

# MARITIME HERITAGE ASSOCIATION JOURNAL

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*Figurehead of HMS Warrior*

See article page 4



The Maritime Heritage Association Journal is the official newsletter of the Maritime Heritage Association of Western Australia, Incorporated.

(If you have an unwanted collection of magazines of a maritime nature, then perhaps its time to let others enjoy reading it. Contact the Association; we may be interested in archiving the collection.)

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# Annual General Meeting

**When: 10.00am, 8 April 2018**

**Where: 12 Cleopatra Drive  
MANDURAH**

**How: Don't forget the train option  
(For details contact Peter and Jill,  
or Julie Taylor on 0432 618 879)**

**Come for morning tea and stay for lunch**

**If you are coming, for catering purposes please let Jill or Peter know at:  
[mha.editor@gmail.com](mailto:mha.editor@gmail.com) or 9586 9003**

## Did You Know?

*A red sky in the morning, sailors take warning;  
A red sky at night is a sailor's delight.*

Did you know that this bit of nautical advice comes from the Bible? Matthew 16: 2–3

*When it is evening, ye say, it will be fair weather; for the sky is red.  
And in the morning it will be foul weather today; for the sky is red and lowering.*

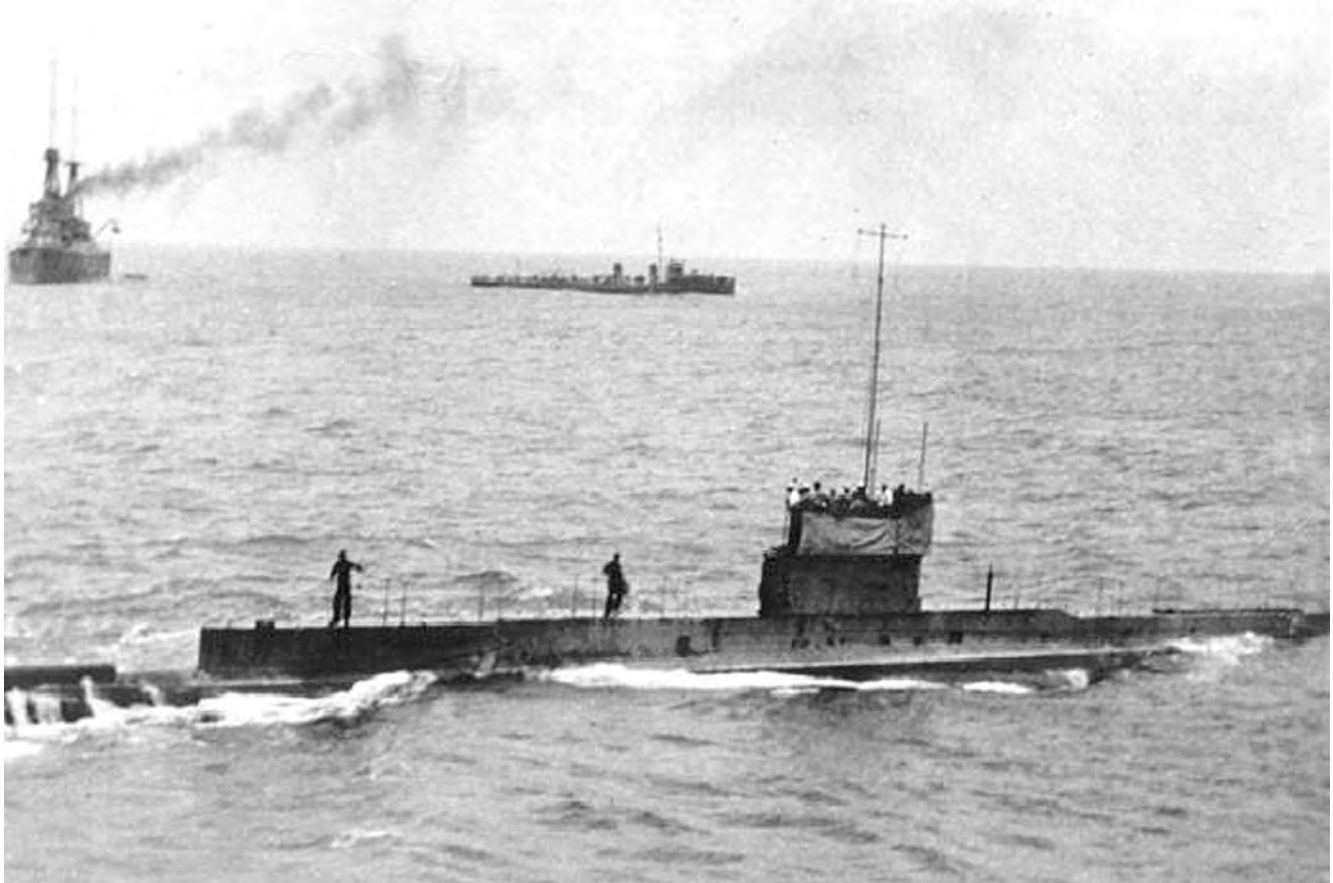


# HMAS *AE1* World War I Submarine Found

ABC News, 21 December 2017

The first Allied and Royal Australian Navy submarine lost in World War I has finally been found after a 103-year search off the coast of Papua New Guinea. "Australia's oldest naval mystery has been solved," Defence Minister Marise Payne said. "It was ... a significant tragedy felt by our nation and our allies,"

"The boat and her crew, who've been on eternal patrol since 1914 ... have now been found," Ms Payne said. "I truly trust that this discovery will bring peace of mind to the descendants of the families of the crew who lost their lives on board and perhaps in time it may also enable us to discover what caused the submarine to sink."



*This photo taken on 9 September 1914 is the last known image of AE1.  
In the background are HMAS Australia and HMAS Yarra*

HMAS *AE1* had 35 crew members on board when it went missing off the coast of the Duke of York Islands on September 1914. Twelve previous private and government-funded expeditions over the years failed to find the vessel, which was a grave to so many. The latest, 13th and final search began on board the vessel *Furgro Equato* last week.

The missing sub was found yesterday 300 metres under water near the Duke of York Islands. After the discovery, the crew on board the *Furgro Equato* took part in a commemorative service to remember the officers and sailors who lost their lives.

The submarine was the first of its kind for the Australian fleet and was 55 metres long. The exact location of the wreck will be kept under wraps for now, with the Australian Government working with the Papua New Guinea Government to preserve the underwater site and to form a plan for a lasting commemoration. The search party was jointly funded by the Australian Government, the Silentworld Foundation, The Australian National Maritime Museum and Find AE1 Ltd.

Editor's note: See MHA Journal December 2007 for the story of the loss of HMAS *AE1* on 14 September 1914 off the north-east coast of New Britain, PNG.



# HMS *Warrior*

By Tony Duvollet

On my first visit back to England in 38 years, I just had to visit Nelson's flagship HMS *Victory* at Portsmouth. A rite of passage, I suppose. As a sailor and a shipwright (Rtd) trained on wooden boats, I was impressed with and could appreciate the time, effort, skills and money (lots of) spent on restoring this iconic vessel of the Napoleonic Wars (despite having to go around on a restrictive guided tour). The sense of history is quite palpable. But nothing prepared me for what was virtually just around the corner from HMS *Victory*'s dry dock. There, by comparison, unpublicised, and afloat, was an iron ship...open to visitors who are free to wander around at leisure.

The ship is HMS *Warrior*. Built only 55 years after the Battle of Trafalgar. But so vastly different in conception, design and innovation to HMS *Victory* as to be almost alien!

HMS *Warrior* is physical evidence of the transition of a warship from timber construction to iron, from sail to steam, from muzzle-loading cannons to breech loaders and pivot guns, from triple gun decks to single gun deck, from high-sided, bulk and cumbersome vessels to the sleek (and dare I say it?) the sweet lines of the ship we see today.

Perhaps the easiest way to see this dramatic change in naval architecture and weaponry is to compare the two.

## **HMS *Victory*.**

Commissioned 1765 and still in commission 252 years later

In dry dock

140 gun Ship of the Line

## **Hull.**

Lbp. 186ft

Beam. 51ft 10in

Draught. 28ft 9in

## **Displacement.**

3500tons

## **Speed.**

Up to 11knots

## **Hull construction.**

Oak

Planking 2ft thick at the waterline

## **Power.**

Fully-rigged ship

19 530 sq ft of canvas

## **Range.**

Unlimited...as long as there was enough wind, food,...and rum rations.

## **Officers, seamen, marines.**

850

## **Armaments.**

2x68lb muzzle loaders

30x32lb muzzle loaders

## **HMS *Warrior***

Commissioned 1861.

Decommissioned 1883.

Afloat.

40 gun Armoured Frigate.

380ft.

58ft 4in.

26ft 10in.

9284tons.

14knots.

5/8in wrought iron plating.

9in teak laid vertically

9in teak laid horizontally.

Armoured citadel. 4 1/2in armour plate.

1 1/2in pine.

Bulkheads. 4 1/2in thick all fastened to iron keel, stem and stern posts, longitudinals and frames.

Fully-rigged ship.

48 400 sq ft of canvas.

One Trunk 5772ihp steam engine.

10 rectangular boilers.

Single screw on retractable shaft.

2100nm. 2400nm at 11knots.

706.

40x68lb muzzle loaders

10x110lb breech loaders





28x24lb muzzle loaders  
42x12lb muzzle loaders

4x40lb breech loaders  
Plus pistols, cutlasses, rifles...and a rack of medieval pikes!  
(How quaintly British!)

Both vessels were steered from positions aft on the main deck but *Warrior* could be commanded in time of battle from the armoured conning tower on the upper deck and steered from a wheel in the armoured citadel (the extra armoured 2/3rds of the vessel midships). The forward and aft sections of the ship are unprotected, although the bow was reinforced for ramming (shades of the ancient Greek bi and triremes!). The propeller could be raised (at 26 tons, quite a feat at sea) up into the hull to reduce drag when under sail. The funnels were telescopic and lowered inside the superstructure to improve wind flow to the sails. She was also equipped with BATHROOMS (!! ) and manually operated washing machines and mangles. Not just for the officers but for the engineers and stokers when off duty (presumably the deck crew never got dirty!)

A remarkable example of Victorian ingenuity and innovation. A revolution in concept and construction. The first iron-hulled ironclad warship. The most powerful battleship in the world at that time. Yet despite all this leading technology by 1883 this once formidable vessel was out of date (sound familiar?) and decommissioned. Fortunately that is not the end of the story.

### **HMS *Warrior*.**

1859. Designed by Chief Constructor Isaac Watts RN and built by Thames Ironworks and Shipbuilding Company at Blackwall. London - Keel laid 25th May.

1860. Launched 29th December.

1861. Completed 1st August at a cost of £377 292 (about £10 million today).

Commissioned 8th August by Captain the Honourable Arthur Cochrane for service in the Channel Fleet.

1875. Placed in reserve.

1883. Removed from active service in the fleet.

1898. Reduced to a hulk.

1902. Converted to Depot Ship in Portsmouth.

1904. Converted to Torpedo School Ship in Portsmouth.

1929. Became a fuelling hulk at Pembroke Dock, South Wales.

1979. Towed to Hartlepool. North-east England for complete restoration.

1987. Towed to Portsmouth as Historic Ship, arriving 16th June.

Opened to the public 28th July.

Throughout her long career she has had various names.

1860. *Warrior*.

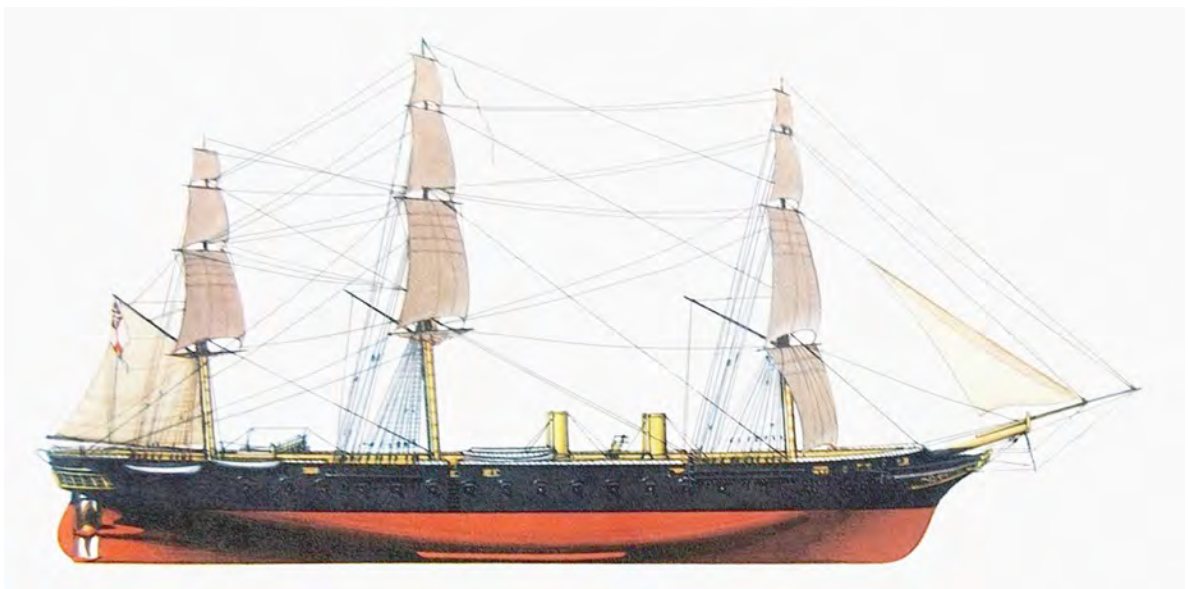
1861. HMS *Warrior*.

1904. *Vernon III*.

1923. *Warrior I*.

1942. Oil Fuel Hulk C77, 27.

1985. HMS *Warrior*. Museum Ship.



# The Ditty Bag

An occasional collection of nautical trivia to inform, astound, amuse and inspire.

(The inspiration could take the form of contributions to this page!)



The First Sea Lord is the Royal Navy's professional head and Chairman of the Navy Board. He is responsible to the Secretary of State for the fighting effectiveness, efficiency and morale of the Naval Service. The current First Sea Lord is Admiral Sir Philip Jones KCB ADC. All of the correspondence from the First Sea Lord, including his signature, is always coloured green.

French tunny fishermen never had holds in their fishing boats. All the fish caught were kept on deck where the air could get at them, as tunny deteriorate very quickly when stored below.

The oak to construct HMS *Victory* was felled in 1746, thirteen years before the keel was laid. It is claimed that 3,000 oak trees went into the build.

Pieces of pumice from the 27 August 1883 eruption of Krakatoa floated as far as the east coast of Africa. Some of the larger pieces had the skeletal remains of the volcano's victims on them.

The Canadian fishing schooner *Bluenose* was designed by naval architect William J. Roue, and launched in 1921. The builders at Lunenburg made a mistake and placed the stations too far forward so that the fifth from the bow became the fourth, etc. This gave the bow more fullness than had been designed, and Roue wanted it torn down and rebuilt. The builders considered the build too far along for it to be economical to start again. It was later considered that this fullness gave buoyancy which rode over the waves instead of ploughing through them. *Bluenose* was never defeated in a race, and a schooner (*Haligonian*) built exactly to the original design by Roue never performed as well as *Bluenose*.

The famous Thames barges were built with two layers of planking, between which was a layer of 'hair and blair', cow hair mixed with tar.

In the 30 years 1885–1915 over a thousand Friendship sloops were built for fishermen in Maine, USA. From 1915 to 1961 with the introduction of engines barely a dozen were built for fishing.

In 1943 German U-boat 537 set up an automatic weather station in Martin Bay, Labrador. Consist-

ing of a number of large canisters, a radio aerial and long-life nickel-cadmium batteries it radiated weather information to Germany. The secret station was only discovered by the Canadian Coastguard in mid-1980.

The fishing schooner used in the making of the 1937 film *Captains Courageous* (starring Spencer Tracy) was the 120-ft *Oretha F. Spinney*. It represented the schooner *We're Here* in the book by Rudyard Kipling.

In 1995 a small island suddenly appeared near the Metis Shoal in the Vava'u Group of Tonga. It was named in honour of Tonga's then favourite rugby player, Jonah Lomu.

Government Juvenile Immigrants, known as Parkhurst boys, the first convicts (although called apprentices) in WA, were, from mid-1845, paid in stock. The Government Regulations read:

*Wages will be taken in sheep under the following regulations:*

1. *The stock taken in lieu of cash to be good breeding stock; one-half to be selected by the Guardian, or some one authorized by him, the other half by the Master, at the market price.*
2. *The Stock, and its increase, to be kept by the Master during the period of apprenticeship free of charge.*
3. *All charges on the wool for washing, shearing, delivery, &c, to be borne by the Apprentice.*
4. *Every facility to be allowed the Apprentice, or his Guardian, to see that the Stock is cared for in the same manner as that of the Master's.*
5. *Guardian to be allowed to see and draft by his order the Wethers which may become fit for the Butcher.*

*Perth Gazette, 28 June 1845.*

**Quant:** A long pole used for punting a vessel by pushing on the bottom of a river or lake. It is capped to prevent the immersed end from sticking in the mud.



# The Mastig and Rigging of the Barquentine *Leeuwin*

## Part 2 by Ross Shardlow

### The Plans:

Len Randell had designed what was essentially (to our minds) a three masted ocean going yacht, albeit with gaff-rig and square sails, but a ocean going yacht just the same – and I have no doubt whatsoever, that if Len had been able to build his yacht, she would have been an absolute thoroughbred.

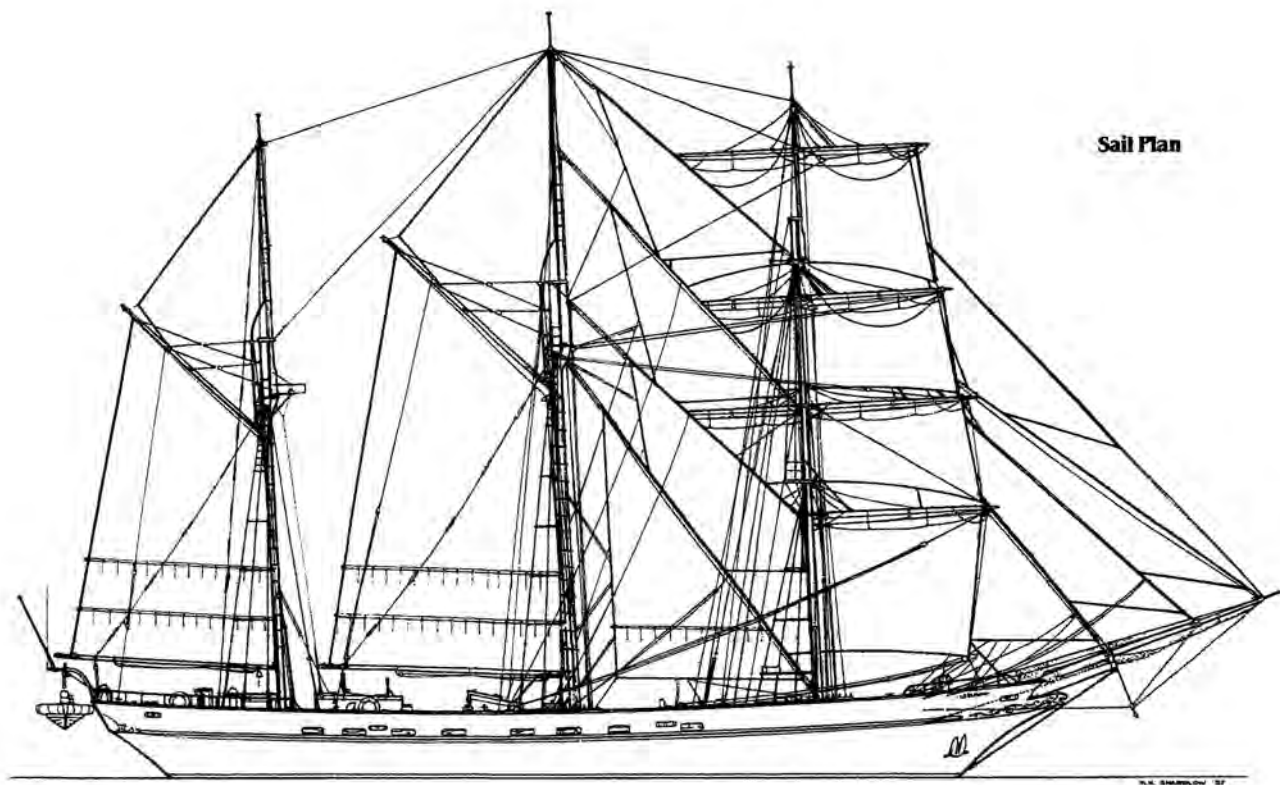
But I didn't have Len's ability, I only knew about traditional sail, knowledge gained from research to ensure the accuracy of my maritime paintings. But I also knew that traditional rig did actually work, perhaps not as well as Len's rig, but it did work, and Barry and Robin knew how to work with it, and I (sort of) knew how to draw it, and we had lots of references to work from – even down to Harold Underhill's *Masting & Rigging the Clipper Ship & Ocean Carrier* – which is actually a book for model-makers.

We also understood if we were to build a traditional rig we would have to work with traditional skills and traditional materials, like timber, mild steel, sail cloth, wire and rope, and that we would

be courting disaster if we introduced aluminium, stainless steel and plastic – which we didn't know much about anyway.

What I drew up was a sail-plan of a traditional barquentine, superimposed over Len's beautiful hull, with steel lower masts and timber upper masts and spars. I introduced a greater number of smaller sails (like upper and lower topsails) for easier and safer sail handling. I used fiddled-stepped masts designed to accommodate easy maintenance and partial dismasting with a rig that could support each section of the masts and spars without losing control of the ship – much like the crumple zone in cars designed to absorb what might otherwise be a total catastrophe – and it was all based on the 'rule of thumb', 'belt & braces,' 'empirical measure' – meaning, if a thing broke you simply built the next one stronger-bigger and thicker.

It was this 'empirical measure' that impressed rig-master Mike McKenzie. Mike was a former Outward Bounder, world champion yachtsman, boat-builder, engineer and astute business manager.



Sail Plan

*Ross Shardlow's revised sail plan for construction May 1986*





Though Mike worked with state-of-the-art materials he immediately embraced the value of empirical measure; not only did it mean we could get Barry and Robin back to work, it meant the rig would be easier and quicker to build with available materials, easier to maintain and safer to operate – “it’s animal proof,” became Mike’s catchcry around the shipyard.

There were limitations to the sail plan, however. The mast steps had already been fitted to the ship by the time I came aboard so I couldn’t change the mast spacing, and the spar timbers were already in the kilns so I had to work with the set lengths and quantities of timber that we had at hand as we didn’t have the time, or funds, to order new timber. I did manage to shuffle the spars around, however, swapping topmasts for yards, booms for gaffs, that sort of thing, until I ended up with something pretty close to what we wanted.

I also had trouble with the ‘armchair admirals’ still thinking we were building a yacht. The masts and spars I drew up were twice the thickness of those on a modern yacht. I didn’t have any problem convincing Ray Miller of that and Ray used

to beef up a measurement here and there if he thought it needed it. If the inspectors were watching him he even used a ‘slight of hand’ to fudge the measurements with his tape measure – what he called ‘millers elastic measure’.

We were so certain of the reliance on empirical measure that the drawing I submitted for the main boom was actually what I calculated for the mizzen boom. We were certain the day would come when the mizzen boom would fail – and it did – and all we had to do was unhitch the main boom and put it on the mizzen, then saw a bit off the end to make it the right length. We then had to build a new main boom but at least I had the drawing and timber at hand, ready for use.

I also designed heavier than necessary fittings for the fore-topmast crosstrees in the anticipation we might, one day, have a full size fore topgallant and/or royal mast to carry an additional square sail. Regrettably, that has not come to fruition – yet.

Working with Barry and Robin was a breeze. No sooner had I given them a drawing than Barry would come back with a set of tables and safe working loads and they would have the whole thing manufactured in no time. My only problem was keeping up with them.

### The Drawings:

I had some experience at drafting when I worked for the Education Department’s Publication Branch as we used to supply technical drawings and work manuals to TAFE and other technical institutions. The drawings were done by the old-fashioned method, by hand, using setsquare, French curves, ruling-pens and spring-bows. Initially the drawings were drafted up as pencil roughs on layout and tracing paper before the final drawing was done on film with a crow-quill mapping pen. They were then sent off for copying on a plan printer. Various scales were required from 1:50 for the ship itself to 1:1 (full size) for the various fittings.

Mike’s role as foreman was crucial to the project. Without Mike we would not have had the *Leeuwin*. He coordinated the production and kept everything on track. He even gave a hand at the drawing board. He was the conduit by which the construction drawings turned into a living sailing ship.

It was chaotic at times and there was little time to gather and study research material. My own li-



*Ray Miller’s spar loft*





brary provided most of the reference material and I got some valuable help from other sail training projects including the *Spirit of New Zealand*, *Falie* and *One & All* in South Australia. Empirical measurements came from various sources, Lloyd's (of London), Nord-Deutscher Lloyd and Middendorf's Manual being particularly useful.

When we started the project there were other Australian sail training projects ahead of us, but we caught up fast and it looked like we were going to be the first sail training ship to conform to the new Commonwealth Survey Standards. The trouble was, up to that time, there were no Common-

It all became very serious in May 1986, just three months before the *Leeuwin* was launched, when we heard the sad news that the American replica *Pride of Baltimore* capsized and sank with the loss of her captain and three crew. The subsequent inquiry ruled the ship was top heavy and could not right herself after being knocked down in a white squall.

As it turns out, *Leeuwin* can, theoretically at least, go over about 105 degrees, put the masts right under the water, and still come back up again.

The pressure was on to get the ship launched and fitted out for the Americas Cup Challenge. The construction teams were manufacturing their fittings faster than I could produce the drawings – in the end I gave up inking-in the drawings and just supplied the pencil roughs to save time so I could keep up with them.

Ironically, I never did finish the Rigging Drawings for Barry and Robin – and I was still at the drawing board when *Leeuwin* sailed out over the horizon on her sea-trials.

At the end of the project Mike came round to the studio to pick up all the drawings so that sets of archive copies could be held at the office and on the ship, but as the plans

were not my property, they never came back to me and I never saw them again.

And it was about this time that I was 'advised' to keep my head down and not to say too much about my role on the Rigging Team – I was, after all, just a marine artist.

Fortunately, I still had pencil roughs, duplicate copies, re-draws, amended and damaged copies and so on, and I have been able to put together something of my own (incomplete) set of plans – and as well I have, for the official copies seem to have disappeared, and I still get calls to supply drawings particularly in times, like now, for refits and surveys.



*Rigging team, from second on left: Robin Hicks, George Farquhar, Arthur Brown, Ross Shardlow and Barry Hicks*

wealth Survey Standard Rule Books (for sailing ships) to work from. As ours was the first ship down the ways, the book would have to be written by us – consequently, my drawings came under special scrutiny. It was very difficult trying to explain to the surveying officers just what empirical measure actually was – they wanted mathematical calculations, not a raised thumb. One of the things we had to demonstrate was 90 degrees of stability; that is to say, if the ship was knocked down with the masts flat on the water, with all sail set and crew in the rigging – she would self right and stand up again. To calculate that stability, every component of the masts, sails and rigging had to be weighed and measured, right down to the nuts and bolts.



*Launch day 2 August 1986. The 'elderly' couple in the foreground are my parents. The scary thing about that is, I am as old today as my father was then.*

Sadly, Mike McKenzie, Ray Miller and Barry Hicks are no longer with us. Fortunately, Robin is carrying the baton and has been put in charge of the spar loft – his own spar loft, in which he does wondrous things.

I applied to be assistant draughtsman on the *Endeavour* Replica project but did not qualify – so I went back to the drawing board as a marine artist and have been painting sailing ships ever since.

In Summary – I like to tell people I redesigned the *Leeuwin* just to make her look nice so I could paint her on a calendar.



*Brothers Ken (left) and Ray Miller (right) on the delivery voyage 13 September 1986*

### Time line for construction of *Leeuwin*

**1974** – Malcolm Hay starts campaigning to have a sail training ship for WA.

**1981** – Len Randell engaged to design a steel hulled two-masted brigantine.

**1983** – Rig changed to three masted barquentine to be called *Challenger*.

**1984** – 10 April – Sail Training Association of Western Australia formed.

Denis Horgan of Barrack House Group agrees to charter vessel to be used as a spectator craft for the America's Cup Challenge in 1986–87. Vessel's name changed to *Leeuwin*.

**1985** – 28 June - Keel laying ceremony and dedication (to secure shipbuilding bounty).

Keel taken apart next day. Construction begins to build hull upside-down.

**1986** – 1 March – Launch of hull and roll-over. Vessel put back on the slipway (right way up) to step masts and fit out.

**1986** – 2 August – Launch.

– 6 September – Begin sea trials.

– 13 September – Delivery voyage, *Leeuwin* enters Fremantle Harbour.

– 14 September – Commissioning Ceremony.

– 15 September – Hoist sails and enter service.





# Ships of the State Shipping Service

By Jeff Thomson

## **ROBERTA JULL** IMO Number: 8820925

The first of three vessels to be built in Western Australia and chartered to the State Shipping Service were built by Australian Shipbuilding Industries, Jervoise Bay (yard No. 291) for Westpac Banking Corporation (as financier and charterer) was the *Roberta Jull*. Again these ships were named after Western Australian persons.

As built, *Roberta Jull* was 1,571 gross registered tons, 3,454 deadweight tons, 92.7 metres overall, 83.9 metres between perpendiculars, 15.1 metres breadth, 5.6 metres draft. One MAN/B&W Alpha 6S26MC 6-cylinder diesel of 1,903 bhp gave a service speed of 13 knots with a controllable pitch propeller.

The delivery of the *Roberta Jull* was delayed due to mechanical problems on completion, necessitating the chartering of the *Ocean Credit*. On 7<sup>th</sup> September 1990 *Roberta Jull* commenced service to Burnie via Bunbury with a load of mineral sands. In August 1995 the vessel was returned to her owners. Later that year she was sold to Briesse Schiff GumbH and renamed *Bremer Merkur*. During 1997 she was renamed *Ultra Merkur* by Romamka Maritime Co. Ltd, Cyprus. In 2001 she was renamed *Agadir*. In 2004 she was renamed *Sirena* now under the Italian flag and renamed *Sirena II* in 2005. Later in 2005 she was renamed *Iran Shalamcheh* by Valfajre Eight Shipping Co., Iranian flagged.



## Notice

MHA now has a very attractive new brochure advertising the Association, its activities and achievements. It includes membership entitlement, fees and an application form. These brochures serve no purpose lying in member's homes. Do you know of anywhere suitable where you could place some brochures? If so, let a committee member know, and some can be sent to you.



# My Time on Singa Betina

The eleventh episode of Ted Whiteaker's tale.

The next morning George Steele, the community Essential Services Supervisor in charge of power, water and sewerage, turned up at the landing. He took us into Waruwu, and we saw the council to explain our presence. We were a little apprehensive about our reception after the cold courtesy of our first visit when we had been unceremoniously removed from the community, but fortunately, council elections had taken place since then, and there was a new chairman who raised no difficulties for us. The presence of classificatory relatives of the Burarrwanga clan, particularly a younger brother married to a local with whom we established contact, no doubt helped with our acceptance. Not having a Government photographer on board probably helped as well. We bought a few items from the store, and were given a lift back to the barge landing to fill our water containers from a tap at the beachhead.

George and his wife Denise, the community bookkeeper, picked us up later that afternoon and graciously let us use their shower facilities, and we enjoyed a nice evening meal with them. Conversation flowed, and drifted around to the subject of kava. Kava is a mild soporific drug made from the pounded roots, and sometimes stems, of the shrub *Piper methysticum*, a relative of the pepper plant, and is widely used as a social lubricant and traditional ceremonial drink throughout the South Pacific islands. There were some Fijian missionaries along the Northern Territory coast who brought small quantities of kava with them, and sometimes shared it with the local men. Denise was concerned about the increasing use of the drug at Waruwu, and had a small bag of the powder that she had obtained locally. I was quite interested in the subject, and when we left, Denise gave me the bag of kava.

Back on board *Singa Betina* later that night, we sampled the kava mixed with water in a jug. It had a muddy taste, and left a very slight tingle of the tongue and lips, with no noticeable effect otherwise. We decided it was not worth the bother of preparation, and the remaining powder was put away on the shelf as a curiosity.

We stayed at Goulburn for five days as the easterlies eased off again, continuing onwards in five-knot winds to an overnight anchorage in the lee

of Haul Round Island, a small, sandy, reef-fringed islet off the mouth of the Liverpool River, about ten miles from Maningrida Community. The islet is an overnight roost for a large colony of seabirds, with clear water surrounding it and plenty of fish, although somewhat exposed to the weather. Shortly after midnight the wind had risen to ten knots, and not wishing to be caught out if it picked up any further, we pulled the anchor and moved five miles further on into the lee of Entrance Island, a larger mass at the mouth of the Liverpool with more bulk to hide behind. Conditions remained stable, and we left the next morning in light airs to anchor at Mission Beach, Galiwin'ku, around 9pm that night.

It was now the 16th May, and the Galiwin'ku Community Council had overspent their funding for the financial year. There were no petrol supplies generally available until the next year's budget came into effect on the first of July. We were in the right place at the right time, and all our available petrol was quickly sold, save two drums promised to Gikal Outstation that were to be delivered later with a few sheets of corrugated iron that the ORC paid us \$50 to transport. Steven "One-Leg", the *bungawah* of Yirringa outstation, asked us to take some more corrugated iron, and his family, to his homeland on Drysdale Island, off the northern tip of Elcho, and a few days later the fifty or so sheets of iron were loaded, and the family arrived to embark. At the time I had assumed the term "family" to mean maybe half-a-dozen people, and was a tad disconcerted when eighteen of them turned up. When all were present and accounted for, we set off.

We clattered our way up the coast under motor, catching five reasonable sized mackerel on the way and losing the lure to a big one on the last strike. Ten of the passengers were dropped off at Ban'thoela, another outstation in Refuge Bay at the northern end of Elcho, and we anchored close to shore at Yirringa at 5pm. The rest of the family disembarked, the sheets of iron were unloaded, and we moved out into deeper water to anchor for the night.

Next day we threaded our way south through the Lower Wessels, crossing Donington Sound to a well-sheltered overnight anchorage behind Gwakura Island in Ulundurwi Bay. We were now





just around the corner from Arnhem Bay, and finally arrived offshore at Raymangirr at midday the following day.

A log note states: "Arnhem Bay – irregular depths, high range of tides, murky water, no lure-eating fish. Can get extremely rough with little wind." Raymangirr is on the western side of Arnhem Bay and fully exposed to the prevailing easterly winds with an eighteen-mile fetch. Since I was contracted to spend three weeks here assisting with the windmill and water tank erection, we needed safe anchorage. Late in the afternoon on the high tide, we took *Singa Betina* into a little creek half a mile north of the camp, with a narrow, twisting entrance channel that dried out completely except during the top half of the tide. There was barely enough depth to get into the creek, and we ran aground in the soft sand twice before breaking through and tying up in a nice little pool with just enough water to remain upright over the low tides when the creek entrance dried out.

Not long after settling into the creek, Clancy, the *bungawah* from nearby Burrum outstation, turned up in a dinghy wanting to borrow a hook to catch a fish. He took one of the bigger hooks I had, and disappeared out to the bay, returning an hour later with a couple of big queenfish that he had caught by trolling the hook with a torn-off piece of plastic bag as a lure. (So much for my log note that there were no lure-eating fish). We cooked them straight away, and while queenfish are not noted for their gourmet quality, like most fish, they are very tasty when prepared and eaten as soon as possible after being caught, and there were no leftovers.

Raymangirr was administered by the Gapuwiyak Community ORC at Lake Evella, 25 miles to the southwest by bush track. In the beginning there were about a dozen men and youths available to help with unloading the boat and transporting the gear to the bore site on a trailer hitched to the outstation tractor, but it was hard work, and the numbers soon diminished to only three or four on the job at the end of day one. It took two days to get everything unloaded and on site. Then we all went to Burrum, about four miles northwest from Raymangirr as the crow flies, or eight miles by bush track. A fellow we had met in Gove, John Waldron, owned an old pearling lugger called *Patricia* and had landed a contract to cart another windmill and water tank from Gove to Burrum. We spent another two days unloading *Patricia* at a beach

called Yaliquin, and shifting gear to the outstation which was two and a half miles away in the bush.

The Gapuwiyak ORC had provided a sixteen-foot dinghy equipped with a brand new fifty horsepower outboard motor to ferry the materials from the boat to shore. On one trip, heavily loaded with sheets of corrugated iron perched on top of the gunwales, the top-heavy and badly balanced dinghy overturned not far from shore in four feet of water. The dinghy was quickly righted and bailed out, the carburettors drained, and spark plugs removed to drain water from the cylinders. There was much joy when the engine restarted successfully. The sheets of iron were fished out of the water and the job went on without further incident. Josh jumped ship by arrangement, and returned home to Gove with *Patricia* when she left.

Equipping the outstation bores was supposed to be a self-help project, with outstation members doing the job and assistance supplied by the government. John Parry had made it quite clear to me that I was on contract to provide assistance only, and under no circumstances was I to do the job by myself. The Raymangirr *bungawah*, another John, said there would be half a dozen men available for the construction, but on the first day of work, I walked the half-mile to the camp in the early morning to find John in sole occupancy. He was fiddling with the Codan radio, and waved me on to the bore site, saying he would be there shortly. I wandered about, assessing the site and familiarising myself with the equipment spread around. After a half an hour, I sat down to wait for John. After another half hour, I went back to the nearby camp looking for him, but there was no one to be seen.

I gave up and went back to the boat, returning to the camp after lunch to find John pottering about. We went to the bore site, and marked out the positions of the holes to be dug for the concrete footings to anchor the three windmill legs. We selected a hole each and started digging. After a few minutes, John had to return to the camp to attend to some radio communication, so I sat down to wait for his return. Half an hour later I went to the camp and there was again no one to be seen, so that was the end of day one of the project.

This pattern of behaviour replicated itself for the whole of the three weeks I was obliged to be there. At the end of the period, I had my foundation hole dug to a finished depth of four feet, and John was down to a couple of feet on his. It was a long way from the finished erection of the wind-



mill and water tank, and the lack of interest shown in getting the job done was very disheartening. John's extended family members, who were supposed to assist, melted into the bush during the first day and did not re-appear for the duration. It was difficult to fathom the logic behind this behaviour. Before the bore was drilled, the community sourced their drinking water from a spring that appeared on the beach at about half-tide mark. The bore itself was equipped with a cast-iron Southern Cross hand pump, an improvement that allowed access to water independent of the state of the tide, but the convenience of a windmill pumping into an overhead tank and water piped to taps in the camp did not seem to be regarded as much of an incentive to do the job.

The windmill and water tank were eventually put up by the Department of Transport and Works some two years later. James G., a Yolngu working on the bore-equipping program at the time, told me that when the crew got to the job, it was obvious which hole I had dug. He was impressed with my neat white man's excavation, and dubbed me "the human backhoe".

For our departure from Raymangirr, we were limited to the peak of the spring tides for enough depth to navigate the entrance channel to the creek. If we missed the appropriate tide, we would be stuck there for another two months before a similar high tide occurred. The easterlies had picked up again, and had been blowing strongly for a few days to 25 knots, but we had no option other than to take the tide and deal with the onshore waves as we found them. A further complication was an engine problem that had developed earlier in our sojourn in the creek. Jude had started the engine to charge the battery while I was away at the camp, and after a couple of minutes idling it went berserk, screaming to full-throttle speed and beyond, with the boat jumping up and down in the water with the stress, and smoke everywhere. The engine-stop lever had no effect. After a few minutes of panic, with admirable practicality, Jude had turned off the main valve on the fuel line, and the motor eventually starved of fuel and slowed to a stop.

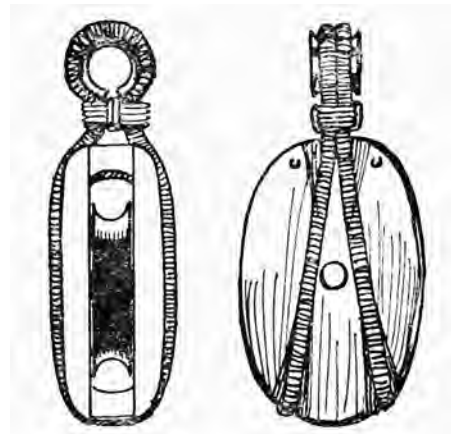
The engine dipstick showed an oil level well above the full mark, indicating a diesel leak into the sump. The fuel pump was removed and examined, and I found a fine split in the diaphragm on the side of the engine block. Fuel had been spewing into the sump under pressure, and at a certain level the engine had started breathing its own vapours and screamed out of control, pumping even

more fuel at top speed. The potential disaster was awful to contemplate, and Jude's action in stopping the fuel supply had narrowly saved the possibly catastrophic damage of the engine exploding.

I bypassed the fuel pump with a gravity-fed line fitted directly between the fuel tank and the engine, changed the oil twice to flush out the diesel, and hoped that no further damage had been done. We were able to run the engine for battery charging when necessary, but the real test of serviceability would take place when we left the creek.

I found some old plastic juice bottles along the high-tide mark and fixed them in the entrance channel to act as marker buoys through the twists and turns, and at the top of the tide the next morning we felt our way out of the creek, gingerly revving the motor just enough to make way against the 15-20 knot winds. Some of the plastic buoy-bottles had washed away, and we had to bulldoze the sandy bottom for part of the distance to make it through the channel to deeper water. However, not far off shore the engine started to run very roughly and began making alarming clattering noises, so we quickly shut it down and threw an anchor over the bow to hold us from being pushed ashore by the waves while we prepared to haul the sails up. We were only fifty yards or so off the beach with not much depth beneath us, but soon got away again successfully under sail, and aided by the outgoing tide, did a quick passage through the narrows at the mouth of Arnhem Bay to anchor in the lee of Everett Island. We intended heading up Nalwarung Strait for Mata-Mata, and needed the incoming tide in our favour to get there. Early next morning we hauled the sails up again and caught the tide to anchor at Mata-Mata before midday.

*To be continued.....*





# QUIZ

## Answers to December

1. The trunnions are the two pieces of metal, one on each side, which support a cannon and on which it can be elevated or depressed to aim.
2. Point Roe is the point opposite the East Fremantle Yacht Club.
3. The ex-slave ship wrecked in Cockburn Sound is the *James Matthews*. As the brig *Don Francisco* it was captured by HM Brigantine *Griffon* on 25 April 1837. After confiscation it was sold (unlike most slavers which were destroyed), re-named and traded until wrecked at Cockburn Sound on 23 July 1841.

## Quiz

1. After whom was the large section of the Swan River called Melville Water named?
2. Henry Willey Reveley was picked up at Cape Town in May 1829 by James Stirling in the *Parmelia* while en route to establish the Swan River Colony. What position in the government was Reveley given?
3. What are the leech and luff of a sail?

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## Congratulations Bill!

Congratulations to MHA member and retired shipwright Bill Leonard who has recently had published a beautiful book titled *In Search of Fish and Fortune Along Australia's West Coast: A shipwright's tale of old men of the sea and their beloved boats*. Published by the Western Australian Museum, the book details the history of 15 working boats from various parts of Western Australia. Many photographs supplement Bill's meticulously detailed drawings of the boats' lines, construction and sail plans. But of equal interest is the emphasis Bill has placed on the people associated with each of the boats. Theirs were hard lives in most cases, and it is gratifying to find an author who has gone to the trouble to compile such a technically correct and socially interesting book on this aspect of Western Australian history.

Editor's note: Bill Leonard was Master Shipwright in charge of building both the *Endeavour* and *Duyfken*, the two most significant replica vessels built in Australia.



# British WWII Submarine Discovered in Mediterranean

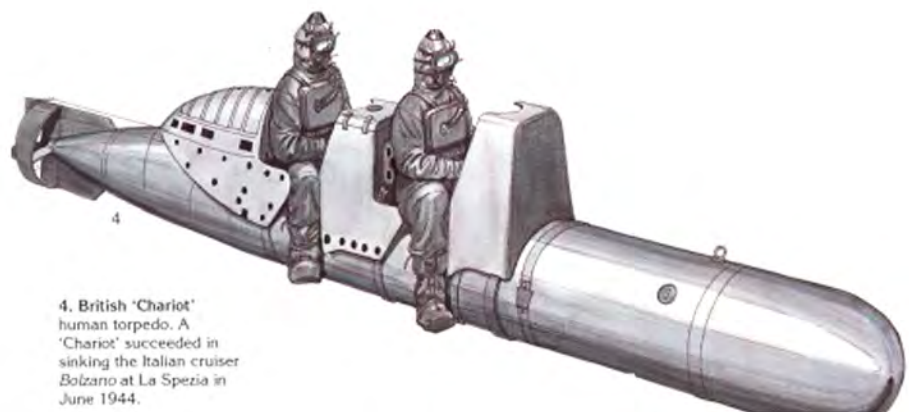
**@**n Italian diver has discovered the wreck of a British World War II submarine that sank in January 1943 with 71 servicemen on board. Massimo Domenico Bordone, dubbed the "wreck hunter", spotted the ghostly wreck of the HMS *P311* as he swept an area 100 metres down off the north-east coast of Sardinia, near the island of Tavolara.

"Immediately I thought of the destiny of the men who met their deaths down there," he said. "It was a fate shared by so many men, submariners in particular, on both sides of the conflict.

The HMS *P311* set out from the 10th Submarine Flotilla, Malta, on December 28, 1942. The mission (the submarine's first) was to attack the Italian 8-inch gun cruisers *Trieste* and *Gorizia* as they lay at anchor in La Maddalena, a port off Sardinia's northern coast. The attack was to be made with manned torpedoes called chariots, which were carried in hangars on the casing of

the submarine. However, the submarine disappeared without a trace after apparently hitting mines laid by the Italian navy to protect the island. Local fisherman at the time reported hearing a loud rumble at night, but the 276½-foot (84.3 m) long T-class vessel was never found.

Mr Bordone said it looked like only the subma-



4. British 'Chariot' human torpedo. A 'Chariot' succeeded in sinking the Italian cruiser *Bolzano* at La Spezia in June 1944.

rine's bow was damaged from the explosion, and it remained airtight as it sank. "It looks like it probably went down with air sealed inside, leaving the crew to die eventually of oxygen deprivation," he said.



The wreck still has three chariots ready to be launched underwater to carry the two navy divers into action. The divers would enter enemy harbours on the chariots and stick mines on enemy ships. The Royal Navy is investigating the wreck, but there are no plans to raise it.

## Note:

HMS *P311* was the only T-class submarine never to be named. The submarine had been assigned the name *Tutankhamen*, but was lost before being formally named. The submarine would have been the only RN vessel to have received that name.

Peter Worsley





# The Convict Ship *Hougoumont*: An Appropriate Charter?

On 11 January 2018 MHA president Nick Burningham gave the following talk as part of the Fenians, Freedom and Fremantle Festival celebrating the 150 years since the convict ship *Hougoumont* reached Fremantle. Appropriately, the talk was given at the Hougoumont Hotel to a capacity audience.

The sailing ship *Hougoumont* in 1867-68 brought the last shipment of convicts, including 62 Irish political prisoners, to Western Australia. When the ship had been built in Burma, some sixteen years earlier, she was of a design already somewhat old-fashioned. This talk examines why such a ship was chartered to carry convicts, the ancestry of “East India country ships”, and the unequalled reputation of Indian shipwrights in the first half of the 19th century.

He made contact with the Clan na Gael organisation which purchased the whaling ship *Catalpa* that was fitted out to rescue some of the military Fenians from Western Australia. That adventure is one of the best known episodes in Western Australia’s colonial history and will surely be the subject of a feature film sooner or later.

But the subject of this talk is the convict ship *Hougoumont*. Was she a suitable ship to be char-

tered to bring convicts, plus 44 pensioner guards and their wives and children, four prison guards and their families, and five passengers from England to Fremantle? The convict ships have a poor reputation. Basil Lubbock, who was arguably the great historian of the merchant ships that sailed to Australia and New Zealand, wrote of the emigrant ships of the 1840s: “The horrors of the long five-months’ passage for the miserable landsmen, cooped-up on low, ill-ventilated and over-crowded tween decks, were fit to be compared with those of the convict ship.” And he described them as “navigated by rum-soaked, illiterate, bear-like officers...” There are accounts of accommodation like loathsome dungeons, foul with rotting food and even people relieving themselves wherever they could. Straw mattresses that

rotted as soon as they were wetted by seawater leaking through the decks, starvation and provisions stolen by the brutal thugs who ruled below decks.

Our ship, *Hougoumont*, was built in 1852, in Moulmein, Burma, almost certainly by Indian shipwrights. She wasn’t a new ship, but was she cheaply chartered by a cynical British government – a decrepit, vermin-infested and ill-maintained product of a primitive foreign shipyard?



*Nick giving his talk at the Hougoumont Hotel*

Here in Western Australia, the ship *Hougoumont* is known for bringing the last shipment of convicts to the colony. The 280 convicts onboard famously included 62 Irish political prisoners – members of the Irish Republican Brotherhood or it’s North American associate the Fenian Brotherhood who had been found guilty of taking part in the 1867 Fenian Rising against British rule. Seventeen of these Fenians had been serving with the British army and were classified as Military Fenians. One of them, John Boyle O’Reilly, escaped to America in 1869 on an American whaling ship.



Unfortunately, if one is looking for evidence of the evil of the British Empire, *Hougoumont* was an example of the finest class of sailing ship of her time. The British Army greatly preferred Indian-built ships for the transport of troops because of their superior construction.

India is not now particularly famous as a maritime nation or the source of the most excellent ships. Some of you might doubt the claim I'm making about Indian-built ships, so let me take you on a quick trip through the history of Indian shipping and ship-building.

India is, of course, a large and populous country with many languages and ethnicities; various regions with different histories. In particular we shall look at the very northwest corner of India – Gujarat and the Gulfs of Kutch and Cambay. When European seafarers (Portuguese) first reached India at the end of the 15th century they immediately observed that the large ships of Gujarat were larger than almost all European ships, and that they were well-built.

The Portuguese were the first Europeans to establish themselves as a maritime power in the Indian Ocean World. They arrived with ships devised to carry heavy artillery – “cannons” as we imprecisely call them – something which Asian shipping did not have although the Ottoman Empire introduced armed galleys to oppose the Portuguese. It was the broadsides of heavy guns that gave Europeans the edge. Even so, Portuguese maritime historian Nuno Rubim has said that the only big naval battles the Portuguese fought in the 16th century all took place on Asian seas.

In the 17th century the Portuguese experienced increasing competition from other European nations, particularly the Dutch, and Portugal's oldest ally England. In 1661, the Portuguese princess Catherine of Braganza married King Charles II recently restored to the monarchy of England, Scotland and Ireland. Her dowry included seven islands in northwest India, called Bombay or Mumbai. The English East India Company's stronghold in the region was then further north along the coast at the city of Surat in Gujarat. One of the advantages of Surat was the presence of Parsi shipwrights whom the East India Company could contract to repair their ships, and build ships for intra-Asian trade – the ships that came to be called “Country Ships”. Parsis are people who migrated from Persia to escape the encroachment of Islam during the 8th to 10th centuries. They retain the Zoroastrian faith and Parsi language. To

this day they are a major force in the heavy industry and engineering of India. Parsi ship builders were exceptionally skilled and had a superior way of building ships. Moving the East India Company's headquarters to Bombay was not worthwhile until a family of Parsi shipwrights or *Wadia* could be persuaded to move there in 1736. Loverji Wadia and his family set up a shipyard which became the famous Mazagon Dockyard of Bombay. It was always run exclusively by the Parsi Wadias.

The superiority of the Wadia-built ships had been known and understood by the English since the mid-seventeenth century, perhaps earlier. A letter written by J.H. Grose in the mid-eighteenth century is quite explicit.

“At Surat too they excel in the art of shipbuilding. If their models were as fine as English, of whom especially they prefer the imitation, there would be no exaggeration in averring, that they build incomparably the best ships in the world for duration, and that of any size, even to a thousand tons and upwards ... the reign of their ships is much longer than that of the European built ones; it is not uncommon for one of them to last a century, and that not owing to the commonly summer seas in those parts, as to the solidity of the workmanship, and the nature of the wood they employ.

“As to the first, their bottom and sides are composed of planks let into one another, in the nature ... of rabbit [rabbet or rebate] work, so that seams are impenetrable.” (Grose 1772:142 -3)

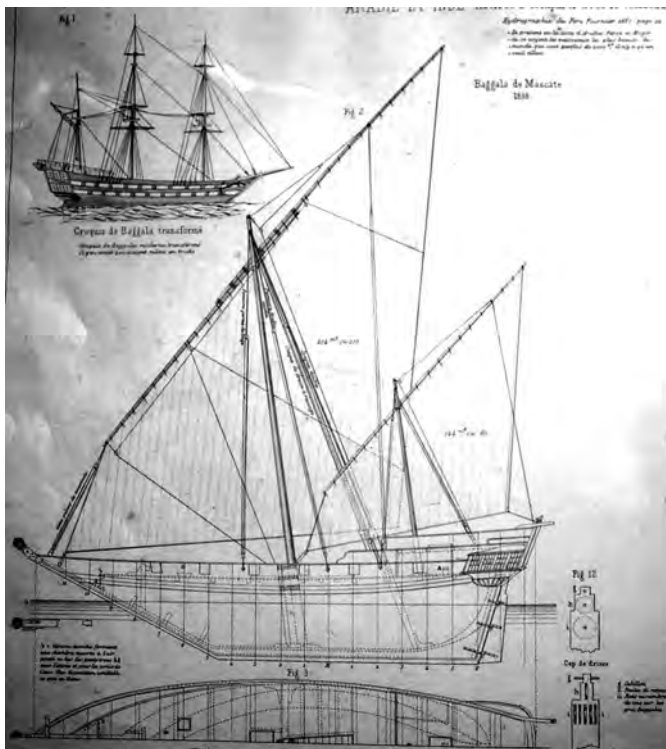
The timber used was teak. The “models” or designs of the Wadia were not to Grose's taste, but some of their design features were later adopted by British shipwrights, notably the so-called “Aberdeen bow” and hailed as technological advance. The “rabbit work” that Grose mentioned was explained in the early 19th century by a Mr Maconachie. He makes it clear that it was superior engineering – the ships were not heavily built with massive strong timbers:

“The bottoms of these ships are half as thick as those of the same kind built in England, the planks are rabbetted to the second or third plank above the bands [wales]. In the rabbet joint or seam is poured boiling hot dammer [dammar], a kind of pitch, then a covering of fine, clean cotton wool, and when the bottom of the ship is planed, it is difficult to perceive any seam. They are, of course, never caulked. The bolts are mostly square, and over the heads are laid a sort of composition to make



the surface smooth: then a coat of chunam or lime mixed with hair[,] over that [a] sheathing of teak plank then the blankets boiled in dammer or tar and over all copper.” (Quoted in *Wadia* 1957:189)

By the late-18th century, the Mazagon yard was happy to build any design a client required. The monopoly charter of the Honourable East India Company, and the Navigation Act, prevented the use of ships built anywhere other than England to carry cargoes from India to England. The Mazagon yard built for the intra-Asian trade of the Company: trade with China, Southeast Asia, Mauritius and elsewhere; and they also built for Asian merchants. They built western designs, and they built regional designs – the biggest and best Arab dhows were built at Bombay, Surat and Cochin. Aside from these large dhows or bagalla, the several warships ordered by the Sultan of Muscat and Zanzibar, including a 74-gun ship, were built to Royal Navy designs at Bombay.



*Plans of a Bombay-built baggala*

They built hybrid designs – Asian hull shapes rigged with western square rig – sometimes

called “grab barques” or “grab ships”. The “grab” bow was like that of the Ottoman *ghurab* or galleys.

There was a grab barque with an interesting Western Australian connection. Down near Donnybrook there is a winery called Byramgou Park, named for the ship of vigneron Richard Crockett-Knox’ great-great grandfather Captain Crockett. The vineyard’s label exhibits a magnificent gold cup, embellished with grape vine motifs, and inscribed:

**Presented  
to Captain Crockett  
by Major General Smith, C.B.  
and the Officers of his Staff  
Passengers on board the Byramgou  
during the Expedition to Arabia in 1821  
as a mark of their Esteem.**

The captain’s name is spelt wrongly, as is the name of the ship, which was actually *Shah Byramgore*. She was a “Country Ship” and a grab barque, named for Shah Byramgore, the 14th Sassanid king of Persia, and she was owned by the Parsi businessman Jamsetjee Jeejeebhoy, later Baronet Sir Jamsetjee Jeejeebhoy. The expedition to sack Bilad Bani Bu Ali, in what is now Oman, was transported by sixteen ships, of which *Shah Byramgore* was the largest, and eleven bagallas (large “dhows”). The British forces were in alliance with the Sultan or Imaum of Muscat and Zanzibar, and they fought an extraordinary battle,







but their evident satisfaction with sailing on the *Shah Byramgore* is more relevant to the *Hougoumont* story.

The Napoleonic wars severely strained Britain's ability to build all the ships required by the Royal Navy and the merchant navy. This led to a relaxing of the prohibition on Indian-built ships sailing to Britain and to the Royal Navy ordering ships from the Bombay yard. (One of them, HMS *Trincomalee* is still afloat and others remained sound

for more than a century, notably HMS *Cornwallis* and HMS *Worcester*.) The large East Indiamen that traded between Britain and India were magnificent ships almost as heavily armed as Royal Navy frigates and the two-deck ships which they closely resembled. The Bombay yard started building such ships. But the East India Company also continued to build East Indiamen at its yard at Blackwall on the Thames, London.

To be continued.....



*The Hougoumont would have looked similar to this Blackwall frigate Prince of Wales*

**Maritime Heritage Association Inc.**

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