

I LOOKED UP, ABOUT, OVER AND ALONG, STRAINING TO SEE BUBBLES OR THOSE NICE BRIGHT YELLOW OR PINK FINS BUT THERE WAS JUST GREENISH WATER AND THE SOUND OF MY OWN EXHAUST BUBBLES AS THEY ROSE EVER-EXPANDING TOWARDS THE SURFACE; EVERYBODY WAS GONE! DAMN! I'D ONLY TAKEN MY EYES OFF THEM FOR A SECOND, OR WAS IT A MINUTE, OR MAYBE TWO MINUTES? WHATEVER; HERE I WAS AGAIN BEHIND THE EIGHT BALL, SOMEWHERE ON THE BOTTOM OUT BEYOND KAPALAI DIVE RESORT IN SABAH, MALYSIAN BORNEO.

A short time before with our keen group of Japanese divers and dive guide we had dragged ourselves down the buoyed dive site anchor rope to the bottom at around 12 metres. Vis was around eight metres and the low profile coral reef appeared as a rock-littered slope with clumps of live corals all around, levelling out on a sand-silty bottom that slowly sloped down to 20 metres.

It was my first experience at this dive location and not knowing the layout of the reef I was cautious at proceeding beyond the reef area as the seemingly flat bottom had few 'signposts' and I was unsure how the pick-up boat worked in choppy waters. However, now that everybody else was off exploring I could concentrate on finding critters. The broken bottom was rich in sponges and ascidians with a few gorgonians, lots of coral colonies, algae and soft corals with a big anemone here and there.

I eased up a metre or so off the bottom and balancing on my wrist knife, slowly finned along the bottom, scanning every micro habitat for things I knew and even more importantly, things I didn't know – it was a critter smorgasbord.

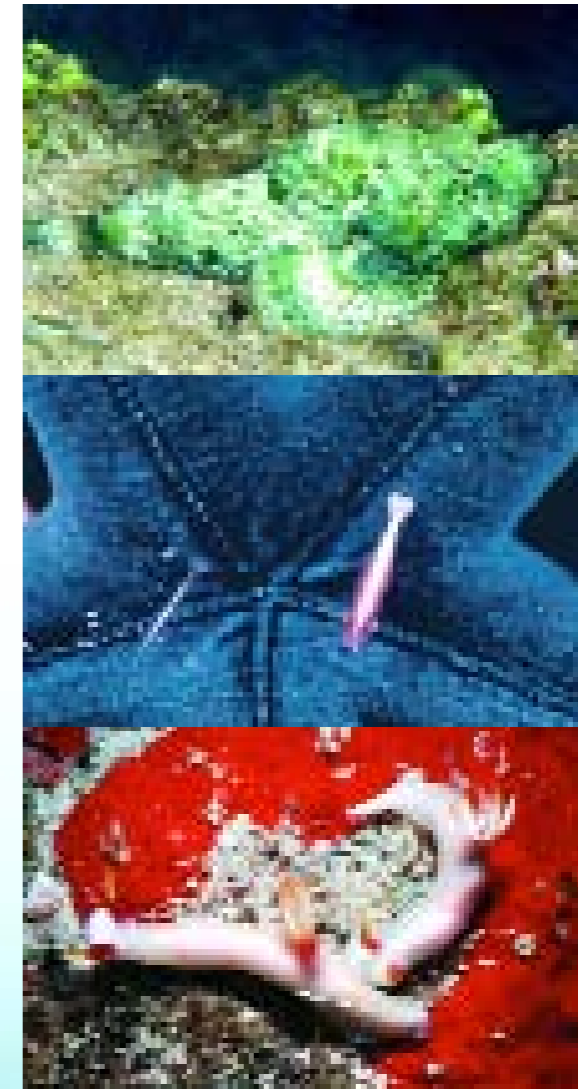
Ever since Barry Andrewartha had told me how good this area of Sabah was and sent me the picture book on Borneo I had made plans to be there as soon as possible.

Possible became a reality due to an invitation from the organisers of Malaysia's 'Celebrate the Sea' dive convention in Kuala Lumpur as I was invited to deliver presentations on nudibranchs at the 2004 program.

After the convention I made my way to Kota Kinabalu, then to Tawau, Semporna and out to the islands. Kapalai is built on a submerged sandbank. The entire resort is on stilts and from a distance the buildings appear as though they are sitting on the surface of the water. The bottom is sandy silt, a muck diver's paradise. With a zillion silt pylons surrounded by seagrass meadows, rubble, old pylons on the bottom and coral clumps, the amount of sheltered cover for critters is enormous.

CRITTERS

The seagrass meadows are home to large numbers of the noduled sea star *Protoreaster nodosus*. There are hundreds of these large firm-to-touch sea stars, their bright colours and patterns contrasting with the green fronds of the seagrass. These sea stars are detrital feeders, exuding their voluminous stomachs out from their underside mouths and absorbing organic content from whatever living forms they come in contact with. Although these sea stars live on the sand surface, they have large suctional tube feet (unlike sand-digging sea stars which have pointed tube feet with no suckers).



Opposite page - The white markings on the legs of the depressed spider crab *Xenocarcinus depressus* mimic the host gorgonian polyps when they are out feeding.

This page - With its breathing rate slowed down, there is hardly a perceptible gill movement to signify the whereabouts of the devil scorpionfish *Scorpaenopsis diabolus*.

Most specimens of the sea star shrimp *Periclimenes soror* found on the blue sea star *Linckia laevigata* are blue with a white dorsal stripe. (Male is the smaller).

Sporting a number of colour variations Bullock's *Hypselodoris hypselodoris bullocki* is seen here in its commonest colour form. This species feeds on sponges.

Background - Kapalai Resort is a remarkable structure with great diving right in front of the dive shop.



bottomed out on Kapalai...



Diana's Chromodoris *Chromodoris diana* is also known from Indonesia and the Philippines. It grows to around 30mm and eats encrusting sponges.

Typical red colour form of the sea star shrimp *Periclimenes soror* (female) when found on the pincushion sea star *Culcita novaeguineae*. Feeding on colonial ascidians, the crested Nembrotha *Nembrotha cristata* can be found in a number of habitats.

This small specimen of Forskal's Pleurobranchus *Pleurobranchus forskalii* was discovered beneath a fallen pylon.

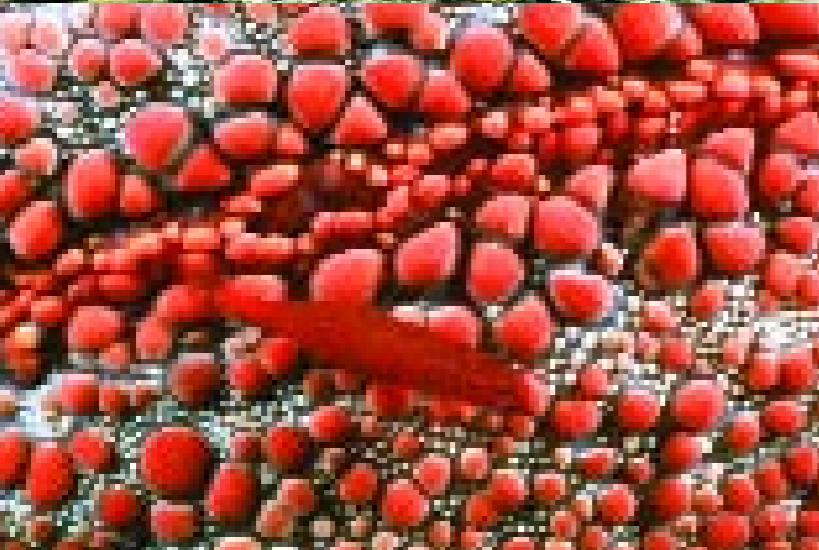
Facing page -

Hardly distinguishable from a sponge this little painted anglerfish *Antennarius pictus* shows remarkable deceptive resemblance abilities.

Very common in the seagrass meadows around Kapalai Resort the nodose sea star *Protoreaster nodosus* is a detrital feeder and is known to have several commensals.

Living out their entire lives on their host (food source) gorgonian sea fan, these Semper's egg cowries *Prosimnia semperi* have mimicked their host's colouration in their mantles.

Rarely seen in other regions in the Indo-Pacific, this beautiful colonial ascidian *Diazona* sp. is particularly common around Sabah.



Many of the noduled sea stars at Kapalai have pairs of commensal shrimps on their undersides. Some of these sea star shrimps *Periclimenes soror* may be red, orange or have a single stripe down the centre of the dorsal surface. However, regardless of the variations in colour they are all the same species.

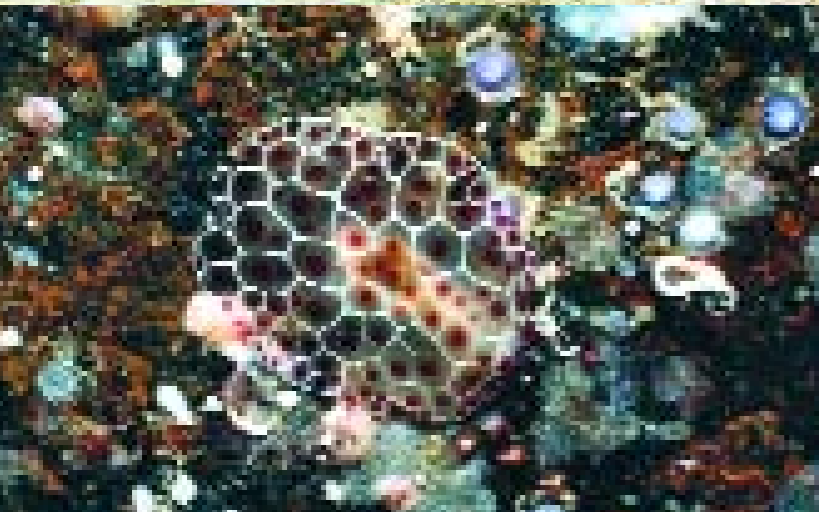
Further investigation on the underside of the sea stars may reveal an extraordinary 'frilly' worm which inhabits their ambulacral grooves (where the tube feet appear from). In general, only the larger females of these sea star worms *Asterophilia* sp. are seen, as the males are only a third of the female's size.

Gorgonian sea fans *Melithaea* sp. grow on many of the stilt pylons and on these and surrounding reefs there are some really interesting commensal critters. Normally, where a gorgonian sea fan might be growing on a sunlit reef its commensal critters would be hidden away in nooks and crannies or in between the joints of multiple branches. However, as those beneath Kapalai stilt village are in constant shade, their commensal critters are often much easier to recognise.



Careful observation may turn up the small depressed spider crab *Xenocarcinus depressus*. This little spider crab may be red or orange with a white, yellow or orange stripe down the centre of the back. Females are always larger than the males and, generally, there are a pair or more on the larger fans.

Even more difficult to find are Semper's egg cowries *Prosimnia semperi*. These obligate commensal molluscs only grow to 15mm (females) with males up to 10mm. The shell of the mollusc is coloured by the animal's feeding habits. As it grazes on the gorgonian, it incorporates the pigments into its shell. The mantle of the cowry-like mollusc is covered in papillae and what is really amazing is that the papillae on the mantle mimic the polyps of the sea fan, even having the same number of tentacles (eight) yet



On one rubble slope, a small orange sponge moved!



the animal cannot see! Quite often small capsules can be seen attached to the sea fan branches. These are Semper's egg cowry egg capsules. The molluscs spend their entire life cycles on their host sea fan.



NUDIBRANCHS

It's always amazing to me that muck diving sites have such a range of brilliant nudibranchs. At first glance the rather bland landscape gives no indication that it hides rich sources of food for many species. Yet many of the smaller, often unnoticeable species of sponges, ascidians, bryozoans and hydroids thrive on and around soft bottom dead reef and rubble habitats.

Nudibranchs rarely feed on the larger more colourful and prominent sponges. Most prefer encrusting sponges that live under ledges or beneath rocks, or tucked away in some crevice. Sometimes it seems that there are far more nudibranchs at muck diving sites than in conventional coral reefs and rocky reefs; this is due only to them being easier to see because they stand out more in the open on a contrasting background.

Wherever one looked there were photographic subjects – even the fallen pylons had nudibranchs and worms and pleurobranchs beneath them. Around the cavities and joins in the stilt support systems were beautiful specimens of dwarf lionfishes *Dendrochirus brachypterus* and white-lined lionfish *Pterios radiata*, while devil scorpionfish *Scorpaenopsis diabolis* lay motionless on the bottom. Demon ghouls *Inimicus didactylus* were also present slowly creeping along in the silt on their modified pelvic fins.

On one rubble slope, a small orange sponge stood out. I went over to check it out for nudibranchs and to my amazement it moved. My sponge turned out to be the painted anglerfish *Antennarius pictus*, one of the best mimicry examples I had ever seen!

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Kapalai



The lined Nembrotha
Nembrotha lineolata was
found on a pylon. It eats
Clavelina sp. and Oxycorynia
sp. ascidians.

Right - Kapalai Resort has
wonderful diver facilities and
a treasure trove of critters.

While most divers
venture out further afield
to boat dive the various
dive sites, few give
thought to the amazing
volume of sea creatures
which inhabit the bottom
beneath the stilt village.
However, for those keen
on critters there is no
doubt in my mind that many discoveries await amongst the
hundreds of stilts and the areas they shade.

Just to examine the ground beneath Kapalai Resort would
take many, many dives. To visually survey the bottom and
record the many critters hidden here would keep me
occupied for up to 20 dives and that would not be any
guarantee that all species living here could be found,
because species come and go with the seasons, tides and
weather. However, I was very happy with the results of my
three dives there and will endeavour to visit again next time
around.

Now that I'm better aware of this region and the pros and
cons of getting there, travelling to Sabah is not any where as
difficult as I'd once imagined. With more direct flights from
Australia to this region coming on line, the temptation to
visit Kapalai again will be even more irresistible!

