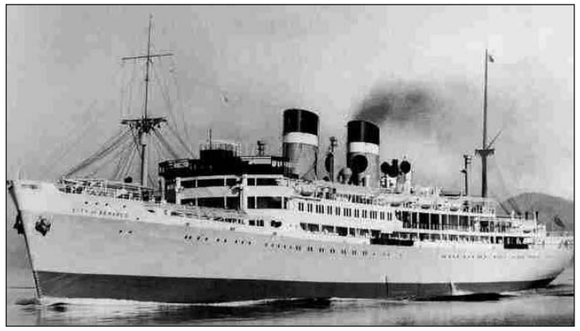
S. S. City of Benares



Captain Heinrich Bleichrodt raises the periscope of his submarine U48 of the German navy and peers out into the darkness of the Atlantic. In the distance he can see the British convoy OB-213 which had left Liverpool on the 13th September 1940 heading on its 2500 mile journey across the north Atlantic to Canada.

Captain Bleichrodt already knew which ship was to be his target and was only waiting for the escorting Royal Navy ships to leave during the 10 hours he had been shadowing the convoy. War honours depended on tonnages sunk and not the strategic importance of targets and his target for the night was to be the biggest ship in the convoy leading the middle column, the S. S. City of Benares cruise liner. On board this liner were 406 persons including the crew, passengers and 90 children being evacuated to Canada by the Children's Overseas Reception Board (CORB).

Seeing that the convoy was now unescorted and deemed by the Royal Navy to be out of the war zone and in safe waters, Captain Bleichrodt ordered his crew to prepare for an attack on the convoy. At 23.15 hours he fires two torpedoes at the City of Benares and much to his dismay both missed. The tracks of these torpedoes were not noticed by anyone on the vessels of the convoy and it continued on its way completely unaware and without taking any avoiding action. Again another torpedo is launched and at 00.01 hours on the 18th September 1940 the City of Benares is struck in the stern.

Mayhem breaks out amongst the passengers and crew with some passengers including some of the children trapped in their cabins by falling timbers and metal. 11 year old Fred Steels suddenly awoke with the noise of the explosion and with glass shattering and heavy wooden planks falling trapping him in his bunk. Another child in the cabin was crying because he had lost his glasses and there was no sound from the third lad. With great effort Fred managed to free himself from the bunk and along with the third boy, now wake, they manage to exit the cabin and make their way to the deck. Fred and one of his cabin mates, Paul Sheering, would end up in lifeboat number 12, they never saw their third cabin mate again. The City of Banares was evacuated within 15 minutes and sank 30 minutes after being hit by the explosion, 253 miles West-Southwest of Rockall.

HMS Hurricane some 400 mile away received a message that the City of Benares had been sunk and was sent to rescue survivors who had been reported in lifeboats.

Racing through heavy seas, it was 24 hours by the time HMS Hurricane reached the scene and immediately started taking survivors on board. One lifeboat in the distance was left as it appeared to be empty and from a second ship torpedoed, the S.S. Marina just after the liner. Little did the captain of the Hurricane realise that this lifeboat, number 12 contained over 40 people including members of the crew, passengers and six of the children, all boys including Fred Steels and Paul Sheering and it was eight days later that these survivors were rescued after being spotted from the air and picked up by HMS Anthony.

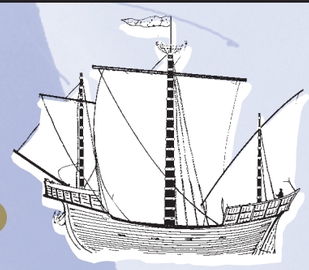
There were in total aboard the City of Benares, 406 persons made up of 215 crew, 191 adult passengers and 90 children. Of these there were only 158 survivors and 77 of the children died this day.

Many towns through out the UK were affected by the loss of the children and Cardiff and Newport were included in these. In Cardiff, the Came family who lived in Earl Street, Grangetown lost their two boys Lewis and James aged 11 and 13 years old Newport suffered many more losses, John Pemberton aged 10 from Queens Hill, Roger James Poole aged 11 from Allteryn Avenue, brother and sister William and Anita Rees aged 12 and 14 of Caeperllan Road and perhaps one of the most tragic losses if that is any way to describe it, is of the Moss family from Graig Park Circle, Malpas who lost their three daughters, Aileen, Marion and Rita aged 12, 10 and 8 respectively.

Parents in many areas of the UK lost their whole families in minutes as the City of Benares sank. Because of this loss, there were never anymore sailings of evacuees out of the UK and the sinking of the City of Benares featured some years later in the Nuremburg war trials.

Alan Smith

S.O.S.



the Newsletter of the

Friends of the Newport Ship

No. 20 **£2.00**

Summer 2012 **Free to Members**

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12 Clifton Road, St. Woolos
Newport, NP20 4EW
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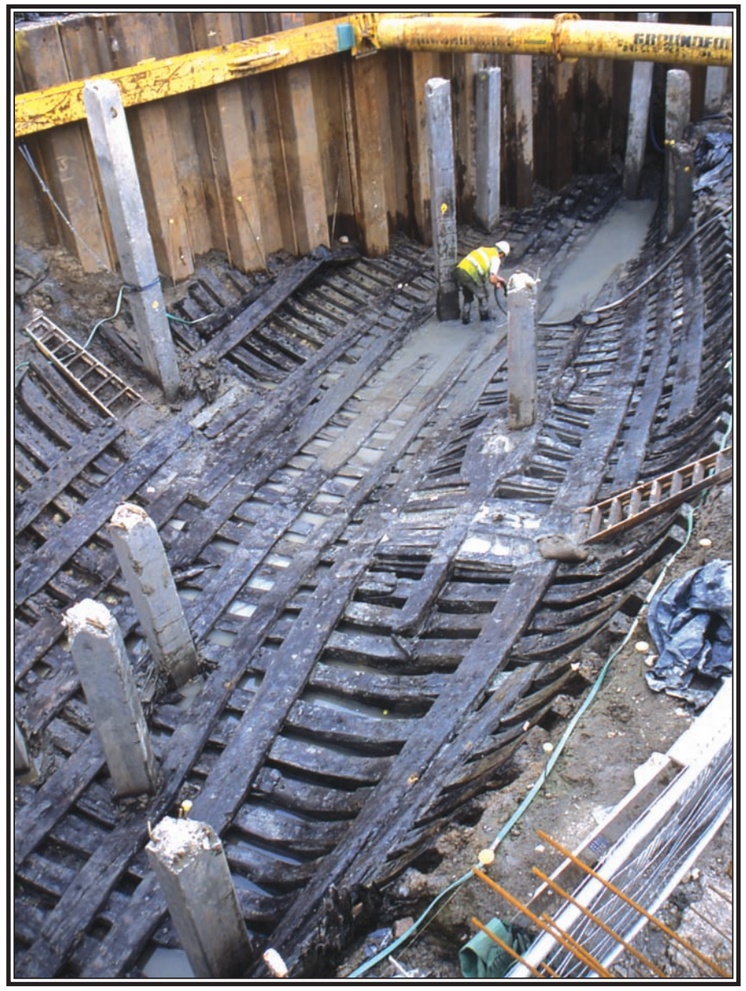
Charity Number 1105449

Ten Years On...

The Ship fully excavated in 2002



This year marks the 10th year since the discovery of the ship.

The Friends, Newport City Council, the archaeologists involved, and everyone else that has helped in any way, should be delighted with the success in the recovery, recording and conservation of the ship and its contents.

However two big tasks remain. The first task is to provide a full and scientific publication on the ship, much larger and more detailed than the successful guide book already produced by the Friends. This will be a vital record that will allow the ship to be internationally known and researched. A good deal in the way of scientific assessments has already been completed, and there are already a number of reports on the conservation and recording process. However an account of the excavation will have to be written before everyone forgets what happened, and of course a full report needs to be written showing a likely reconstruction of the ship and assessing its features and background. This will depend on further research but much progress has already been made.

The second task is to find a home for the ship when the present warehouse is vacated in 2014. Ideally this should be in the centre of Newport where it can be seen by the most people. The City Council has commissioned a report on possible locations and funding potential for a new museum, and we wait to hear what will be proposed. It seems likely that the Riverfront basement will be rejected as being too small and with access problems. It also seems possible that, subject to financial grants, the present museum in John Frost Square could be closed and its collections combined with the Newport Ship in a new museum. This has the advantage of bringing the ship together with other related collections, such as the Museum's Roman boat (the Barlands' Farm boat), in one place. It will also reduce running costs. However it should not be forgotten that the Newport Museum and Art Gallery has very fine collections, covering archaeology, local history, social history, industrial history, natural history and geology, fine and decorative arts. It is to be hoped that the future of all these collections will be given proper consideration in future plans. For example it would be a shame to lose public access to the most important Roman mosaics in Wales to allow space for the most important Roman boat from Wales. In a nutshell any new museum must have sufficient room to show these important collections. If this is not possible then suitable display space will have to found for them elsewhere.

The Editors.

Fraug 2012

May was a busy month at the ship centre as the Newport Medieval Ship Project hosted the 6th annual Faro and Rhino Archaeological Users Group.

FRAUG was established in 2006 as a research network for individuals and organisations using the Faro arm contact digitiser and Rhino CAD software to record ships and ship timbers. The ever growing group has members from Scandinavia, Ireland, Belgium and Holland, to name but a few.

The aim of FRAUG is to share ideas, discuss best practice for digital documentation and explore reconstructing and archiving methods.

Prior to the FRAUG meeting, the ship team ran a 5 day workshop at the Newport Medieval Ship Centre. Attendees learnt how to digitally record ship timbers, the same method that was used to record the Newport Medieval Ship. The course also covered topics such as digital and physical modelling, laser scanning and ORCA 3D Rhino Plugin.

Erica.McCarthy@newport.gov.uk

The Freeze Drier

2012 is an exciting year for the Medieval Ship project. Not only is it the 10yr anniversary of the discovery of the vessel but we've reached an important benchmark in the conservation process – freeze drying. An enormous machine has been brought onto site which will allow us to freeze the artefactual material in a vacuum chamber. This process allows the remaining water and ice inside the timbers to be driven off without causing damage to the cellular structure of the timbers. The end product is a dry, strong, and stable artefact that can be readily handled. Having such timbers will provide us with the literal building blocks to reassemble the medieval ship. We are working in cooperation with York Archaeological Trust, and plan to complete the freeze drying in the next 2.5 years.
The first load of planking from the Newport Ship has now been placed in the new freeze dryer. We expect this batch to be finished in the next couple of weeks. Visitors on open days will hopefully get to view some of these timbers.

Emma Routley

Moving On, A New Website for the FONS.

By the time this newsletter is published, the new website for the FONS will be in the final stages of development. The beta version of the site is already running and this will be expanded and tested in the coming weeks ready for a launch to coincide with the 10th. Anniversary of the Ship's discovery in July 2002.

Why do we need a new website? The existing site goes back to the earliest days of the Newport Ship Project and was showing its age.

A new website has been under intermittent discussion for several years and the approaching anniversary seemed a good time to commission it.

The new site will have a number of new features. There will be a section to outline current research and progress of the Project. There will be greater use of interactive "buttons" to take you from a main page to specific information. The site will also be able to link to Newport Ship related videos on YouTube. It will also have a greater facility to host photographs and various means of assessing the usage of the site such as number of visits, length of visits and location of the people involved. These are things we have no idea of at the moment and it would be helpful to find them out.

In addition "Future Events" will cover all FONS related activities; not just the dates of open days We are hoping to develop some other sections; but these are still being discussed. Some important features of the existing site will be retained. All the newsletters will still be available and we are hoping to include our important pre-2007 archive material.

When it goes online the new FONS website will be available at **www.newportship.org**; so visit us frequently and spread the word!

Jeff Brooks

Please note www.thenewportship.com is now offline.

When is an olive not an olive?

Slices of meat spread with a stuffing, rolled up and braised has been a popular dish since medieval times. But why do we call these 'olives'? The term is thought to be a corruption of the name of the dish 'aloes' or 'allowes' (remember spelling was not to be standardised for another 300 years or so). This came from the Old French 'alou', meaning lark; the idea was that the small stuffed rolls looked something like small birds, especially ones which had lost their heads in being prepared for the table. The standard French word for these rolls is 'paupiettes', but they are also called 'alouettes sans tête', literally 'larks without heads'. Confusion could also have arisen from the interchangeability of v and u in early texts so that 'alou' could have been read as 'alov' – starts to sound possible, doesn't it.

Recipes for 'olives' occur in many early manuscripts and books. A book of 1655 called 'The Queen's Closet Opened' has a recipe for rolled stuffed slices of meat entitled 'To make a Dish called Olaves' and of course Mrs Beeton published one in her 'Book of Household Management' in 1861. The following version dates to about 1445, just when our ship was being built. It comes from Harleian Manuscript 4016.

Remember that to read the text it helps to say the words aloud, saying the letters as you read them in modern English so that 'kutte' is obviously 'cut', 'parcelly' is a delightful way of reading 'parsley'. The letters v and u were interchangeable so 'vppe' is up, but, just to catch you out, u in 'buttes' and 'suet' is as in Modern English. The letter at the beginning of the second line that looks like a 'p' is called thorn and is pronounced as 'th', so that word is 'the'. Try the other words with thorn and, yes, easy now, aren't they! Words you don't immediately recognise can be guessed from context eg 'eroñ'. You have the word 'yolkes' so 'eroñ' has to be eggs. 'Buttes' doesn't change! Where else do good steaks come from? 'Mary' is marrow from the bone.

Allowes de Muttoñ. Take faire Muttoñ of the Buttes, and kutte hit in þe maner of stekes; And þeñ take faire rawe parcelly, and oynons shred smale, yolkes of eroñ soddeñ hard, and mary or suet; hewe all þes smale togidre, and theñ caste thereto pouder of ginger, and saffroñ, and stere hem togidre with thi honde, and ley hem vppe-oñ þe stekes al abrode; and cast there-to salt, and rolle hem togidre, and put hem oñ a spitte, and roste hem till þei be ynogh.

So for Olives of mutton you need:
1 steak per person (I used lamb but you could use beef or even pork).
Ingredients for the stuffing (should do 2 or 3 steaks):
Handful of chopped parsley
1 small onion, chopped
Yolk of 1 hard boiled egg
100g suet
_ teaspoon ground ginger
Few strands of saffron (optional)

Mix the stuffing ingredients (or pulse them in the food processor, but don't overdo it or you lose the texture) so they can be spread on the steak. Sprinkle with a little salt.
Roll up the steak and fasten either with a stick or tie with string. Put them in a pan and fry in a little oil to brown them and then either continue cooking on the hob or put in the oven until cooked.
Alternatively you could just put the stuffing on the top of a chop as a crust. So easy. Either way is very tasty (endorsed by Peter!).

Trish Hayward

Please note that an article on Warden Pears in the last newsletter was inserted by mistake and was not Trish's article. This article appeared in Worcestershire Life The original can be viewed on www.worcestershire.greatbritishlife.co.uk

Looking both Fore and Aft:

The first 10 years of the Newport Medieval Ship Project

Ten years ago a remarkable discovery was made during the construction of the Riverfront Theatre in downtown Newport. Back in June 2002, archaeologists discovered the remains of the largest, best preserved and most complete medieval ship ever found in the UK. Public enthusiasm, community involvement and government support enabled the excavation, disassembly and lifting of the ship timbers and associated artifacts. This huge assemblage was first moved to a spare warehouse on the Corus site at Llanwern and then moved to the ship centre in Maesglas in August/September 2003. In November 2004, a small team was assembled to begin the cleaning and recording of the ship timbers. This initial pilot study later underpinned a successful Heritage Lottery Fund bid to clean and record the entire ship. At the peak of the project 15 archaeologists and conservators were employed to digitally record, photograph and painstakingly clean off over 500 years worth of mud and concretion. There were also numerous volunteers who worked alongside the archaeologists and conservators. Thousands of hours were invested in readying the material for conservation.

The active preservation of the structural parts of the ship began in 2008, with the addition of over 5 tonnes of ammonium citrate into the timber storage tanks. This treatment was designed to help remove the iron salts and corrosion products absorbed by the timbers. After successfully removing many of the iron salts, the timbers were rinsed and the PEG (polyethylene glycol) treatment was started. Between 2009 and 2012, nearly 40 tonnes of PEG were used to stabilize and bulk up the waterlogged timbers.

This is now being followed by freeze drying, a technology which involves freezing the artefactual material in a vacuum chamber. This process allows the remaining water and ice inside the timbers to be driven off without causing damage to the cellular structure of the timbers. The end product is a dry, strong, and stable artefact that can be readily handled. Having such timbers will provide us with the literal building blocks to reassemble the medieval ship. We are working in cooperation with York Archaeological Trust, and plan to complete the freeze drying in the next 2.5 years. The ultimate goal of the Newport Ship Project is the conservation and reassembly of the original hull timbers into an accurate ancient hull form. To do this we need to create definitive 3D blueprints and models. Our modelling efforts have recently been given a big boost by the award of a grant from Welsh Assembly Government's CyMAL section (Welsh Museums, Archives and Libraries) to create a set of 3D digital blueprints of the ship that will aid in the reassembly of the conserved timbers. The FONS and NCC are also contributing to the funding of this important piece of work, which will provide us with a definitive digital reconstruction of the vessel.

In other news, a series of exciting events are planned to celebrate the discovery of the ship and subsequent work that has occurred. These include themed open days and evenings, family activities, a series of lectures, and a special gathering on Friday 1 June at the Riverfront, an evening celebration looking back over the numerous discoveries and forward to the exciting future that will see the ship reassembled and on display for everyone. We also invite everyone to attend the Open evening and BBQ at the ship centre on Friday 29 June at 6:30 pm. Come and visit with all the people who have been involved with the ship project over the years!

Toby Jones,
Curator – Newport Medieval Ship

A Secret compartment in the Newport Ship?

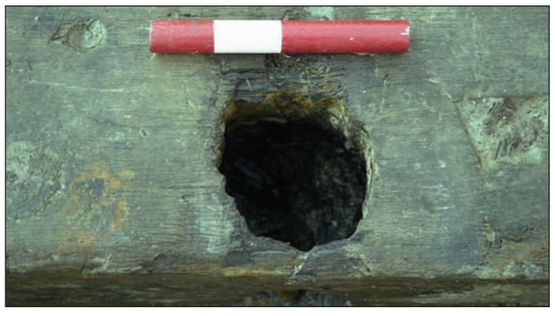
During the excavation of the Newport Ship, archaeologists discovered a wooden block, made of elm, recessed into the inboard face of one of the ship's stringers near the mast step. There was a crack running through the stringer near this feature, and the wooden block was assumed to be a patch to help cover the crack. As the ship was disassembled and raised, the archaeologists discovered that, upon raising the aforementioned stringer, the wooden block was actually covering a hole chiselled into the underlying floor timber. This hole was chiselled through the stringer and frame, but stopped short of penetrating the hull plank. The hole was found filled with chicken feathers and river mud. The hole in the frame is roughly circular in shape, and measures 130mm in diameter on the inboard face of the floor. It flares slightly towards the outboard, with a maximum diameter of 170 mm. The elm block measures 200mm x 115mm x 25mm.

What is the significance of this strange discovery?

The elm block covering the hole resembles a 'Dutchman', a type of repair that shipwrights might use to replace a knot in a timber. It was fastened to the stringer with four iron spike nails. The block in the Newport Ship was flush with the surrounding surface of the stringer. These two observations make it unlikely that the block was intended to be removed. The location of the covered hole is in an area of the ship that was likely to have been covered by bilge water, ballast, or cargo, making the area fairly inaccessible. So, we have a purposely chiselled hole that has been filled with chicken feathers and permanently sealed. Any ideas are most welcome.

Toby Jones

The Elm Block



The Secret Compartment

Sixty barrels save the ship!

Eureka! A big thank-you to Solutia and Newport Transport. Archimedes is credited as being the first to notice that water level rises when you get in the bath. Of course it goes down when you get out. So as the ship timbers are taken out of the polyethaline glycol (P.E.G.) solution to be placed in the freeze drier, the level of the liquid in the tanks will fall.

This causes a problem as none of the timbers can be exposed to the air without suffering damage. So something is needed to replace the timbers and keep the liquid level constant. Solutia have very generously given the project sixty barrels. These will be filled with water and placed in P.E.G.

As proved by the discovery of barrel staves with merchants marks on board our ship, the ship's cargo would have been transported in this ancient form of packaging. It is nice to think that the barrel – even in its modern plastic form – still plays a part in the ship's preservation.
Mr Kevin Jarvis of Solutia, a long-time supporter of the ship, arranged for the company's donation of the sixty barrels and, haulage from their works to the Conservation Centre was provided by Newport Transport. Sincere thanks to both companies for their generous support of the Newport Ship.

Charles Ferris

IKUWA Conference

Thanks to financial support from the Friends of the Newport Ship, two members of the ship team, Toby Jones and I, Erica McCarthy, as well as project consultant Nigel Nayling, went to the International Congress on Underwater Archaeology (IKUWA 4) conference in Zadar, Croatia. The conference, which took place from the 29th of September to the 2nd of October 2011, was held in the University of Zadar and focused on the management of underwater cultural heritage.

There were 90 lectures which ran in parallel sessions over three days. The UK was well represented at the conference. Robert Yorke from the Joint Nautical Archaeology Policy Committee discussed The United Kingdom and the UNESCO Convention on the Protection of the Underwater Cultural Heritage. Ian Oxley from English Heritage discussed English Heritage's experience in managing underwater cultural heritage in this difficult economic climate. Speakers and attendees came from as far as China, America and Australia to discuss strategies for the successful management of the finite resource that lies beneath the world's oceans.

The Newport Medieval Ship project consultant, Nigel Nayling gave a lecture titled Managing the Evidence – Implications of Digital Developments on the Documentation, Analysis, Presentation and Archiving of Ship Hull Assemblages. By using the Newport Medieval Ship as a case study, Nayling discussed the implications of digital documentation methods, as well as the prospects and challenges for the development of accessible archives in a digital format. Nayling's lecture was well attended by an international audience. Attending this event was made possible due to the generous financial support of the Friends of the Newport Ship. It was instrumental in helping to inform the international underwater archaeology community present about the significance of the Newport Medieval Ship.

University of Zadar, Croatia – location of the IKUWA 4 Conference.

Terry Underwood

It is with great sorrow that we report the passing of Terry Underwood. Terry was involved in the campaign to save the ship right from the start. For many years Terry ran the New Venture Players and his initial thoughts were that the ship should not impede the progress of the Riverfront Theatre's construction.

In those early days, despite being long-time friends, we were pitted in debate by the press as to whether or not the ship should be saved. This pantomime of "oh yes it should" or "oh no it shouldn't" was entered into with good humour and served to publicise the ship's discovery.

Terry saw the ship before me at the first open evening as I was taking signatures for the petition to save it. I will never forget the look of wonder on my friend's face when he came out saying "I never thought I would like that". From that moment Terry was a loyal supporter. Terry has done so much for Newport's heritage with his series of Yesterday's Newport publications and it was invaluable to have Newport's Mr History on our side.

His great experience in running societies was of great benefit and he became our treasurer and kept us on an even keel in those first years of the Friends. His contacts with the Newport City Council worked well in developing a rapport between the authority and the Friends which had, at the time of the campaign, become strained. Terry actively supported all open days and Friends' events, but sadly ill health had curtailed his involvement of late. A true and sincere friend to the ship and our members, he will be greatly missed. I will always remember him as a big hearted man who had the courage to publically change his opinions.

Charles Ferris.

Plaque marks the spot.

Newport Civic Society and the Friends have jointly funded the purchase of a blue plaque to commemorate the Ship's discovery at the site of the Riverfront Arts Centre in 2002. The ceramic plaque was made Ned Hayward, the renowned Chepstow potter. It depicts the ship as portrayed by maritime expert Owain Roberts and carries text in English and Welsh.

Thanks to aerial photographs of the construction site provided by the Glamorgan Gwent Archaeological Trust, it has proved possible to affix the plaque on the theatre's rear wall over the ship's stern (which was never fully recovered).

The plaque has been unveiled by the Mayor of Newport, Councillor Margaret Corneilious, and makes a worthy addition to the City's riverside walk where so much of our maritime heritage and history are recorded.

Charles Ferris.

Cordage from the Newport Medieval Ship

As the Newport Medieval Ship was being excavated, surprisingly large volumes of rope, formally called cordage, were uncovered. Between a very rough working life (as anyone who has seen old lines on a sailing ship can verify) and a composition of easily decayed fibres, surviving cordage is rare.

Unfortunately, the majority of the cordage was accidentally allowed to air-dry, caking it forever in thick mud, and rendering it unsavable. I realise this sounds very dramatic, but unfortunately, like a broken egg that can't be fitted back together, once the fibres dried out, they became far too friable, breaking and crumbling at the lightest touch. This is a result of how the plant fibres that make up the rope react to a complete loss of water.

In a waterlogged object, there are two kinds of water: bound and unbound. Unbound water is water that is 'loose' in the object. It may be bonded through chemical forces to other water, but it doesn't have a strong bond to the rope itself. Bound water has that strong bond to the plant fibres. When dried carefully, and treated so as to retain the bound water, only the unbound water is removed, and the rope retains its shape, if not its strength or flexibility. If the rope is not carefully dried and has not been treated, that unbound water is also removed which leads to the fibres collapsing in on themselves, distorting and weakening to the point where there is little or no cohesion left. This is why careful drying, whether it be of timbers or small scraps of textile, is absolutely vital.

Some of the cordage remained wet, however, and that has all now been treated and carefully dried. While some fragments are just jumbles of fibre, we do have several lengths of identifiable rope. Most of these are constructed a way that is still familiar. Multiple yarns (thin bundles of fibres) are spun all together in one direction, making a strand. Three of these strands are then laid together in the opposite direction, making a thick, round section of rope. These two directions are known as S- and Z-spun, the letters showing the direction in which the strands lay. The spin that is put into the yarns and the strands makes them strong, and keeps them from pulling apart when put under strain.

While three-strand ropes are relatively common, some cabled ropes have survived. These are ropes with an extra layer of twist – four three-strand ropes are laid together, for an extra-thick, extra-strong rope. It's possible that these fragments were once part of a dockline or a springline, tying the ship to shore, while the thinner ropes were part of the running rigging.

There's still a lot of analysis to be done, but we already know quite a lot about the construction of the ropes, and we can make educated guesses as to what their purpose might have been on the ship. It was a real treat to find some still in good condition, and to be able to conserve them so that we can learn more about medieval rope making and what cordage on the ship looked like.

Marie Jordan

A Polish Stern for the Newport Ship?

Unfortunately the stern of the Newport Ship was never recovered. Although the missing elements may have only been about another metre they would have told us so much more about the lines of the ship's stern.

However all is not lost and while attending a maritime archaeology conference in Istanbul our ship's curator, Toby Jones, met Dr Robert Domzal of the Polish Maritime Museum in Gdansk. Toby learnt of the 'Gdansk Copper Wreck' which dates from the same period as the Newport Ship, and whose timbers are of similar dimensions – despite the Polish ship's length at 16.3 metres being about half the size of ours.

On a business trip to Gdansk last year I took the opportunity to visit the maritime museum and photograph the stern post of the Copper Wreck. This ship is so named due to the copper ingots she was carrying. She had caught fire and had burned to the waterline. Melting pitch and resin, which made up part of her cargo, spread over the unburnt timbers and had a preserving effect. What remained of her then sank, to be recovered off the coast of Gdansk in 1973, by Polish army engineers.

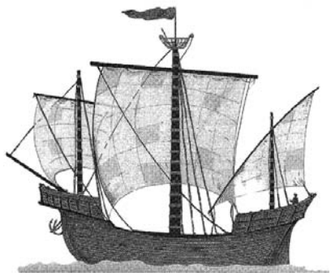
This was the time of the Cold war and, although her recovery may not have been "good archaeology" by today's standards, the resources that the Army could muster in the days of the Warsaw Pact enabled the the recovery of the Copper Wreck and its cargo.

Complete barrels and ingots form the museum exhibition of her cargo, alongside the stern post and some of the ship's frames. Part of the doubled-skinned hull was recovered but is in store. Dr Domzal let me take photographs of this.

Detailed plans of the wreck site have been forwarded to the Newport Ship Project, which with the photographs will give us a greater insight into the possible appearance of the stern of the Newport Ship.

Charles Ferris.

Be at the heart of a new and exciting phase in the life of our Ship



Have you ever thought that you would like to get more involved with the Ship but didn't know how to? Here is your chance: we need a new Secretary. The job is quite simple and non-taxing with very few deadlines, yet with lots of opportunity to become involved in the future life of the ship and to be one of the first to hear the latest news from the project. The main duties are:

- Forwarding e-mails from members and the public to the right person
- Circulating information received by e-mail to the Committee and the Project Team
- Filing online Annual Returns with the Charity Commissioners
- Producing the papers for the AGM and taking and producing the Minutes for the AGM
- Keeping a file of correspondence
- Attending Committee meetings, roughly every six weeks.

If you would like to find out more, please e-mail the current secretary, Ann Horton, on Secretary@thenewportship.com or speak to her at an Open Day. She will provide full hand-over and support to whoever takes it on.

Ann Horton

A flea in one's ear, and much more besides...

It is amazing what microscopic evidence from the Newport Ship can reveal about the conditions on board, as well as on land. The fine-toothed part of this inconspicuous comb pictured **(Fig. A)** found at the site appears to resemble the nit combs that parents of school children are all too familiar with. It is only when the conservation team at the ship centre cleaned out the residue from between the teeth that they discovered a nasty surprise. In amongst the mud and debris was the preserved remains of a head-louse, very similar to this one found on a Roman comb from London **(Fig. B).**

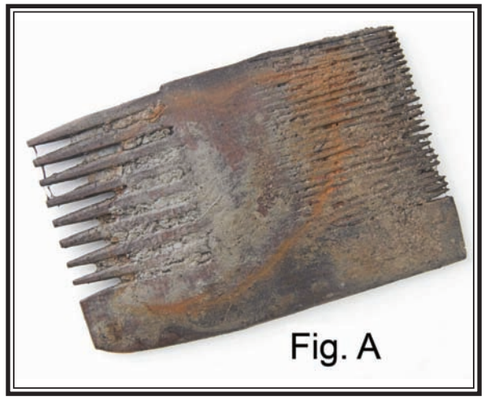


Fig. A

This is only part of the body of evidence gleaned by insect specialist Dave Smith from the University of Birmingham, who studied the insect remains from five mud samples taken from the ship site. The findings indicate that the Newport Ship was playing host to a fairly wide variety of fauna during its voyages, including some rather exotic specimens.

Some of the species found, such as the twenty human fleas found in two samples, the louse on the comb, and the one dog flea, reflect the unsanitary conditions that the crew were subject to on board, and a relatively high level of infestation, with few opportunities for a bath! At least one dog is known to have been kept on the Mary Rose, probably to keep the rat population down so it is not surprising that, along with gnawing marks found on cattle bones, we have found evidence of a canine companion on the Newport Ship. Specimens of four types of fly associated with cesspits and rotting seaweed were also discovered, contributing to the overall picture of the often foul surroundings on medieval ships as well as in towns and cities.

There were also plenty of insects feasting away at the numerous different cargoes that the Newport Ship was transporting. Pea weevils, grain weevils, and maize or rice weevils, infested stores of grain and pulses, and may have even survived a voyage in the human digestive system following consumption of bug infested gruel!

One example of a unique exotic specimen was found from the Newport Ship samples, the first of its kind ever found in the UK! This vine-boring beetle, named *Sinoxylon sexdentatum*, is still a common pest afflicting oak trees and vines in central and southern Europe.

Wood on the ship, whether being transported as cargo or the actual structure of the vessel, was not resistant to the effects of insect damage either. The common woodworm, the powder post beetle and bark beetle were found in considerable quantities. The presence of some other species which are not very common in Britain indicates that the ship had considerable contact with the continent.

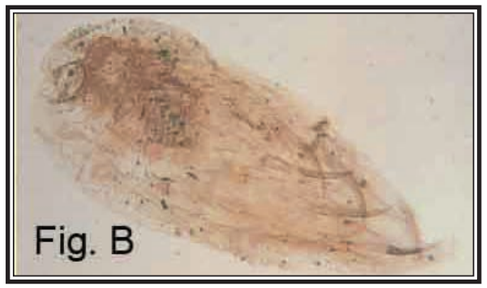


Fig. B

Despite the fact that these tiny creatures don't appear very exciting compared to the physical artifacts found at the site, they can reveal so much about the lives of the ship, the people on board and their canine companions. It is common knowledge that ships were highly unsanitary places which carried foreign diseases and hitch-hiking vermin. This study highlights that the Newport Ship was as much a hotpot of insect activity as any other vessel on the high seas in the 15th century.

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