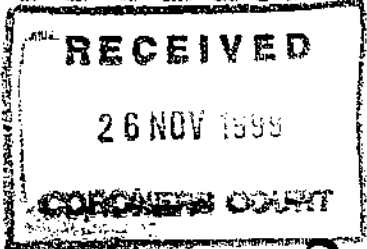


Probably the most respected yacht magazine as my previous state I feel the CPO leaves a lot to be desired. Carl Rives

# Yachting World

WORLD CLASS YACHTING



June 1999  
RIVES  
9816 1741

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## Unfit for the ocean?

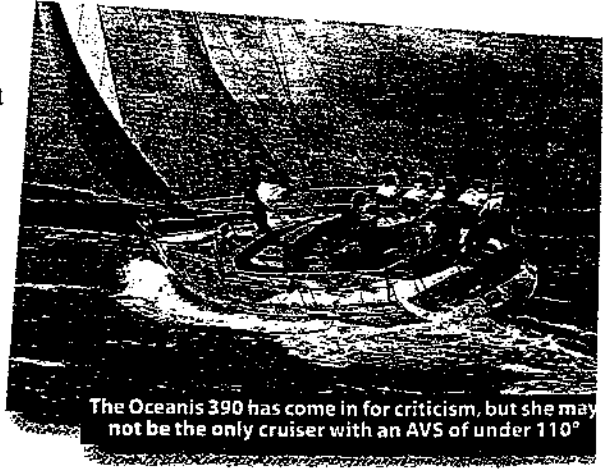
'It is not a suitable craft for crossing oceans in bad weather'. This is a comment made by the Marine Accident Investigation Branch (MAIB) in their report into the capsizing of the Oceanis 390 *Ocean Madam* with the loss of one life during a Biscay crossing in October 1997 (see our report on page 16).

Such is our belief in modern design, materials and technology, so accustomed are we to accounts of epic ocean passages by small yachts in adverse weather, that we have become conditioned to think that any recent yacht larger than 30ft or so is capable of making ocean passages. So it is sobering to consider that here is a modern design of nearly 40ft that is considered unsuitable for ocean crossings.

To be fair, that same report says of the Oceanis: 'it is highly suitable for most activities including charter work and has a good safety record'. That's a bit more reassuring, but wait a minute – surely strong winds and large breaking seas are not only the preserve of oceans? I have been knocked down to well beyond 90° when just three miles off the Cornish coast, lives have been lost when boats have been rolled in the Needles Channel and winds of Force 9 are not uncommon in the English Channel.

But before condemning the Oceanis completely, think of this. Figures supplied by Bénéteau show an angle of vanishing stability (AVS) of just under 110°. This is a low figure, but not nearly as low as the stability figures proposed by ISO as standard, which for this boat could be 95°. And think of this. Out there are hundreds of boats, 390s and many other makes and models, with a similar AVS – boats that, once radar, headsail and in-mast reefing and reflector have been added, will fall over at much less than this. 1999 is the 20th anniversary of the Fastnet disaster and what have we learnt? Apparently, nothing at all.

1999 is the 20th anniversary of the Fastnet disaster and what have we learnt? Apparently, nothing.



The Oceanis 390 has come in for criticism, but she may not be the only cruiser with an AVS of under 110°

Don't we all mock the unfortunate yachtsman who gets it wrong when berthing, knowing only too well that it will be our turn soon? And some get it more wrong than others, sometimes spectacularly so. 'There is no yachting joke; the whole sport is a series of laughable disasters.' So says Bob Fisher in the first of a new column, Fishtales, a chronicle of memorable nautical cock-ups, which begins on page 71.

Andrew Bray



Published on the second Thursday of the month by IPC Country & Leisure Media, 100 South Tower, Stamford Street, London SE11 1AF

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# Yachting World

WORLD CLASS YACHTING

August 1999

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## Active survival

One of the most surprising conclusions reached in the official Inquiry into the 1998 Sydney-Hobart Race, in which six people lost their lives, is that neither stability, displacement nor keel type appear to be significant factors among those boats that suffered severe knockdowns (see report, page 20). If you recall, the 1979 Fastnet report clearly identified stability as a major factor.

Just as interesting is the way that some very light boats survived the storm intact (see article on trysails, page 74 and Mike Kalaugher's account). It reminds me of when I asked a well-known designer to define seaworthiness. He recounted two stories of two gales, one in a lightweight flyer, the other in a more conventional cruising boat, both from his board.

The first was seaworthy, he said, because there was a strong crew on board who looked after the boat. The second was seaworthy because the boat looked after the two crew. I think that it was this 'active survival', with highly experienced and strong crews nursing their boats through the Sydney-Hobart storm, that ensured that the casualty rate was not much higher.

As Bernard Moitessier discovered when he encountered his ultimate storm in the South Pacific (*Cape Horn, the Logical Route*) sailing the bullet-proof *Joshua*, there comes a point when passive survival is no longer enough. Inspired by Vito Dumas's account of surviving storms in *Lehg II*, he cut the warps he was trailing and proceeded to steer to each wave at a time, holding the sea on his quarter to avoid pitchpoling.

The Australian Bureau of Meteorology has said that although, at the time of the Sydney Hobart last year, it forecast winds of 45-55 knots and seas of 7 metres, those yachtsmen caught out in the storm really should have known that meant gusts of up to 77 knots, 40 per cent more than the mean, and infrequent individual waves approaching twice that size.

I wonder if there is anything the Met Office should be telling us?

Andrew Bray

As Bernard Moitessier discovered in *Joshua*, there comes a point where passive survival is no longer enough



An exceptional storm forms off SE Australia on 27 Dec 1998

## letters

### Koree

I write on behalf of Gordon Doig and in reference to two letters in the October issue about two vessels named *Koree*.

When Mr Doig had enquiries made for him at the Commonwealth Archives at Villawood, he was given the information that *Koree* had been registered at Sydney under the (Imperial) Merchant Shipping Act 1894, as No. 1 in 1903. An Official Number 112589 was quoted. He was not told of her dimensions or whether her Registry had been closed. This is obviously the ferry referred to by both Robert Young and Geoff Johnson.

Under the 1894 Act, the Commonwealth was not qualified to own a British Registered Vessel. However, an Order in Council of 1923 qualified the Commonwealth as able to so register. One example was the Commonwealth Health launch *Jenner* on Sydney Harbour. Since the enquiry at Archives did not produce the existence of another *Koree*, the strong probability is that the *Koree* built in 1939/40 was not registered by the Commonwealth under the Order in Council. This latter vessel's description fits the target towing vessel that Gordon served in.

Mr Doig wishes to express his appreciation to all those who have taken an interest in his quest.

Don Bayswater,  
Long Jetty.

### True Challenge

The Hobart race review is like Claytons.

Heaps of excellent recommendations to improve emergency procedures, but no outstanding advice for avoiding the need. Except that rules may need to be changed to require stronger decks. Don't hold your breath, the buck's been passed to an international committee for consideration. Fragile decks, held up by camber and down by a single wire, have been breaking because of hull flexing for decades. Who didn't know?

It's tempting to jump to conclusions after a sensational story or cursory glance at incomplete information. Thousands of miles of uneventful racing doesn't prove seaworthiness, and blaming rogue waves for damage is a cop-out. Seaworthy boats don't need to resemble submarines. A well-designed light displacement yacht can come out of a violent capsize in good enough condition to continue racing. As for informed choices; crews seldom ask to see survey certificates.

Many yachts don't have enough interior grab rails, most locker doors have friction latches, bin lids and cabin soles are usually held down by gravity, sometimes heavy gear is left loose and occasionally tanks aren't properly secured. No bridgedeck is common, washboards rarely have spring catches, and masts are dangerously light with feet not even pinned. Structural bulkheads are often not tied, GRP could be aerated or riddled with concealed osmosis, carvel-builts have a low strength to weight ratio that worsens with age and restoration to perfection is impossible.

It'd be a true challenge for a solo globe sailor to discover such defects halfway to Cape Horn.

Neville Cottee,  
Avalon.

### What price a clean bottom?

I have observed over the last couple of years that the price of some "International" brand anti-fouling paint (CSC and Longlife) sells in New Zealand for \$NZ100 to \$NZ105 for 4 litres. This is about half the price charged for the same product at Australian discount marine suppliers.

The manufacturers tell me that although the products in question are made in Australia and shipped to New Zealand they have no control over the retail price either there or locally.

Perhaps some of your readers could shed some light on why this could be so?

Doug Watkins,  
Balgowlah Heights.

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# Seaworthy Craft

## — the Forgotten Factor

Yacht designer **David Payne** argues its time to reconsider structural safety margins and reverse the trend of speed-oriented designs for offshore racing craft.

Those who agree with Chris Bowling's point of view on light displacement boats, should go out and buy the book "Seaworthiness, the Forgotten Factor" by CA Marchaj, (Adlard Coles 1986 and since revised). Read it thoroughly. It takes a while and the maths might look daunting, but it gives good reasons why modern yachts have a combination of characteristics which make them potentially very dangerous and why older yachts were generally much better craft in severe conditions.

Nothing has really changed since it was written, we may not have the awkward designs typical of the IOR era, but we have continued to refine the racing yacht as a beamy, light displacement boat with high aspect ratio appendages, intent on speed and designed with no proper regard for safety margins or factors in the hull shape and structure. Safety seems to be about equipment and experience only.

By reading the book you will find that it is not an assumption that heavy displacement boats are potentially safer. They are compared to light displacement boats and it is clearly shown why heavy displacement boats perform better. It will also become apparent that *Bin Rouge's* sideways skidding is not as safe as it looks. It is a matter of luck that it did not end up tripping on its beam ends and being knocked down to 90 degrees, as were 39% of the Hobart fleet.

One noteworthy comment from the book sums up the luck factor ... an unpredictable sequence of events can

overwhelm a seaworthy boat, but the predictable consequences of an unseaworthy boat should not be considered in the same category.

I was at the UNSW seminar too, and Naval Architect Warwick Hood, amongst others, made a case as to why current light displacement boats have problems in storm conditions. Stability is one of the issues and I would note that Andrew Dovell from Murray, Burns, Dovell stated at the seminar that the Hobart race should perhaps be Cat 0 with its higher Limit of Positive Stability and Stability Index of 120 degrees. This would present problems for smaller boats such as *Bin Rouge*, which in Dovell's published paper has an LPS of 116 degrees. Note too that the stability index takes into account beam and displacement, not just static stability.

I have also read the CYCA report on the race. Yes, almost all the damage to yachts was to decks, windows and cabins due to rollovers and knockdowns, but that is because the seas were taken beam on. The previous high attrition races in 1984 and 1993 had severe head seas and this caused considerable hull damage as boats pounded and leapt of waves. The very different conditions invalidates the comparison and does not prove that the hull problems of previous events have been addressed. No significant rudder damage occurred, but in the next major race after the 1998 Hobart event, to Mooloolaba, five new yachts retired with rudder and steering problems. I think this shows that all the structural issues of the past 10 years or so still need consideration, not just decks.

I believe the CYCA report is wrong in its finding that size etc was not a determining factor in whether a yacht fared better or worse. Their section 6.2 Stability dealt with this and

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it is flawed. I found a trend that showed, of the boats considered in that section, the lighter displacement boats with low stability factors were rolled through 360 degrees whereas the heavier boats with higher stability factors were knocked down and recovered. There were other details in that section which I found misleading and inconsistent too.

It is correct that rotational inertia, or the roll moment of inertia, is a very important factor in relation to dynamic stability, or stability in waves. But I am uncomfortable with the idea that it can be solved with a 10kg weight hoisted up the mast in times of trouble. That sounds like a good way to loose the mast if it has not been designed to allow for it, (just like you would with a radar). The real answer is a more robust spar and rigging with greater mass, and a deeper hull with its interior weights lower down and more substantial structure, also generally lower down than in a light displacement hull. Then we start seeing a boat with a better roll moment of inertia and a much more sea-kindly motion. It's a balance and compatibility of all characteristics that produces a good seaworthy boat.

In such a boat you don't have to be a sitting duck at all, you can keep sailing and remain manoeuvrable, well reefed down, with minimal attention to the helm.

The seaworthy boat looks after you, not the other way around.

My late uncle, Naval Architect Alan Payne, was always proud of how one of his *Koonya* designs sailed off a lee shore in New Zealand over a period of three days, caught in an intense low. With just storm sails set and no one at the helm for extended periods, she sailed out to safety until the storm eased. It was lucky that *Bin Rouge* and others had searoom and could turn for shelter rather than have to continue on, as would have been the case if there had been a lee shore.

Once you have read Marchaj, go and look up the history of the Grand Banks fishing schooners in the 1880s to early 1900s. You will see that they started out with beamy, shallow-hulled boats going too far offshore and getting overwhelmed. They changed to deeper, narrower hulls and gradually evolved a safer design of vessel. Curiously, it was due in part to yacht designers of the time who also designed fishing schooners, such as Edward Burgess and Bowdoin Crowninshield, that caused this change in shape to happen.

What about today's generation of yacht designers? I am one of them, and I have been lucky enough to have experienced designing and sailing in large heavy displacement yachts and lightweight racing craft, over a period of years.

I think we have gone too far with speed orientated designs for offshore racing craft and it is time to reverse the trend. We need to go offshore in seaworthy craft for racing and not go offshore in racing yachts with extra equipment for survival and recovery as their main concessions to safety. I saw Chris Bowling put on his safety harness and pull out his small storm sail at the seminar. Yes they were better than the regulations, but it misses the point. These are held in reserve with other equipment, often not used or really needed in a race, but there as a safety margin when required.

Your boat, the hull, appendages and rig, needs a significant safety margin built into the design and structure so it has reserve features which give the yacht much greater potential to manage with storm conditions.

Current yachts have no significant reserve features at all. ↓



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# Ships of Shame

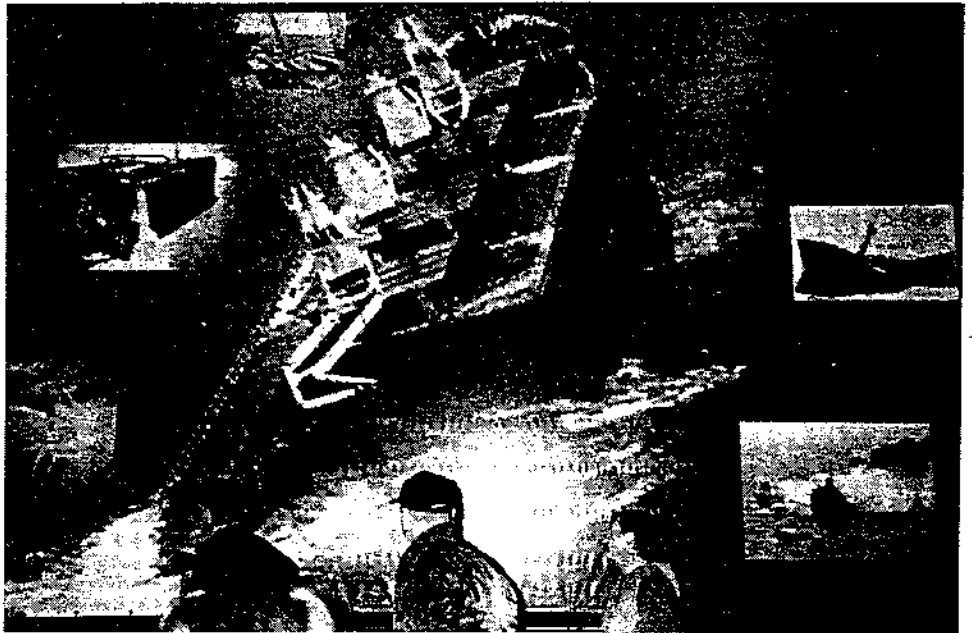
*How shonky ship owners are ripping everyone off*

by Graeme Andrews\*

**E**conomic and physical slavery is endemic world wide. Whether it's a 10-years-old Bangladeshi making high-priced sports shoes or a seaman from a Third World country being paid less than \$100 a month to work every day of the year and allowed no way to complain or even to go ashore in port ... economic slavery exists, now!

In the middle of July Sydneysiders near Darling Harbour could see a fine looking old-style cargo ship berthed at Number Seven, a wharf long-used for ships of that style. It has been many years since a trim and taut ship of this type had used this wharf and it may well be the last time. The ship was *Global Mariner*, built in Great Britain some 20 years ago as the Bank Line's *Ruddbank* and more recently a worn out ship awaiting purchase by yet another Flag of Convenience shipping company.

Flag of Convenience (FOC) is the paying of a small fee to a non-maritime country to allow the registration of a ship in order for the real owners to avoid their own national and international responsibilities. Thus countries such as Liberia and Panama, who actually have a very small merchant marine each are, officially, among the largest shipowners in the world.



*SOS display. Having FOC ships serving our coast would be akin to allowing Aeroflot to serve our air routes.*

The owner of the ship, for his small fee, gets the right to run ships that should be scrapped, the right to operate floating sweatshops, paying pathetically poor wages, the right to black list anyone who complains about dreadful food and dangerous workplaces and the right to anonymity when other countries are trying to locate the owners of FOC ships that have been abandoned — complete with unpaid, unfed crews — in ports or which have sunk or been wrecked, pouring oil onto local coastlines.

Lest readers feel that I exaggerate, you have only to recall the spectacle of the FOC tanker *Kirkii*, her bow missing, wallowing off the coast of WA while highly trained Australian seamen risked their lives to get the hulk under control. That ship had, apparently, been sold for breaking up but did one more trip, an FOC ship chartered to an Australian importer at rates that could not be matched by a modern, well-found Australian owned and manned ship.

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Attention: Pam Lazzarini

## Sydney to Hobart Yachting Tragedy.

Enclosed please find information which supplied to the Coroner which may be relevant to the Inquest into the above matter.

Yours faithfully,

A handwritten signature in cursive script, appearing to read "D. Comarmond".

D. Comarmond  
Clerk of the Court  
sp