

## GIORIOUS MUCK



t is talked up as a photographer's delight and one of the best spots in the world for so-called muckdiving. Yet with miles and miles of pristine coral reef and beautiful blue a short boat ride away, why would anyone bother?

Muck-diving gets its name from apparently uninteresting sites that can be either silty, sandy, muddy, or just rather barren-looking, but that are actually home to a large number of small, weird, and wonderful creatures. Tufi's wharf dive site is more of a junk dive than a straight muck dive. The sloping sandy wall of the fjord is littered with debris from the harbour's previous life as a torpedo patrol boat base during

WWII, and the dumping of old bits of machinery, the odd fuel drum, and some girders that were no doubt formerly part of the jetty.

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In fact, on occasion, you don't even need to step off the wharf to start observing the life there. Whilst assembling my kit by the steps I first saw a spotfin lionfish hiding in a tyre, and then a red anemone with its resident spinecheek family barely a metre under the surface. Once in the water, an arm's length away a rather unhydrodynamic, bright-yellow seahorse teetered and swayed towards the dubious cover of some sticks

Moving a couple of metres down, the eagle eyes of our dive guide, Alex, spotted a crab-eyed goby and a triplefin. The former has two oversized dorsal fins, each with an eyelike blob on them, and when threatened it hops sideways on its pectoral fins to try and con the potential predator into thinking that it is in fact a hard-shelled crustacean with

pincers and not a tiny snack. The latter, apart from its eyes and eye sockets, is transparent with dabs of brown camo', and when it feels under threat it darts away in a puff of sand.

Moving slowly along, and I mean sloooowly, I was already in macrophotography heaven, we came across a fangblenny (Plagiotremus rhinorhynchos) with neon blue stripes poking its head out of some kind of old pot. At a first glance its moniker seems inappropriate; grinning blenny would be more apt.

One of the reasons it might look so happy is that it is a supreme con artist, a master of subterfuge. This cunning little fish actually mimics the cleaner wrasse Labroides dimidiatus. In this disguise they get close to other fish that expect to have parasite and dead cells removed and then they dart in and use a decidedly pointy pair of previously concealed fangs to remove skin, tissue, and scales. And not only do they mimic the cleaner wrasse and attack unsuspecting customers at cleaning stations, elsewhere they adopt a different colour scheme to conceal themselves among chromis and anthias from whence they strike at passing fish.

The wharf is also a haven for more sluggish creatures with nudibranchs a-plenty. Within a dozen-metre stretch I saw a Kune's chromodoris, an ocellated phyllidia, a large funereal jorunna (named the Oreo cookie nudi by my dive buddy) and a mating couple of Tryon's risbecia.

These brightly-coloured and therefore pretty visible, slow-moving slug-like

creatures, of which more than 3000 have been scientifically described, would appear easy pickings for predators, especially with their gills exposed on their backs (the word "nudibranch"

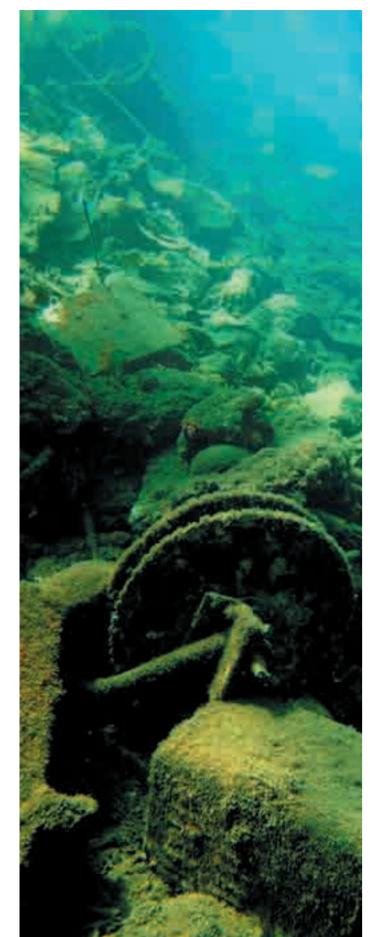
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comes from the Latin nudus, naked, and the Greek brankhia, gills), yet they are abundant on many coral reefs. This is because they contain various toxins or poisons that they pick up from their diet of sponges, coral polyps, anemones, and bryozoans, among other things. Their

Clockwise from far left:Sponges; Tiny squat shrimp on tube anemone; Fang blenny



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Clockwise from left: leftovers from the war provide plenty of hiding places and homes for critters; Seahorse; Christmas tree worms.

bright colours are an example of aposematic colouration, as used by toxic beetles and millipedes, which warn potential predators of their unpalatable nature.

There are also the remains of two PT boats that caught fire and sunk in spectacular fashion during a refuelling incident in

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1943, a bow-mounted machine-gun, and some torpedoes down at 45 metres, and a Landrover and some crates of beer at 35 metres. I assumed that there is a link between the Landy and the lager being underwater near each other, but no-one would expand on the story.

There was more than enough along the fjord slope and wall to keep us occupied at "third dive" depths every afternoon with frogfish, razor fish, ringed pipefish, a common seahorse, loads of nudis, crab eye gobies, anemonefish, mantis shrimp, cleaner



shrimp, lionfish, and harlequin and robust ghostpipefish.

The multi-coloured and spiky-looking Harlequin ghost pipefish spends a lot

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of time floating virtually motionless upside down, its mouth pointed downwards, looking for tiny crustaceans and plankton to suck up its long snout. Because they are relatively weak







Clockwise from left: Tryon's risbecia about to mate; apaloosa shrimp and dinner; debris from the public wharf keeps Imi busy while I point my camera at tiny critters; Razorfish.

also their shape in order to camouflage themselves even better.

After a couple of afternoons not going much more than 25 yards along the slope, we decided to ignore the stuff around the entry point and explore further. Fifty metres past the remains of the torpedo boat wharf, the topography and life changed, revealing walls, caves, and tonnes of sponges on the corner of the harbour. The slope of the undersea wall and the gentle current and protection created by the relatively sheltered location make it a prolific spot for large filter-feeding sponges, as well as soft branching corals, gorgonian sea fans, and crinoids (a.k.a. feather stars).

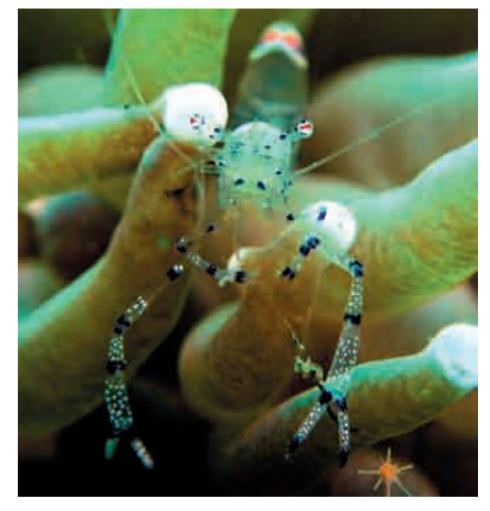
Jutting out into the channel from the reef's edge, gorgonian or sea fans, which are part of the soft coral family, catch tiny particles of plankton borne by the current that they trap with the

tentacles of their polyps, while crinoids filter small particles of food from the sea water with their feather-like arms.

Different species of anemone and their guests are easy to find, from small tube anemones with squat or sexy shrimp

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families seemingly dancing around on them, to large magnificent anemones with true clownfish, orange, pink, and spine-cheeked anemonefish darting around in the tentacles. I even saw what I think was an appaloosa shrimp with its transparent body and red, white, and blue eyes dangling a bit of spiky plankton from its claw, saying "look what I've got, yummeee!"



swimmers, rapidly fanning their little fins for propulsion, they tend to stay within very small territories preferring sea fans, sea grass, or rocky drop offs.

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their bodies, their range is extremely limited. When breeding time comes around, a murky, muddy bottom or a coral reef is the habitat of choice. Here they change not only their colour, but





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Above: nudibranch. Right: funeral jorunna nudibranch. Far right: ornate ghostpipefish.

Anemones live in symbiosis with the fish that they host through a mutually beneficial relationship. Anemones of all types have stinging cells or nematocysts on their tentacles that act as a deterrent to potentially predatory fish and are used to catch their own prey. Anemonefish, clownfish, and certain damselfish are the only species of fishes that can avoid the potent poison used by sea anemones.

There are various theories about how this is accomplished, none of which have been proven beyond doubt. One theory is that mucus coating the fish may be based on sugars rather than proteins, meaning that anemones fail to recognize the fish as a potential food source and do not fire their nematocysts. Another theory is that certain species of clownfish coevolve with specific anemone host species and may have acquired immunity to the nematocysts and toxins of their host.

Experimentation has shown that the

true clownfish, Amphiprion percula, may develop resistance to the toxin from the magnificent anemone, Heteractis magnifica, but it is not totally protected, since it was shown experimentally to die when its skin, devoid of mucus, was exposed to the nematocysts of its host. The guests feed on small invertebrates that could otherwise harm the sea anemone, while the faecal matter from the clownfish provides nutrients to the sea anemone, and their bright patterns also attract potential food sources to within the anemone's grasp.

If you fancy a fourth dive in a day, dusk dives are available, and Alex and Archie the eagle-eyed guides are experts at finding nocturnal action right by the wharf, including brightly-patterned but solely nocturnal mandarinfish. The reason such stunningly beautiful creature exists to only appear at night is because it is one of the few marine fish that does not have scales. To compensate





for this the mandarinfish is protected by a slimy and smelly mucous-coated skin, which not only protects them from most parasitic skin diseases, but also discourages predators due to its horrible

Much like nudibranches, their bright vivid coloration also serves as

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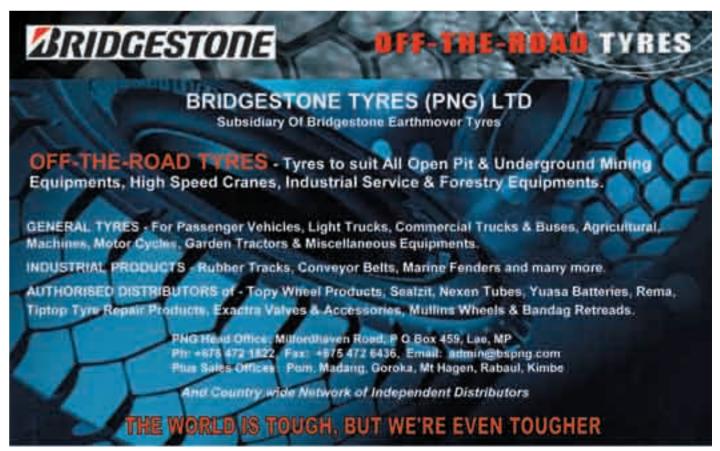
a warning to predators that they are not very palatable. They prey mainly on small worms, protozoans and small crustaceans using one of its most remarkable features: their big outwardset eyes perfectly adapted for food hunting and feeding in the low light.

Starting in the twilight makes kitting up and entry easy, and your eyes have

time to get accustomed to the conditions as the sunlight fades. It also means that you get to see the changeover underwater, as anemones and parrotfish cover themselves in a protective mucous bubble to settle in for the night, and other creatures come out to hunt and play.

Having dived the site during the day beforehand is also reassuring for novice night divers, and takes away part of the fear of the unknown, while still having plenty of mystery to make it an exhilarating experience. Whether it is dived by day or by night, Tufi's wharves have some excellent diving and I can't wait to go back one day and ferret around again.

Christopher Bartlett



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