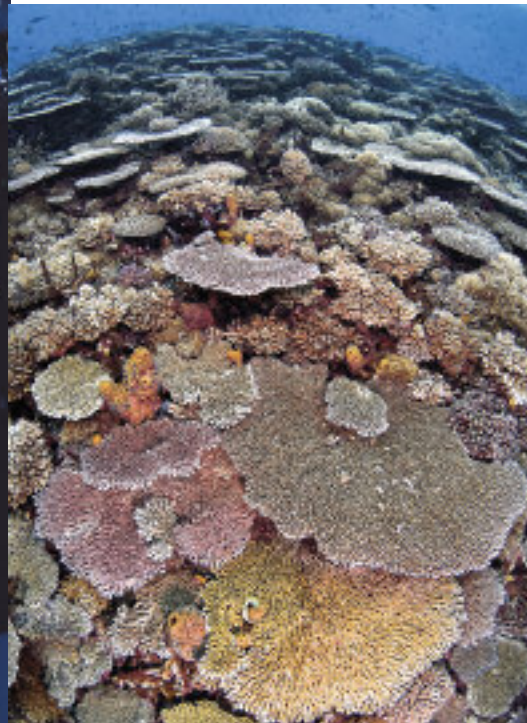


WHALE TO

BURT JONES AND MAURINE SHIMLOCK ©2012

SHARKS BUTTERFLIES

BURT AND I SAILED EAST FROM RAJA AMPAT ALONG WEST PAPUA'S WILD NORTH COAST TO CENDERAWASIH BAY NATIONAL PARK, INDONESIA'S LARGEST MARINE PROTECTED AREA. ACCOMPANIED BY CONSERVATION INTERNATIONAL'S DR GERRY ALLEN AND DR MARK ERDMANN (WHOSE COLLECTIVE PASSION IS DISCOVERING NEW FISH SPECIES) WE PLANNED TO DIVE AREAS WE HOPED WOULD HAVE HIGH POTENTIAL TO BRING SUSTAINABLE MARINE TOURISM TO THIS REMOTE AND STUNNINGLY BEAUTIFUL PLACE.

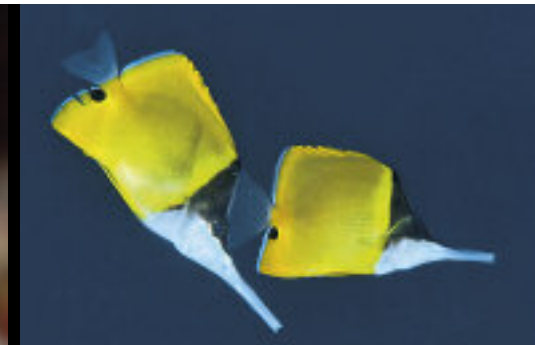


Mark and Gerry had been to Cenderawasih before, but it was our first trip and the first time the bay would be explored with the aim of attracting traveling divers to the park. We knew in advance the trip would have an impressive beginning and a memorable finish: Cenderawasih lies between two of the archipelago's most spectacular dive sites, Manokwari's World War II wrecks and reliable gatherings of whale sharks in Kwatisore Bay's bait fishing grounds, about 150 miles south of Manokwari.

What we didn't know was that we were entering the marine equivalent of Alice's Wonderland, a uniquely isolated place where evolution has taken strange twists and turns and produced an impressive gathering of new marine species. After our first glimpse of Cenderawasih's natural wonders, dense tropical forests sheathing mist-topped limestone cliffs and tiny sand-

ringed atolls capping dramatic coral walls, we thought, "Finally a place where time stands still." While it's true there's no large-scale development within the park and its 20,000 or so inhabitants haven't left much of a mark on the land or seascape, we were wrong in our assessment of time's role in Cenderawasih Bay. When considered on an epoch scale, time is the designer of Cenderawasih's reefs and has imprinted a history of great water movements and geologic upheavals.

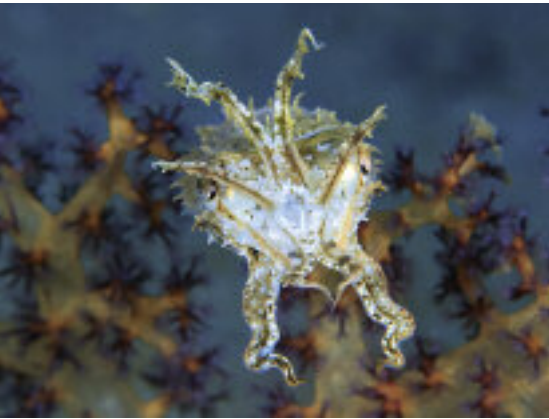
One evening, after a full day of exploring the complex reefs and atolls east of Roon Island, we returned to our ship and headed to the top deck, cold cans of Bintang in hand, to hear Gerry's hypothesis about how Cenderawasih Bay became an endemic species treasure trove. Between 10 and 14 million years ago, and again three to five million years ago, slivers of land moved by unstable



C E N D E R A W A S I H B A Y

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Whale shark feeding at the surface; Hard coral garden at Weka's Kejutan; Tiger shrimp at Crissy's Delight, Wandamin Peninsula; Ornate ghost pipefish, Wandamin Peninsula; A dotyback at P. Nutabari; Cenderawasih long-nosed butterflyfish



Cuttlefish, *Crissy's Delight*, Wandamin Peninsula
Painted frogfish at Napenwaur (Napan);
Ceratosoma nudibranch
Estuarian seahorse
Diver over Cross Wreck at Manokwari;
Snorkeling with whale sharks in Kwatisore Bay



tectonic plates blocked the mouth of Cenderawasih Bay. Gerry believes these events reduced the influence of oceanic currents inside the bay, further limiting the movement of marine larvae through Cenderawasih. The barriers finally moved on, some merging to form Halmahera Island, others with the northern edge of the Bird's Head Peninsula. The bay's massive size and the shallow sill running between the mainland south of Manokwari east to Yapen Island still limits oceanographic circulation and prevents current-carried larvae from reaching many interior reefs. Disconnected from outside influences, Cenderawasih's marine life developed in unique seclusion.

Early next morning we descended on a spit of reef jutting out from Tridacna Atoll, where hundreds of endemic *Pterocaesio monikae*, a small slender deep blue fusilier with a lateral yellow line, massed just off one of the atoll's sheer coral walls. We followed them for a while, but were soon distracted by several fish we couldn't quite place: yellow damselfish that were a duskier colour, and long-nose butterflyfish with slightly shorter snouts. Remembering Gerry's geology lesson, we surmised that these fish were probably isolated variants of the fairly common tropical species, and Gerry confirmed he hadn't seen these species adaptations anywhere else.

Due to its turbulent geological past, Cenderawasih has staged repeated

vanishing acts for corals and fish. Falling sea levels (during the Pleistocene, the bay sea levels would have been 120 metres lower than today) literally left shallow reefs high and dry; only the previously deeper, vertical walls of coral survived. The reef fishes that specialize on shallow reef flats perished and disappeared. Fish rarely leave a niche unfilled, so deep-water species gradually moved up the walls. As sea levels rose again and re-flooded the long-dry reef flats, these deep-water fishes followed the rising sea levels to the upper reaches of the dropoffs, where they encountered little competition from shallow species due to the recruitment limitations of the bay's unique oceanography.

This evolutionary pattern can still be seen today, especially north of Tridacna Atoll and east of Rorebo Island where the reefs are riddled with small caves and cutbacks, perfect niches for secretive fish. While on survey, Burt and I usually move quickly aided by powerful underwater scooters. We abandoned them on these patch reefs for the chance to photograph Burgess's butterflyfish – normally a deep-dwelling, decompression-inducing species – in less than 10 metres of water! All along the reefs crests, we moved slowly so we could photograph other, normally deep water fishes residing in much shallower water, including both the male and female ornate angelfish *Genicanthus bellus* and Randall's anthia.



It took us just a day or so of diving around the bay's many atolls marveling at the displaced fish, to also appreciate the layer upon layer of hard corals of every size, hue and configuration which formed these reefs. Unsurpassed in our experience, Cenderawasih's hard coral-dominated reefs confirmed Gerry Allen's hypothesis: something special happened in Cenderawasih Bay. Over 500 species of hard coral have been recorded (so far) from Cenderawasih, and at least 30% of them have not yet been described. We know that when a dive guide says the words "pristine hard coral garden" most divers yawn, but nowhere else have we seen coral gardens equal to these. It was impossible not to be enthralled by the bay's coral domes, especially when hovering weightlessly over reefs that could easily be the greatest expanse of

healthy coral we'll see during a lifetime of diving.

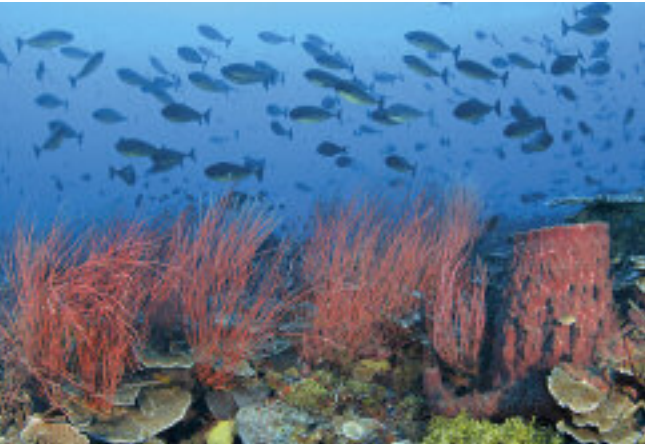
As we crisscrossed north and east of the Wandammen Peninsula checking out as many sites as possible, we realized we needed to find some good critter sites if Cenderawasih Bay was to rate among the world's best dive destinations. On Wandammen's east coast, just south of a small stream meeting the sea, we rolled out of the dive dinghy and finned down to a soft-bottomed slope dotted with small bits of sponge, solitary soft corals and rocks – the perfect critter hunting ground! Within a few minutes we photographed several pygmy cuttlefish, which Dr Christine Huffard, CI's cephalopod expert who was also with us, believed to be undescribed. Zigzagging over the rock-covered ridges, we spotted several interesting nudibranchs,



Drs Erdmann (lft) and Gerry Allen at work on Mark's Mimpji;
The newest hot spot for whalesharks is Cenderawasih Bay in Papua, Indonesia. The sharks are attracted to the local fishing boats called bagans where they are handfed by the fishermen. Here a shark is leaving the bagan after receiving a 'free breakfast' in the early morning.

The research team included Drs Mark Erdmann, Gerald Allen, and Crissy Huffard, a cephalopod expert and Conservation International staff member assisted by Ruland, a UNIPA (University of Papua) graduate. UNIPA professor Pak Hamed was also on board.

Burt and Maureen's new guidebook *Diving Indonesia's Bird's Head Seascape* produced for Conservation International, can be ordered from www.secretseavisions.com.



Mark's Mimpì with seawhips and surgeonfish

a wonderpuss octopus, an ornate ghost pipefish perfectly camouflaged near a soft coral, and a tiny, jewel-like tiger shrimp.

But Cenderawasih is not just about hard coral, oddly coloured fish and strange little critters – whale sharks also thrive here. We've chased them in the Cocos Islands and the Galapagos, without ever nailing that definitive shot. But Cenderawasih's whale sharks practically ate out of our hands! Groups of whale sharks in Cenderawasih were reported to be feeding beneath floating lift-net platforms, or *bagans*, which target small baitfishes and squid. Late one afternoon near the end of our survey we anchored in Kwatisore Bay at the extreme southern end of the park close to a working *bagan*. The fishermen onboard had seen three sharks early that morning so we

arranged to return at dawn to watch the handouts from the previous night's catch. The fishermen believe the 'Hiu Bintang' or 'Star Sharks' bring good luck and so they reward a bountiful take by throwing shark fins to the queuing sharks. Slipping into the dawn-dark water, we came face to mouth with three ten-ton 20-foot-long giants that fed for over two hours while we snorkeled, dived, and shot from the *bagan* to record the action. Nowhere else have we seen or heard of

whale sharks this friendly or accessible, and Cenderawasih could easily become the trip of a lifetime for divers seeking reliable encounters with these mammoths.

Due to a scheduled meeting with park authorities in Manokwari, we traveled north again to West Papua's capital city and the main gateway to Cenderawasih. In the calm Manokwari harbour waters we found a place where time actually seemed to stand still. As we descended through an inky sea, a dark shadow emerged and grew until we hovered over the port side of the *Shinwa Maru*, a 120-metre-long Japanese freighter little changed since November 1943 when a direct bomb hit sent it to the bottom. During World War II Manokwari was a Japanese stronghold, and several other outstanding wrecks litter the sandy bottom. A marvel of a marine life-encrusted coastal patrol boat, the *Crosswreck* sits upright in about 20

metres of clear water, just off a sloping white sand bottom not far from shore. The rich and colourful coral growth on the top deck sheltered macro subjects like nudibranchs and pipefish foraging slowly among the debris. We spent time deep on the wreck, but saved enough air to survey the slope where we photographed leaf fish, juvenile batfish, octopus, and mantis shrimp.

For quite a few years the stewards of Cenderawasih, government officials, local leaders and NGOs have sought a balance between protection and public access to this magnificent marine park. Logging, mining, new roads, airstrips, and a growing population all threaten this once timeless seascape and evidence of its unique evolutionary pattern. When our survey was over, we debated the wisdom of allowing tourists to visit Cenderawasih. But after weighing what a future without tourists as stakeholders might bring, we believe that public access is the only way these last bits of untouched marine wilderness will survive.

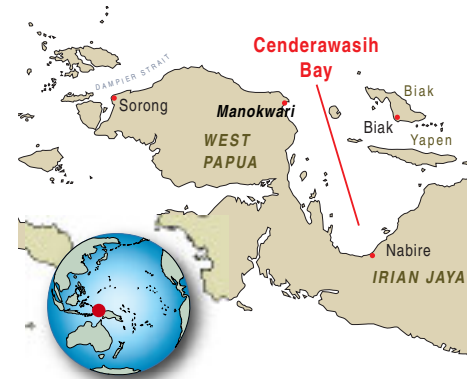
CENDERAWASIH BAY WITH DIVE DAMAI:

Through 2012 to 2014 Damai 1 and 11 have extensive itineraries to Cenderawasih Bay departing Sorong, Manokwari, or Nabire. Full details on these superb vessels and their dive facilities are on www.dive-damai.com
VIP Airport Services: Dive Damai offers a fast-track VIP service to beat Bali's airport queues for \$30 per person which can save hours in the immigration lines. Contact Damai's concierge service.

Visa: Most western passport holders will benefit from the visa-on-arrival system which is valid for 30 days and costs US\$25 at international entry on arrival, or pre-purchased from the Indonesian embassy or consulate in your country for a slightly higher fee.

Currency: The best cash is US Dollars. However, all foreign currency is accepted at money changers and most banks. Bring new notes and the largest denominations if you wish to bring cash. There are many ATM's and banks in Indonesia.

Baggage allowances for domestic flights: These vary enormously between destinations and airlines. Play safe with 20 kg (44 lbs) and one bag. Dive Damai has



free dive equipment on the vessels to reduce diver baggage weight.

Minimum certification: All diving passengers must provide current dive certification, minimum open water level. DIVE INSURANCE IS COMPULSORY.

Visibility, water temperatures, currents: Visibility can vary from 5 to 40 metres. This is never a concern due to the huge diversity of life. Dive guides always check currents (they vary), temperature and vis prior to a dive. If a dive is called for in a current, it's because there's something extraordinary to see.

Power: The vessels have both 110v and 220v power. There are many adaptors on board to utilise for battery charging and also laptop computers. Standard Indonesian power sockets take a European two-prong plug.

> LINKS www.dive-damai.com
www.conservation.org
www.secretseavisions.com
www.papua.world-guides.com/