levels world-wide dropped by about 120m from a level slightly higher than today to reach their lowest level around 21,500 years ago, when much of the world's water was contained within extensive ice-caps. Since that period the trend has reversed: climate change over the last 21,500 years has led to ice melting and so sea levels have been rising.*

*The seismic survey has enabled us to chart the sea level rise in this bay over the last 21,500 years. Marine waters reached the upper part of the gulf as recently as 8,000 years ago. We believe that this rise may have enabled the sea to connect right through the Thinia valley. If and when this occurred, the sea would have begun to destabilise the soft marl sidewalls of the channel, causing periodic slumps that would have blocked marine access unless they were dredged clear again via human intervention.*

*This landscape is therefore consistent with Strabo's unusual observation that the sea 'often' penetrated the narrowest part of the island from coast to coast: these intermittent sidewall slumps may have been the reason why this penetration was described as occurring 'often' rather than permanently.*

*However, the earthquake-induced failure of the slopes of the eastern mountainside later caused catastrophic rockfalls that were many magnitudes more potent than these local slumps. Using the seismic data, we have been able to map the extent of these events in the sediments that we have detected beneath the present waters of the gulf.*

In March 2007 a research partnership was announced between Fugro (a major international geoscience company) and the authors of *Odysseus Unbound*, facilitated by IGME (Greece's geological institute). Fugro's sponsorship is now bringing industry-scale geophysical techniques to the project, enabling the team to conduct a 'full body scan' of the 6-kilometre long Thinia isthmus that is believed to contain a buried ancient marine connection. In the autumn of 2007 it is intended that helicopter-based electromagnetic survey equipment will be used in conjunction with terrestrial and marine surveys to lend new insights to the enigma of Strabo's Channel. A PhD award has been granted to a post-graduate student from Edinburgh University to focus on this problem over the next three years, under John Underhill's supervision and in close cooperation with Fugro.

## **Classical Evidence**

In March 2006 it was announced that the Palace of Ajax had been found in Greece at Kanakia, on the island of Salamis near Athens. Greek archaeologists led by Professor Yannis Lolos said that they had unearthed the remains of a 13th Century BC palace and city that can be linked to Ajax of the *Iliad*. The city, named 'Kychreia' on an inscription found on the Athens Acropolis that dates from the first century BC, is mentioned by Strabo (*Geography* 9.1.9). The settlement is also described in the Catalogue of the Ships:

*And Aias led from Salamis twelve ships, and stationed them where the battalions of the Athenians stood.*

*Iliad 2.557*

A few lines later we read of a similar naval contingent from Ithaca, and so this discovery may lend weight to the proposal that Homer's Ithaca was also a real place:

*Odysseus led the gallant Cephallenians, from Ithaca...together with twelve red-cheeked ships.*

*Iliad 2.631*

In January 2007 Professor Peter Green identified a passage in Diodorus Siculus (a Greek historian writing around 50 BC) which provides independent support for James Diggle's opinion in Chapter 15 and Appendix 1 that the word *nêsos* can refer to a peninsula as well as an island. In a private communication that he has kindly permitted me to include in this Appendix, he explains that when the historian is discussing the notorious Athenian assault on Skione in 421 BC (*History* 12.76.3), he writes "*and they gave the island (nêsos) to the Plataeans to occupy*".

But Skione was never on an island: it remains to this day on the Pallene (modern Kassandra) peninsula, south-east of Thessaloniki. Professor Green writes: "*This is the clearest case I've seen of this usage, and the manuscripts are unanimous.*" This indicates that the use of the word *nêsos* to refer to a peninsula as well as an island was still accepted long after the word *chersonesos* had been introduced. The peninsula of Argostoli is therefore an entirely plausible location for Homer's Asteris, and this would also explain why Apollodorus later described it as containing a small settlement called Alalcomenai.

## **Public Reception**

On September 29<sup>th</sup> 2005 the thesis of this book was announced at a Press reception in London. The UK TV station Channel 4 broadcast a 4-minute news item that evening and over 100 newspapers carried the story world-wide: the website <http://www.odysseus-unbound.org/press.html> presents some of this material. Since that date there has been considerable additional press coverage and several more short films about the project. The first UK printing of this book from Cambridge University Press sold out within a few months and a second printing was rapidly organised.

In a world of instant sound-bites and abbreviated attention spans, we are encouraged to see that there is considerable public interest in the possibility that the landscape of Ithaca in the *Odyssey* that has long been thought fictitious may in fact be real; and if so, that it exists in an unexpected location that happens to correspond precisely with a description that has been faithfully handed down to us over several thousand years.

If the results of the forthcoming geological tests confirm the hypothesis of Strabo's Channel, this will not then simply *solve* the problem of Homer's Ithaca; it will instead *dissolve* it. We shall come to realise that actually, there never was a real problem at all. We were distracted by an accident of geology, and this caused some of us to pursue phantoms for a while, but we may now regain the confidence to believe that Homer never wavered from the truth.