

macro

: CAPT JOHN SILBERBERG

Popular images of our underwater world show brightly coloured fish against coral reefs in gin-clear seas. But a discerning audience also appreciates the nuances and mysteries revealed in the details captured by macro photography. Macro is a creative genre that presents perspectives rarely seen, often because the subject is tiny and virtually invisible to the naked eye.

Water conditions aren't always perfect. Visibility isn't always infinite and wide-angle photography isn't always an option. But poorer conditions have little effect on macro photography as the smaller field of view avoids many of the problems created when suspended particles cause backscatter – bright spots of reflected light that resemble an underwater snowstorm – the bane of underwater photography.

I geared up, jumped in and found the visibility as advertised. Well, almost – it wasn't quite two metres, but was struggling to be five. Sand and other particles stirred up by the previous week's poor weather clouded the view and detracted from any wide-angle images.

Wrasse swam through the kelp near the breakwater and at Pete's sign one particularly territorial fellow swam loops, to deter my progress. I fired a few test shots, aiming for stingarees and seadragons. The backscatter from the suspended particles proved the folly of attempting to shoot larger animals, so the search began in earnest for suitable macro subjects. For purists, macro is photography where the image on the sensor (or film) is the same size or larger than reality. Strictly speaking, most of what I capture as 'macro' is actually 'close-up'. But, I'm not a purist, so macro it is!



> 'YOU'RE NOT GOING FOR A DIVE, ARE YOU?' THESE WERE HARDLY THE WORDS I WANTED TO HEAR, WHILE GETTING MY TANKS FILLED ON THE WAY TO A DIVE SITE.
'SURELY IT'S NOT THAT BAD, IS IT?'
'VIS WAS ABOUT TWO METRES, YESTERDAY.'
'OH WELL, MY CAMERA DOES GOOD MACRO...'



Main: A study in contrast, this bright yellow pycnogonids is easily overexposed.

Left: Hippocampus abdominalis, a big-bellied seahorse.



Left top to bottom: A *Ralpharia magnifica* hydroid hosts tiny amphipods; A Black-Spot *Jorunna*, *Jorunna* sp, on sand next to The Rock; A juvenile red gurnard perch, *Helicolenus percoides*, resting amongst bryozoans.

Right: A common three fin, *Norfolkia clarkei*, perches on a yellow sponge.



I continued on, thankful for the layers under my drysuit – the 15.5-degree water was warm, but continual hovering while photographing soon chilled me. I tried shots of a few sponges – the textures and patterns on their surface can be appealing, but somehow they just didn't work. My search soon had me out at The Rock where *Ralpharia magnifica* hydroids moved in the gentle surge. These delicate animals host tiny amphipods that are almost impossible to see, but they show up clearly in macro photography. The hydroids' tentacles entrap passing plankton and the amphipods either take advantage of this food source, or are parasitic and feed on their host.

Above the *R magnifica* was a colony of tubeworms, *Filograna implexa*. Their entwined white tubes resemble dead coral, but closer inspection reveals the tentacular fans of the animal living within. Like miniature palm trees, they extend into the current, filtering nutrients. With the tubes only three or four millimetres across, the individual tentacles are minute and difficult to photograph – but at least they don't swim away.



Always on the lookout for a nudibranch, I saw one in the open, moving across the seabed next to The Rock. Finding one on the sand was unusual as they are typically on rocky reef, close to their food source. With no seabed obstructions nearby, I used the opportunity to shoot a variety of angles and compositions while experimenting with depths of field and lighting balance. The result was one slightly dazzled nudibranch and one very pleased photographer. I later discovered that my images might be a new record for the southern limit of the Black-Spot *Jorunna* sp.

It was time for a closer inspection of The Rock where I found what looked like an unusual nudibranch. The slug's large cerrata made me think it was a flabellina of some type. At only a few millimetres long and able to travel quickly (for its size), this was a challenging subject. When the surge knocked it from its perch, I was worried for its welfare and allowed it to land on my glove

before placing it back on the reef (after capturing a few more images, of course). My mystery nudibranch turned out to be a sacoglossan, Pink *Hermaea*, *Hermaea* sp, a sap-sucking seaslug belonging to a different branch of the opisthobranch family and not a nudibranch at all!

One of the great things about macro photography is finding numerous subjects in a small area of reef. Around the corner from the sacoglossan was a pycnogonid. Often called sea spiders, pycnogonids generally have spindly legs extending from a small, segmented body. This one was bright yellow and contrasted sharply with the darker coloured background. The high contrast makes pycnogonids easy to over-expose, but careful checking of histograms ensured I captured some keepers.

Macro photography is more than images of small creatures; it includes close-up details of larger subjects. My next target was a juvenile red gurnard perch, *Helicolenus percoides*, perched beneath kelp on the eastern side of The Rock. Confident in her camouflage, she remained perfectly still while I moved close for candid portrait shots. The skin tags and colours that help disguise these fish stand out in the detailed images. A relative of tropical stonefish, gurnard perch also have poisonous spines and are capable of inflicting a painful sting.

The compositional elements that create intriguing images above water also apply underwater. Images built on patterns in colours and textures, with no clue to their origins, appear abstract and mysterious, engaging the viewer's imagination. The repetitive patterns that form the structure of many underwater creatures support this type of image. Swimming anemones, *Phlyctenactis tuberculosa*, are an odd-looking creature whose baked bean-like



Name: Waubs Bay.

Level: Open Water.

Location: Bicheno, Tasmania.

Nearest Dive Shop: Bicheno Dive Centre – www.bichenodive.com.au

Introduction: Waubs Bay is the best-known shore dive in Bicheno. Plentiful marine life, moderate depths and easy entry and exit make it an ideal site for divers at all experience levels. Ample car parking borders the entry point and picnic tables provide convenient gearing up platforms. Public toilets are two minutes away and the White Dog Café is right next door.

Entry: The entry is an easy walk down the natural ramp alongside the breakwater. At the end of the breakwater, there is a bracket for a dive flag and the local commercial fishers know to look for the flag. Once clear of the ramp, the bottom quickly drops away to six metres beyond the end of the breakwater then to eight metres on a sandy patch. The dive route heads northeast following the distinct sand line where the rocky reef meets the sandy bottom. The kelp and seaweed that covers the reef is home to a variety of marine life. Keep your eyes peeled for cowfish, wrasse, cuttles, seastars, molluscs and nudibranchs.

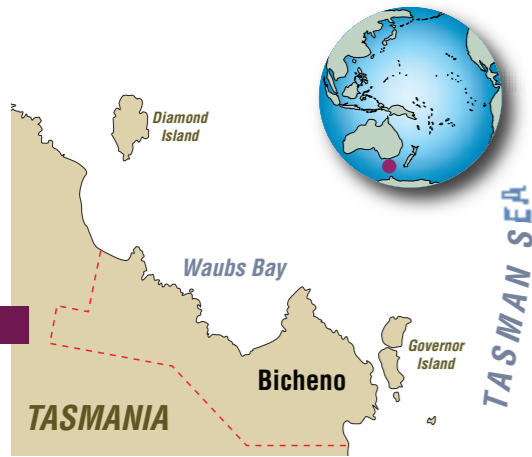
First Bommie: A few minutes swim along the sand line is the geographical feature known as The First Bommie. Sitting at nine metres on the edge of the rocky reef, The First Bommie rises a few metres off the bottom and often features sea dragons and sea horses. On the sand next to The First Bommie is a seagrass bed that is home to dumpling squid (but they only come out at night).

Second Bommie: Further along the sand line is The Second Bommie. Slightly smaller than The First Bommie, but still a couple of metres clear of the bottom, The Second Bommie provides shelter for a wealth of sessile life including sponges and feather stars.

The Rock: Just ten metres beyond The Second Bommie is the largest feature of this dive, The Rock. It rises out of the sand at 15 metres and soars to just a few metres below the surface. A narrow slit bisects The Rock and is the local haunt for Long Snouted Boar Fish, wrasse and leather jackets. An abundance of sessile growth covers the western side including jewel anemones, yellow zoanthids, feather stars and hydroids. The eastern side of The Rock provides some shelter from the prevailing swell and regularly conceals nudibranchs and seahorses.

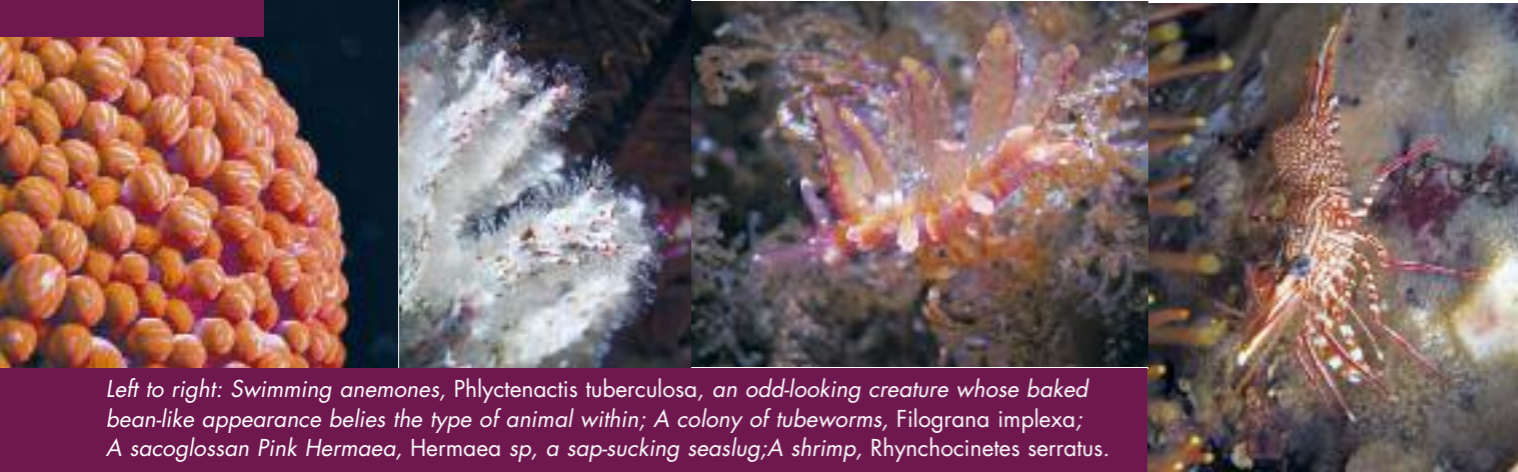
Exit: The return leg retraces the first half of the dive. Divers that stay a few metres up the reef slope during the swim back may be lucky enough to find cuttles hovering amongst the kelp.

The exit-point is alongside the breakwater, following the same natural ramp as the entry. If air supply permits, the base of the breakwater houses blennies, shrimp and anemones providing a macro feast for the photographer seeking to finish off a film or fill up a memory card.



appearance belies the type of animal within. Blue lines, like stretch marks on overripe fruit, mar the orange orbs that cover the exterior, creating a bizarre composition when captured in close-up.

In popular dive locales, divers leaving the water can expect to hear, 'How's the vis?' Clean, clear water equates to perfect diving conditions; poor visibility causes disappointment and can even be reason to cancel a planned dive. Underwater photographers are no different and prefer particle-free water between their camera and subject. But a macro photographer confidently giant-strides past the naysayers and descends through the soup in search of subjects. And the smaller, the better!



Left to right: Swimming anemones, *Phlyctenactis tuberculosa*, an odd-looking creature whose baked bean-like appearance belies the type of animal within; A colony of tubeworms, *Filograna implexa*; A sacoglossan Pink *Hermaea*, *Hermaea sp.*, a sap-sucking seaslug; A shrimp, *Rhynchocinetes serratus*.

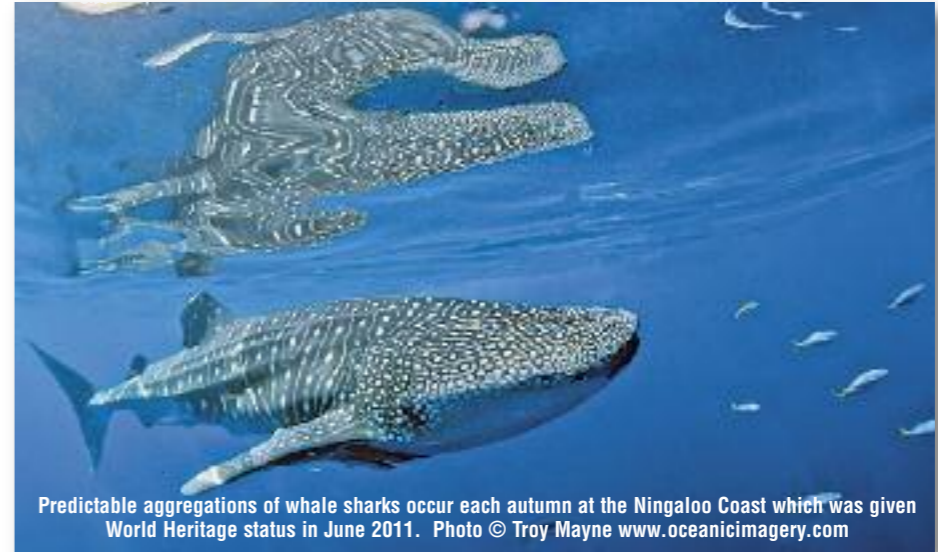
VICTORY!!



Ningaloo Coast World Heritage Listing: A victory for people power and the seas!

In June 2011, in a victory for people power and positive change, the Ningaloo Coast in Western Australia was given World Heritage status by the United Nations. After a long campaign by AMCS, our Patron Tim Winton, conservationists and the community, this iconic part of Western Australia has finally received the global recognition it deserves.

World Heritage Listing means the Ningaloo Coast is now recognised as one of the most special places on Earth. World Heritage protection also means its extraordinary ecological values must be fully protected from threats such as oil and gas drilling.



Predictable aggregations of whale sharks occur each autumn at the Ningaloo Coast which was given World Heritage status in June 2011. Photo © Troy Mayne www.oceanicimagery.com

predicted threats from increased ocean acidity, rises in sea surface temperature and more intense storm activity.

The future of this important and unique place has not always been so secure. Ningaloo Reef was the subject of a major community campaign a decade ago. Tens of thousands of concerned citizens rallied with environment groups against a massive marina development and unsustainable coastal development in this remote and stunning part of Australia, a development the WA government ultimately rejected. It was declared a marine park in 2004, in response to an overwhelming surge of public support,

What's so special about Ningaloo?

Ningaloo Reef in Western Australia is one of the longest 'fringing' coral reefs on our blue planet. Situated 1200 kilometres north of Perth on Western Australia's mid west coast, Ningaloo Reef compares to the Great Barrier Reef in its outstanding beauty and species diversity. Stretching over 240kms, Ningaloo Reef is a fringing coral reef system which skirts the Cape Range limestone peninsular, and never extends more than a few kilometres offshore.

This stunning reef system is highly biodiverse because it is in an overlap zone between the temperate and tropical waters of the Indian Ocean. A multitude of marine wildlife lives in and around the reef, including many endangered marine species.

The area is perhaps most renowned for the annual appearance of the world's largest fish, the filter-feeding whale shark. Whale sharks are highly vulnerable to extinction from

commercial fisheries (outside Australia) which target them for their flesh and fins. Predictable aggregations of this gentle giant occur each autumn, probably in response to annual proliferations of rich planktonic food sources, including coral eggs and larvae from the spectacular synchronous coral spawnings on Ningaloo Reef.

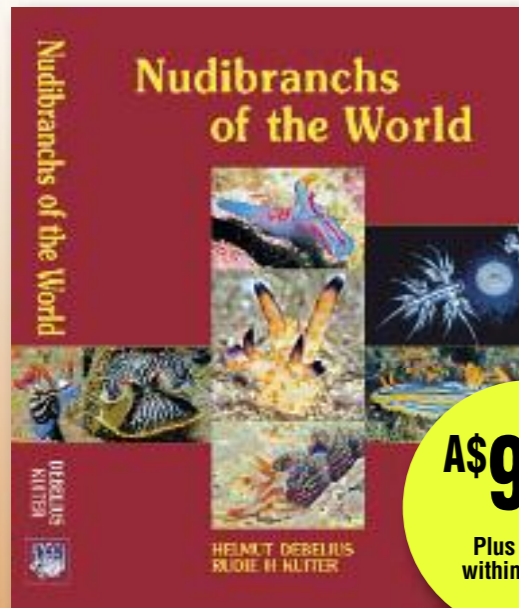
Ningaloo is also an important feeding and breeding area for giant manta rays, sea turtles, dugongs, sea birds and several different cetaceans such as humpback and southern right whales. The reef and adjacent terrestrial limestone (or karst) system create a highly biodiverse land/sea interface. Over 200 coral species, 600 different molluscs, and 500 species of fish occur in the region, many relying on the reef lagoon as an important nursery ground.

Compared to many other reefs, Ningaloo is still in good condition. Its ecological integrity will be crucial in the face of

With World Heritage listing in June this year, Sport Diving readers can rejoice in this visionary and historic decision which salutes all those who fought the long battle to save Ningaloo. This is a true victory for people power and the ability of humanity to take stewardship of our environment.

Join us and help support this important work. Visit www.marineconservation.org.au and sign up as an Ocean Activist. Together we can change the way our seas are managed and ensure our oceans are healthy into the future.

"BECAUSE DIVERS MAKE THE WORLD OF DIFFERENCE!"



**Over 2500 photos
More than 1180
species illustrated**

**Perfect for divers, snorkelers,
naturalists, scientists and
photographers**

A\$99⁰⁰ incl GST
Plus \$10 p&h within Australia

**Order now from Mountain Ocean & Travel Publications
email books@motpub.com.au / Tel 03 5944 3774**

Price includes 10% GST for Australian Residents. Add A\$10 p&h per book within Australia

Become an AMCS Sea Guardian Today
AMCS Sea Guardians help us create more marine national parks, reduce pollution, save our endangered ocean wildlife and make our fisheries sustainable. For as little as \$20 a day you can make a big difference. Our conservation work is funded through the generous support of Australians who want to give something back to our precious oceans. Join Now! Call 1800 086 299 or join online at www.amcs.org.au

I joined AMCS because they're the real deal. For 40 years they've been fighting for our seas and getting results: Ningaloo, Great Barrier Reef, new marine protected areas. If you're worried about overfishing, if you're angry about pollution and rapacious coastal development, if you're anxious about endangered species then why not add to the effort? Let's join together and get results! - Tim Winton, AMCS Patron

Yes, I want to protect Australia's oceans and become a Sea Guardian.

I would like to make a tax deductible monthly donation (until further notice) of:

\$100 \$50 \$25 \$20 Other (minimum \$20) \$ _____

I would like to pay by Bankcard MasterCard Visa

Card No _____

Name _____ Expiry _____ / _____ Signature _____

Address _____ Postcode _____

Phone (include mobile) _____ email _____

If you prefer to donate direct from your bank account please contact AMCS on 1800 086 299

Where did you hear about us? _____

Return to: AMCS, PO Box 5136, Merly, Qld 4179. OR www.amcs.org.au OR Freecall 1800 086 299

Sportdiving Magazine is a Sea Guardian Platinum Sponsor and has donated this space in support of The Australian Marine Conservation Society.