



X-ray mag

GLOBAL EDITION
August - September
2005
Number #6

North America
Newfoundland

Egypt
Yolanda Wreck

Ireland
Connemara

Indonesia
**Raja Ampat
Liveaboard**

Discovery
**Glowing
Jellyfish**

Profile

Sylvia Earle

Portfolio

Alex Mustard

COVER PHOTO BY DEB FUGITT

DIRECTORY

X-RAY MAG is published by AquaScope Underwater Photography
Copenhagen, Denmark - www.aquascope.biz
www.xray-mag.com

**PUBLISHER
& EDITOR-IN-CHIEF**
Peter Symes
psymes@xray-mag.com

**MANAGING EDITOR
& ART DIRECTOR**
Gunild Pak Symes
gsymes@xray-mag.com

ADVERTISING
The Americas + Asia-Pacific:
Claude Jewell, USA
International sales manager
sales-usa@xray-mag.com

Europe + Africa:
Michael Bremmer, UK
sales-uk@xray-mag.com

South East Asia:
Catherine GS Lim, Singapore
cat@xray-mag.com

Internet-advertising:
Deb Fugitt, USA
DebF@xray-mag.com

SENIOR EDITOR
Michael Symes
science@xray-mag.com

TECHNICAL MANAGER
Søren Reinke
sreinke@xray-mag.com

CORRESPONDENTS
John Collins - Ireland
Yann Saint-Yves - France
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Marcelo Mammana - Argentina
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REGULAR WRITERS
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Nonoy Tan - The Philippines
Amos Nachoum - CA, USA
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Bill Becher - CA, USA

CONTRIBUTORS THIS ISSUE
Mark Andrews
Michael Arvelund, PhD
Michael Aw
Andrey Byzuikin, PhD
Dan Beecham
Leigh Cunningham
Lanna Cheng, PhD
Sylvia Earle, PhD
Deb Fugitt
Jerome Hingrat
Edwin Marcow
Svetlana Murashkina, PhD
Alex Mustard, PhD
Debbie & Rick Stanley
Gunild Pak Symes
Michael Symes
Peter Symes
Benjamin Victor, PhD
Ingo Vollmer

Further info on the **Contacts page** of our website: www.xray-mag.com

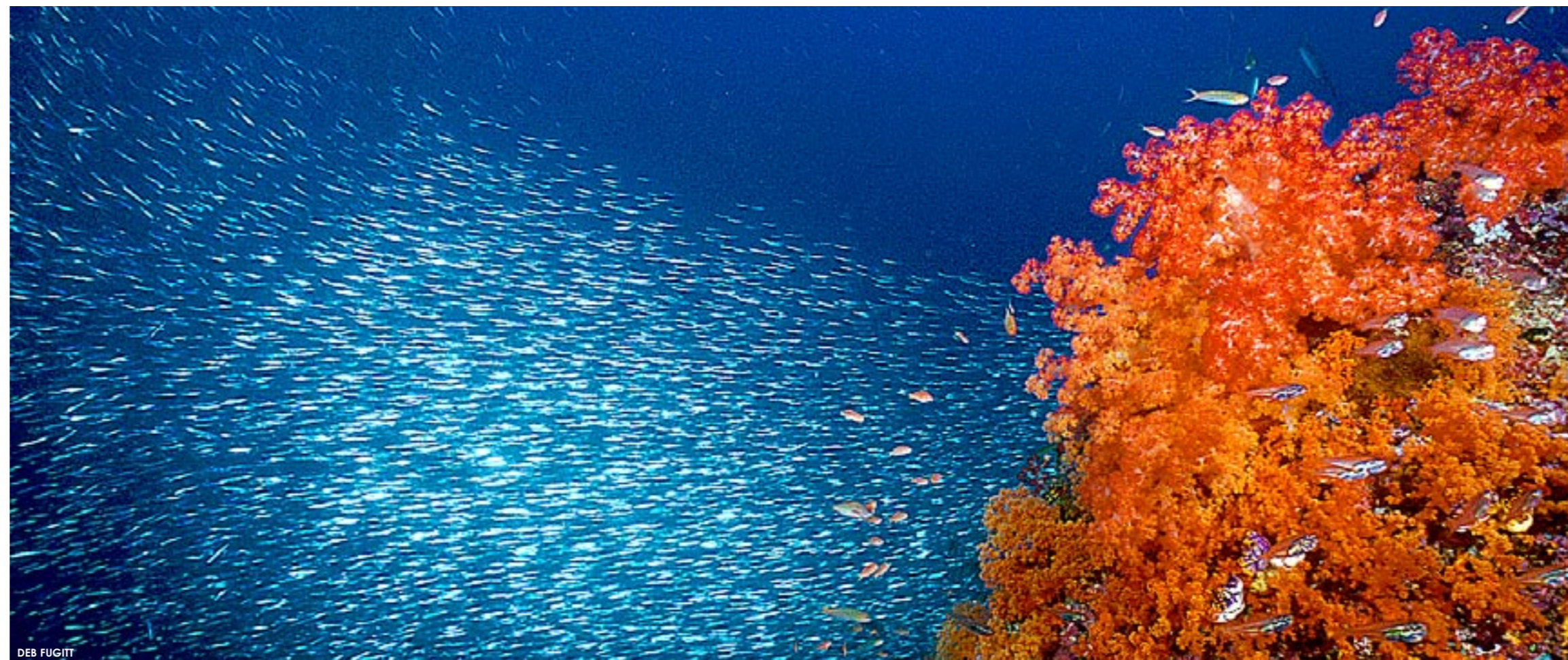
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COVER PHOTO

Two different species of fusiliers at Mios Kon
Raja Ampat, Indonesia. Photo by Deb Fugitt

Schools of anchovies and silversides. Raja Ampat, Indonesia



DEB FUGITT

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Raja Ampat

A pristine white sand beach on Gam Island

As a still photographer, Raja Ampat appeals to me for its wide angle opportunities, video being the only better tool to capture the area's wonders. No where else I've dived offers such consistent mind boggling vistas of fish and corals. Yet, focusing down to a smaller level there are macro creatures galore.

Areas of mushroom shaped rock islands seem to harbour some of the better dive sites and make for beautiful and interesting topside scenery as well. This area is destined to become a World Heritage Site.

Dr Gerald Allen declared recently that "Raja Ampat represents the bulls-eye of biodiversity in coral reefs" and recommended "we protect the reef at all costs, because it represents the baseline to which all other reefs in the

world be compared."

Raja Ampat is considered remote. Located off the Northwest "Bird's Head" Peninsula of New Guinea Island, Raja Ampat is a cluster of over 1500 small islands, bays and shoals surrounding the four islands of Misool, Salawati, Batanta and Waigeo. Named after the "Four Kings" of these islands, Raja Ampat is a part of the West Papua province of Indonesia which was formerly Irian Jaya and is now its own district with its own government.

"Remote" depends on your definition. While much of the area is unexplored, it is easy enough to fly by jet into the local Sorong airport from Manado or Makassar (Ujung Pandang) where you are collected by ship to travel an hour or so to the diving areas.



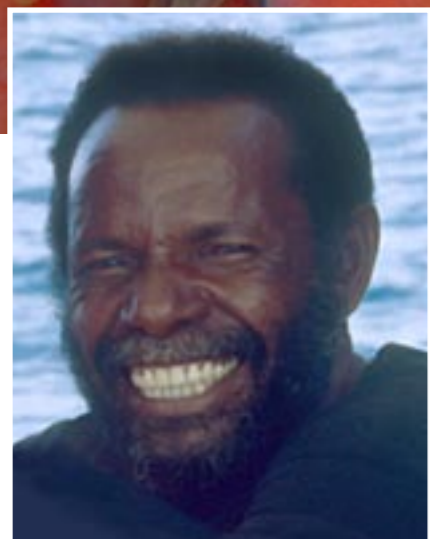
LEFT: Orange gorgonian fans, red soft corals and golden cup corals grow within inches of the rainforest overhanging The Passage

ABOVE: Ghost pipefish can be found on night dives around Waigeo, Fam, Dampier Straits, Misool



LEFT: This beautiful Ctenophore, *Coeloplana astericola*, is found on the arms of starfish in Raja Empat

BELOW: Blue Tail Surgeonfish and Barracuda. Small schools of barracuda often hang near or mix into schools of surgeonfish and other species



Michael

Bear hugs and big fish

"Michael!" We cried out in unison as we hopped aboard *SMY Ondina*, our liveaboard home for the next month. Stepping agilely across the deck, sidestepping bewildered look-

ing new passengers, crew and luggage, Michael reached my companion, Tony,

quickly. Wrapping his powerful arms around Tony's waist, Michael hoisted Tony in a giant bear hug spinning him effortlessly in a circle while carrying him across the deck. A joyous reunion with an old friend portended great adventures for our first liveaboard charter in the Raja Empat islands.

When Tony Matheis and I began coming to Raja Ampat in '99, it was Michael who, after two weeks of so-so diving with other guides, put us into the water in the conditions that we now recognize as optimal for seeing the reefs and fish life at their finest. Opting for diving with him from a longboat instead of with the other tourists on the dive

boat was the best decision I had made in years.

Michael has an uncanny ability to know the conditions underwater, where the fish are schooling and the direction and force of the current, all necessary skills to get the most out of a dive in the current-swept areas of the enormous reef systems in this hot new dive destination. Thanks to his years of experience in the area, we came home with some of the best images in years.

Our guide dropped us into immense schools of Pale or Blue Tail Surgeonfish. As we plunged headfirst toward the bottom we scattered huge schools of bannerfish

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Raja Ampat

and streams of fusiliers so as to get in front of the reef before the current carried us over the top. The surgeonfishes hanging effortlessly in the current were so densely packed, they were like black and blue walls stretching from the sand to the top of the reef. When separated by less than 10 meters from my buddy, I could not see him or the flash from his powerful strobes.

Over and over, we jumped into the fishiest dives I had ever seen. Again and again, we left our secure current-less spot in front of the reef out of film but not bottom time. We soared like gliders over the tops of immense reefs surveying the life below until we slowly surfaced a hundred meters or more away from our site and were met instantly, and incredibly, by Michael, who hoisted me up with his muscular arms back onto the longboat.

The longboat is a sort of overgrown wooden canoe equipped for transporting material through the islands, not for divers. While the men with their natural upper body strength climbed easily aboard, I had to be lifted.

After the first day and multiple bruises on hip bones, I worked out a successful, if rather comical, alternative method that always put the men into fits of laughter. After handing up my fins, I would lay back in the water and throw my legs over the edge, then two of the men would grab my arms and sit me up into the boat. Hey! At least the bruises were all behind me now.

That was when we fell in love with Raja Ampat's diving.

Ah, those were the good old days! We survived on peanut butter, bread and canned tuna and



kept on coming back to dive as often as we could.

The Liveaboard Trip

For our month long trip, I chartered SMY Ondina, a traditional Phinisi ship built in Bira, South Sulawesi, Indonesia, of exotic hardwoods. She is a Spanish-owned ship whose

interior layout was designed by the on-board owner and cruise director, Ricard Buxo, who also supervised the ship's construction. Ricard's careful design makes Ondina function as though it is a much larger ship. Cabins are spacious, and the dive deck is well organized. There are tables, charg-

ABOVE: Lionfish on red fan coral





Raja Ampat

CLOCKWISE FROM LOWER LEFT INSET: Kaboi Bay, as well as many other areas of Raja Ampat, is filled with small rock islands

SMY Ondina is outfitted in exotic wood and decorated with Indonesian art

Ondina has a large table for working on cameras, deep storage for cameras underneath and two fresh water padded camera rinse tanks

There is plenty of light in the cabins and individual AC units



ing and camera rinse facilities for the photographers, and there is room for guests to spread out. Numbers of guests are limited, so that divers can get in more dives.

Ondina's Captain Ambo worked in Papua for five years on a different ship and now has a total of seven years experience in the area. He is quite skilled in navigating the treacherous reefs and helps plan our flexible itinerary estimating times and possible routes when we want to make a change.

Although SMY Ondina's crew is quite experienced, Michael and one other Papuan guide were asked to come along to help with the dive schedule, which included more dives per day than a normal trip.

Michael fished these waters with his father before showing the first dive operator in the area the best reefs for fish as well as the location of many WWII wrecks. Every trip made is geared toward photographers, and entire days are often spent at one site alone diving the sites as many times as desired. Bottom time is not arbitrarily limited.

The crew is happy with our arrangement, as the guests can dive and the crew can still get a bit of rest during the day. Michael, however, is always watching the divers and somehow knows which diver is where on the reef—although I would swear he cannot see them.

Dampier Straits

First, we headed out to the Dampier Straits to dive the long, fishy reefs there. Depending on the current, dives are best at one reef or another. There are several world-class sites within a 15 minute ride. When the current is running, the best location is chosen, divers are dropped just in front of the reef and then the current carries them back into the sweet spot just in front of the boat.

In this area, we expect to see lots of fish, turtles, manta rays, schools of large bumphead parrotfish munching the corals and plenty of fish. Oh, and did I mention there are quite a lot of fish here?

First Dive

The red and white inflatable dive tenders ferried us out to the reef where fortunately there was a manageable current running. Falling backward over the side, I did a complete underwater somersault and surfaced briefly for Michael to hand in my camera.

I made a quick survey from the top which showed so-so visibility but plenty of fish and diver activ-





Raja Ampat

LEFT: A beautiful green anemone is host to a pair of brilliant red Spinecheek Anemonefish
RIGHT: A frilly-edged Tasselled Wobbegong Shark rests on a table coral

ity. Clouds of tiny fish surrounded some of the coral bommies while up and down the steep slopes of the site, schools of four-lined snappers, sweetlips, fusiliers and rabbitfish wandered amongst red and purple soft corals, leather and black coral bushes.

The divers from the first tender were already busy. From my vantage point, I saw several divers waiting around an overhang to photograph a frilly-edged Tasselled Wobbegong Shark, which rested underneath; others lining up shots with several intermediate batfish in front of coral covered bommies; and our trip's anemonefish addict, Marylou, setting her sights on a beautiful green anemone that was host to a pair of brilliant red Spinecheek Anemonefish.

The current split at the point of

the reef. I let myself be carried down current to check out some coral-encrusted bommies on the white sand bottom that are very colourful places to make a horizontal image. Afterwards, I stayed low, ducking behind corals and large fans, playing eddies created by the current so as to get back up to the point without an exhausting swim in open water.

Just to the other side of the point, yellow streams of four-lined snappers swarmed over the slope like yellow rivers, parting around coral islands and pausing beneath towering table corals. These docile fish allowed me to swim right into their schools, coming within inches of my camera lens. The school flexed and finally parted to let me pass.

I made a brief visit to a large soft coral covered bommie with a hori-

zontal V-shaped crevasse underneath to see that it was, as usual, filled with several large batfish, some oriental sweetlips and a few smaller fish.

Turning back toward the point, the area most densely covered in life, I spotted a giant clam on top of the point. The spot must have been a great place for filter feeders as the clam was huge. But it was also a tough spot for a diver to stay still. I ducked down behind the bommie beside the clam and waited for schools of fish to pass over and behind the clam to catch a more interesting wide-angle scene on film.

Favourite Sites for Small Creatures

One of the favourite macro photography sites on the trip was in

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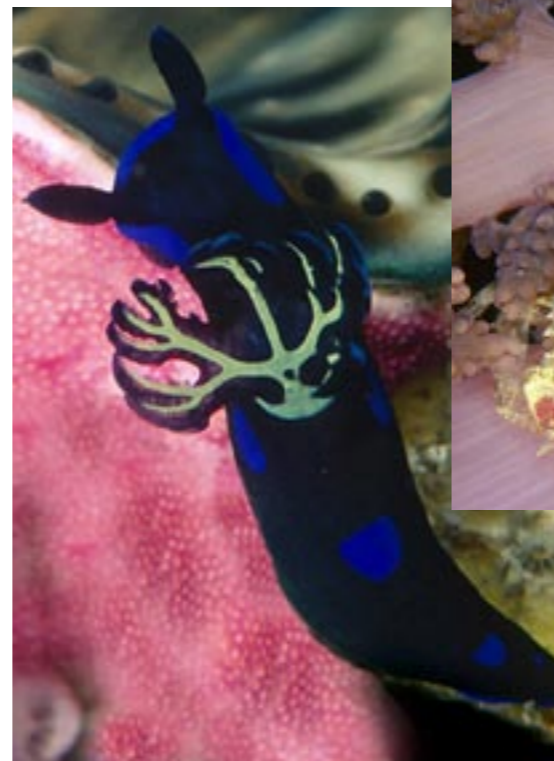
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LEFT TO RIGHT:
Orange Pygmy Sea-horse; Tambja morosa Nudibranch on Giant Clam; Juvenile crab on pink coral in silty bay of Batanta; Blenny on soft coral; Flatworm on Gold Sponge

a deep bay on the western end of Waigeo where a long wall alternates with a steep slope both covered in corals and anemones and shadowed by rainforest from the island above. The site is populated by orang-utan crabs, ghost pipefish, a great variety of nudibranchs, several species of lionfish and of course, pygmy seahorses.

Pygmy seahorses seem to be everywhere, so we restrict ourselves to looking for them on designated *macro* days when we are diving in calm areas.

This site could be dived from 30 meters to the surface so bottom time was no problem. We took advantage of this by spending the entire day at this site, most of it in the water. Highlights were the abundance of orang-utan crabs, striking orange 'pygs' (pygmy seahorses) on a matching fan, a giant zebra crab on a fire urchin, and bizarre *Phyllodesmium* species nudibranch, juvenile egg cowries and both robust and ornate ghost pipefish.


The dive site is long and protected. Although there occasionally was a current, there was no chance of getting lost or being swept away and there was always a sheltered area.

What we found immediately were schools of silversides so dense they would turn day into night when overhead. Even in the brightest part of the day, I would need a light to enable me to focus on the robust ghost pipefish or on the tiny crabs in the fire urchins.

Every bubble coral had its orang-utan crab. Nudibranchs and flatworms were scattered like confetti over much of the site. There was always something interesting to be found on the soft corals, among the algae or in the holes. Rainbow-coloured mantis shrimp would sit up and watch as divers swam past then dart toward their hole when approached. Certain areas were covered in the small yellow holothurians (sea cucumbers) that are common in Indonesia as well as an orange and green coloration that

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Raja Ampat

I had never seen before.

Divers came and went as they pleased all day changing locations as they learned what others found in their explorations, trading information on critters, their depth and landmarks to find them.

On the second dive, I came upon a beautiful orange sea fan perched on a sandy ledge in the wall. It was such a beautiful colour that I searched it carefully for any small creature to use as a subject for a photo composition. Imagine my surprise when I found three nice-sized pygmy seahorses! I marked the fan with a nearby stick that had fallen from the rainforest above, sticking it vertically into the sand. Other divers were able to locate the fan and get some photos of these cool 'pygs'.

After a lengthy night dive at the site, we started the long overnight leg of the cruise. Everyone sat down for a dinner of Indonesian specialties inside *SMY Ondina's* air conditioned dining room and lounge.

Night diving

In Raja Ampat, the stems of the tiny mushroom-shaped islands sit upon a shallow plateau, or ridge, and are covered in soft corals, fans and tunicates. These are also among the most favourite spots for night dives and small creatures. During the day, vertical schools of fish often drape these islands' sides or swirl across hard coral covered plateaus. Divers search the tunicate laden sides of the islands for nudibranchs, flatworms, blennies and scorpionfish.

At night, even spots that looked barren during the day come alive with small crabs, shrimps and other night creatures. In the dark with our



vision narrowed to the beam of our dive lights, we focus on tiny creatures crawling across most of the corals and crinoids. Decorator crabs, hermit crabs, squat lobsters cling to the corals and are happy to grab and eat the tiny worms attracted by our lights.

At one site where I noticed a beautiful yellow gorgonian in daylight, I was pleased to find now-conspicuous tiger cowries crawling amongst its branches at night. Raja Ampat is home to a huge variety of molluscs, so it is very common to find allied cowries and other species of shells moving at night.

ABOVE: Chromodoris Koi nudibranch in The Passage
INSET TOP: This blenny made its home in a deserted worm tube
INSET BOTTOM: Night is the time to find crabs, shrimp, lobster, eels and molluscs. Decorator crabs can be quite funny with a top hat of coralimorph or upside-down jellyfish

TOP: Sargassum Frogfish live in floating sargassum weed
BOTTOM: Bright Red Orange Sponge and Orange Tunicates

Raja Ampat



Unusual Dives

No story on Raja Ampat diving can be complete without a mention of the narrow passage between Gam and Waigeo Islands. A channel, so narrow it seems to be a small river, divides the two islands and runs into Kaboi Bay, a bay which at first seems to be a large lake. On both sides of the channel dense rainforest overhangs the water. The channel is shallow and at times has a ferocious current with mini whirlpools in the larger bays. The best dives here start

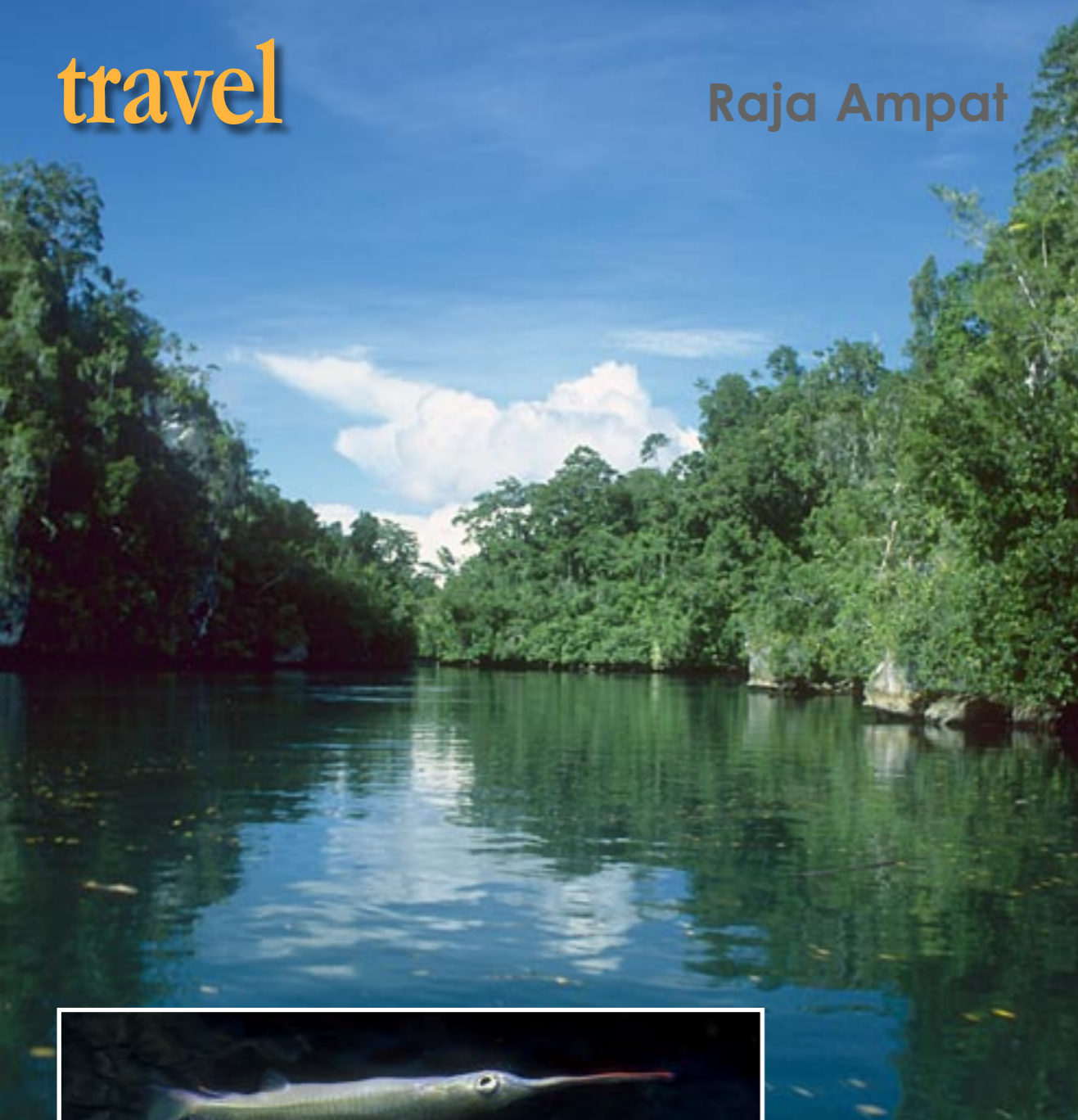
at the open end of the channel in shallow water during a period when the current is running toward Kaboi Bay and before it gets too strong.

In the shallow water, delicate lettuce leaf corals grow just beyond reach of the current. Small soft red corals cling to the bottom out in the channel. Let the current carry you along while you manoeuvre to stay close to the side. Otherwise, the dive will be over in minutes.

Along the channel, divers pass areas of golden cup corals, red and

TOP LEFT: Nude pygmy seahorse
TOP CENTER: Tiger cowrie
BOTTOM CENTER: Black coral shrimp
RIGHT: Pregnant shrimp on Bubble coral

pink soft corals that line the channel's sides. Tuck inside a shallow bay for a relaxing look around. There



in the calm water, pinnacles covered with tunicates host many flatworms and nudibranchs. Soft corals and fans grow on drowned logs while the sun paints the dark water with streaks of light. Inside these mysterious bays where the water's surface is very calm, one can look up past brilliantly coloured sea fans

the perfect reef and rainforest photo, would be a Wilson's Red Bird of Paradise perched on a branch just above the water. This bird lives nearby so it is not a completely unreasonable hope.

Back out in the channel, Bumphead Parrotfish, large tuna, turtles, jacks or sometimes sharks seemingly come out

to see rainforest where archerfish seem to fly through the green leafy branches of trees. In some places, corals are only inches from leaves. We've joked that the only thing

missing to complete



of nowhere, swerve to avoid divers and continue on out of sight. Everything in the channel is on a mission. Divers can continue this journey, in and out of the current and quiet bays until they reach a large bay where they finish the dive in a sandy shallow area with many species of shrimp gobies.

If the day is overcast and dark, photographers can concentrate on shooting scenes of archerfish, polka-dot cardinalfish, flatworms and nudibranchs.

The Passage is a short cut for boats in the area, so one can often see families of Papuans while anchored there. We were visited by entire families who live on a covered raft, catching and drying fish on the roof. One of the crew bought a Cockatoo from them, which was quickly adopted by some of the women on the trip. They cleaned and nursed the poor creature for the remainder of the journey.

Overview

The only long passage on our trip was from Waigeo to Misool, about a 10-hour

overnight voyage, but always comfortable as the waters in Raja Ampat are very protected from rough seas by the abundance of islands. Misool's dive sites are certainly the most densely covered with the most colourful soft corals, fans and tiny fish that I have ever seen and are excellent for colourful coral shots and for macro, particularly at night. However, we do not see the variety of larger fish found in northern Raja Empat or the variety of underwater structures there. On other days, sailing time lasts from 30 minutes to no more than 4-5 hours after the night dive.

Conservation

Raja Ampat is a relatively small area with a huge number of world-class dive

CLOCKWISE FROM INSET LEFT: Halfbeak. The Passage, Waigeo and Gam

Entering The Passage. A narrow channel between Gam and Waigeo is a short cut for boat traffic and an excellent dive site. This site must be dived near slack tide

Tunicates and hydroids are food for nudibranchs and flatworms. *Nembrotha purpureolineolata* feeds on tunicate

Archerfish skim along just beneath the surface watching the leaves above for bugs. They can shoot a bug with a stream of water knocking it into the sea



sites and more waiting to be discovered. Each dive site is large and there is such variety and diversity on each one that a long article could easily be written about each site. I encourage everyone who wants to experience this area to do it quickly while this it is still relatively untouched.

There is currently no effort at conserva-



LEFT: Blue-ringed octopus are smaller than a hand
 ABOVE: Scorpionfish are often well camouflaged among the corals and sponges. Be careful what you touch!
 INSET: Underwater photographer and diver, Deb Fugitt



Raja Ampat

tion in the area, and it is likely to be years before any effective conservation plan is in place to protect this amazing ecosystem. We hope the new Raja Ampat district government will resolve some of these issues and help to protect the people, reefs and rainforests of this remarkable and unspoiled area. Only time will tell.

Our Raja Empat dive guide, Michael, eagerly anticipates this year's voyage with SMY Ondina's superb ship and

crew for another month in Raja Empat. He has new places to show us. We are keen to see new sites and to spend time with our gregarious Papuan friend. We anticipate more bear hugs from him, which are given generously to us and to those who have also caught the Raja Empat "bug". We will meet him again in Papua.

Deb Fugitt is an underwater photographer and owner of an Internet marketing company

that designs web sites for travel, dive and photography businesses. For more information or to make reservations for one of Fugitt's special Raja Empat trips organized a few times each year, see: www.cityseahorse.com/rajaampat

Visit www.smyondina.com for liveaboard trips to Papua and other destinations within Indonesia with SMY Ondina. ■



Soft Corals at Slacking Tide. When there is no current, Raja Empat's dive sites change in appearance. The current is slowing to a stop in this photo. Some of the corals have started to droop and shortly they will be difficult to see



fact file

Raja Ampat, Indonesia



History Humans first settled New Guinea at least 50,000 years ago, when it was connected to Australia by a land bridge. A British attempt at colonization in 1793 colony was evacuated within two years. The Dutch were next, proclaiming in 1828 that the natives of the western half of New Guinea were to be subjects of the King of the Netherlands. They opened Fort du Bus to protect their lucrative trade with the spice islands from other European powers, but abandoned the area after only 10 years. No continuous settlement was established in West Papua until 1897, and no substantial development was undertaken within the country until the 1950s. In 1949 the Dutch ceded sovereignty of Dutch East Indies to the Indonesian Republic, but excluded Dutch New Guinea (West Papua). A long and tortuous history followed. The controversial West Papuan version can be examined at www.newint.org/issue344/history.htm.

Government Republic of Indonesia, Papua is one of 27 provinces with its capitol in Jayapura. As of late 2004 Raja Empat has a separate district government.

Geography Southeast Asia. Raja Empat is the most western district of the Indonesian province of Papua. Raja Empat consists of an area surrounding four major islands

off the western coast of the Bird's Head Peninsula of New Guinea Island, the western half of which is Indonesia and the eastern half, Papua New Guinea. The province was formerly called "Irian Jaya".

Climate Tropical, hot and humid. The water temperature is normally 84-86F / 28-29C year round, with an occasional "chilly" 82F / 27C spot. We've had no problem with cold when diving 4-7 long dives per day in 1mm neoprene suits, however some people prefer 3mm.

Environment Logging. The rainforests within the combined West Papua/Papua New Guinea land mass are second in size only to those of the Amazon, making it 'the lungs of Asia'. In 2001 there were 57 forest concession-holders in operation around the country and untold other forest ventures operating illegally. Mining. Tailings from copper, nickel, and gold mining are real threats.

Currency The currency is the Indonesian rupiah. ATM machines generally offer the best exchange rates, dispense rupiah and are readily available in most major cities or where there are many foreign visitors. Large denominations (\$100 bills) of cash in US dollars is fairly easy to exchange, however all bills must be issued after 1999

and certain series of bills are almost impossible to exchange. Travelers' cheques are becoming quite difficult to use except at banks.

Visa cards, and cash in major currencies are widely accepted at banks, money changers and hotels in major cities and tourist destinations. When visiting Raja Empat it is unlikely you will have an opportunity to use an ATM or exchange money. Check with the dive operator for forms of currency they accept, or bring cash in rupiah for tips and purchases.

Population All of Papua Province - Total population: 2.1 million (2.5 million). Indigenous: 1.3

million (1.5 million). Migrants and transmigrants born in other parts of Indonesia: 350,000 (850,000).

Language Bahasa Indonesian, in addition to 253 tribal languages. West Papua and its neighbour, Papua New Guinea, contain 15% of all known languages. English, Spanish, German are spoken on the ship. Bahasa Indonesian and English generally spoken at hotels and airports along the route and in Sorong.

Security Although they are in an active Independence movement in Papua, tourists have not been impacted.

Electricity Standard electricity is 220V, 50Hz. A few hotels and live-aboards have transformers to provide 110V. Bring smart chargers for rechargeable batteries. The plugs have two prong round plugs.

Health & Vaccinations Nearest decompression chamber: Manado. Malaria is common in the area. Check with WHO or your dive operator for prophylaxis recommendations. Larium is not effective in Papua. Be prepared with insect repellents containing DEET. International Certificate of Vaccination required for Yellow Fever required if arriving from infected area within five days.

Visas & Permits A 30 day visa-on-arrival facility is available to nationals of the USA, UK, most European countries and many Asian countries. The fee is currently \$25 for visitors from most countries. Check with the Indonesian Embassy or Consulate nearest to you for a longer visa. All passports must be valid for a minimum period of six months beyond your intended stay. To enter Papua, you need a *surat jalan* which is issued by the local police. This can be arranged by your dive operator who will require a copy of the photo page of your passport and the visa-on-arrival or visa page from your passport. ■



RAJA AMPAT LIVEABOARD TOUR WITH THE SMY ONDINA

PRICES

Sorong-Sorong Trips: SMY Ondina standard trip, 10 night trip, 2200 euro; City Seahorse special 11 night charter (limited participation, extra dives, special meals & guides): \$3245 / 2660 euro.

TRAVEL

Reach Sorong to meet liveboards via Makassar (Ujung Pandang) or Manado in Sulawesi. There are several flights daily. Visitors can also connect from their International flights from Bali or Jakarta. Flights into Sorong require booking through an agent in Indonesia, or through your local dive travel agency who works with an agent in Indonesia. SMY Ondina's office in Bali or City Seahorse's agent can book your flight into Sorong.

REFERENCES

Interesting reading about the culture, fauna and flora of Papua and the Raja Empat Islands:

The Malay Archipelago (1869) by Alfred Russel Wallace

Illustrated excerpts on the Papua chapters can be found at:

<http://www.papuaweb.org/dlib/bk/wallace/papuan.html>

CHAPTER XXXV: VOYAGE FROM CERAM TO WAIGIOU

CHAPTER XXXVI: WAIGIOU

CHAPTER XXXVII: VOYAGE FROM WAIGIOU TO TERNATE

ABOUT THE LIVEABOARD www.smyondina.com

www.cityseahorse.com/raja-ampat-liveaboards.html

City Seahorse