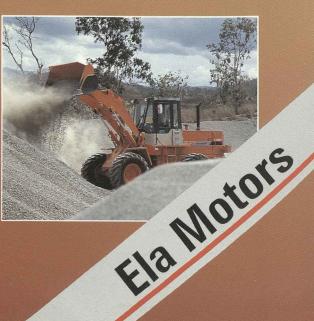


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Enjoy your flight.

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Action and serenity combine for an incredible sea adventure.

Cover: Red sea whips and brightly-colored coral are part of the rich reef life in Kimbe Bay, providing many memorable encounters for scuba divers (see page 47). Photograph by John McLennan.

No 113 Nov-Dec 1995

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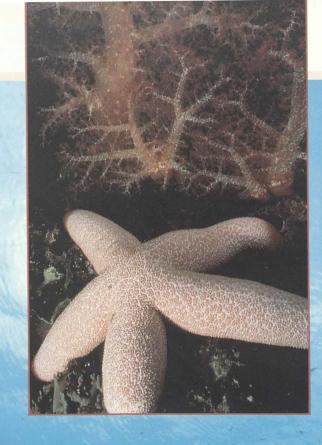
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Left Spectacular starfish amid soft coral garden at Walindi. below The majestic underwater world of New Britain's Kimbe Bay is a divers' paradise.

New Britain DEFENSIONS

he fame of Rabaul and Walindi in New Britain crosses over the Pacific. Beyond happiness and enchantment which they give the visiting divers, the diving places also have a history to tell. Archaeological excavations reveal that the island of New Britain has been a place of choice for rather brilliant civilisations.

New Britain has an intriguing name, because unlike old Britain, there is no granite but instead high volcanic mountains covered with virgin tropical forest, no London fog over the sea. but coral reefs in turquoise waters. The island was named by the English voyager William Dampier in 1700.

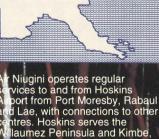
The island stretches out in the Bismarck Sea from the east to the west. A peninsular in the middle of its northern coast stands up like the fin of a dolphin. This peninsula (Willaumez) houses a dozen dormant volcanoes and shelters the Kimbe Bay, a garden housing delicate treasures which the Sea of Bismarck has given it.

At the end of the bay, Walindi palm plantation stretches out for hectares, making the shore-line green. There are many palm plantations in New Britain which were the first source of palm oil production. This Walindi one distinguishes itself from the others because proprietors Max and Cecilie Benjamin have made it a paradise for divers.



Right Crystal-clear waters of Walindi, Kimbe Bay. left Remnant of World War II. below Magnificent coral formations at Cecilie's reef. below right Anemone fish feed among sonous sea anemones. fai right Diving charter vessel, MV FeBrina.





Willaumez Peninsula



Max is not totally blase about the underwater opulence of Kimbe Bay. After 15 years of daily dives he still enjoys himself with activities such as playing with the dolphins. Very early in the morning, the dolphins chase the anchovies with the marlin and tuna. To look at them, Max lets himself slide along the side of a boat or is drawn along at the front. The Kimbe Bay waters shimmer with the jumps of the slender dolphins.

Before Max discovered the beautiful submarine areas, one could read on a marine map that some extended reefs were already named, such as Ema Reef.

The Bay of Kimbe is littered with reefs named for women. Vanessa, the valley of the gigantic gorgon fans; Joy, with its forests of rolling seawhips; Donna with its fabulous coral constructions; Cecilie, with its coral pink and delicate leaves; Marie-Helene which is covered with bushes of yellow and blue; Christine, the preferred reef of photographers; Anne-Sophie, which is a coral pass at the extreme point of the bay.

Allow me to say some words regarding the decor of the luminous beauty which captivates me: immaculate white sand swept by a tide which is coming in or going out, on which the tropical fish swim with their noble colors. The white reflects the light and all the masses of soft bottlegreen coral trees, with rusty flowers near bright orange Below Florescent 'ascidain' coral is one of many rewards for Walindi divers. below right Stilaster and sponge weave as one in the Hanging Gardens of Kimbe. bottom The author explores the reef at Restorf Island. sponges. At their feet there is a branch of violet organpipe coral sprouting up like a brush stroke given by a talented artist.

It happens that nature takes back what it has given in New Britain and its history has been marked by powerful volcanic cataclysms.

Because of the volcanic activity of this island, specialists listen, but there was little warning of the two volcanoes which obliterated New Britain's capital, Rabaul, last year. Fortunately, there was no loss of life.

At Walindi it is most agreeable to walk along the hot river. One goes up a stream of clear water which is about 35 degrees Celsius which is often interrupted by miniature cascades or by tree trunks. As our feet walk on flat rocks of turquoise, and bronzed colored tree ferns caress our hair, one could imagine being in the middle of the four rivers in the garden of Eden.

Another curiosity, a remarkable spot, is the hot springs, ponds with pungent suppressed sulphurous vapors bubbling soup with enticing blue reflections.

The domain of Kimbe Bay is reserved for posterity. Max watches to preserve the sites against harm. He has installed mooring buoys to avoid anchor damage to the coral. He also fights to have the Kimbe Bay recognised as a national park so that the coral gardens are protected forever.





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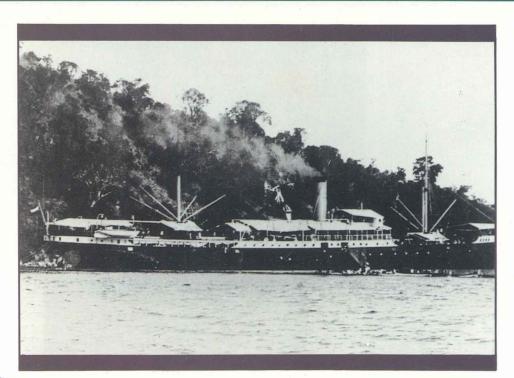
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LAE

P O Box 961, Lae, Morobe. ANZ Bank Building - 1st Flr, Central Avenue, Lae. Ph: (ISD 675) 42 4433 Fax: 42 5715 **Right** Built in 1907, the s'Jacob remains well intact today, 57 metres below the Solomon Sea. **below** Liveaboard boat, Barbarian II, takes experienced divers to explore the s'Jacob.

•

ACOB



Story and photographs by Tony Karacsonyi

11

he s'Jacob was one of two vessels sunk by the Japanese while it was engaged in operation 'Lilliput' by the Allies during World War II.

On 8 March,1943, the corvette HMAS Bendigo was escorting s'Jacob to Oro Bay. At 1 pm, nine Japanese bombers, with 12 fighters, began a sustained attack on the poorly-armed freighter.

Both vessels put up a good fight but a bomb exploded in the aft hold of s'Jacob. The vessel caught fire and sunk soon after.

Five of s'Jacob's company lost their lives and the 153 survivors were picked up by the Bendigo. Two, an Australian army officer and an American army private, died on the passage back to Milne Bay.

The wreck of the s'Jacob

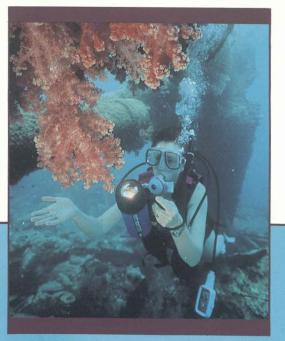


Right Rod Pearce, discoverer of the s'Jacob, lifts the ships large lantern. **below** Divers and ownerskipper, Rod Pearce (centre), aboard Barbarian II. was discovered only five years ago, after more than two years of research by Rod Pearce, who has dived the PNG water around New Britian for 30 years. Experienced divers can join Rod on his live-aboard boat, Barbarian II, and discover for themselves one of the world's ultimate diving experiences.

The s'Jacob lies 57 metres below the Solomon Sea, off

the north-east coast of Papua New Guinea, where hundreds of large batfish hover over it. For divers, the s'Jacob's funnel is the first thing that comes into view as they descend on to the shipwreck.

Descending to the ship's bridge, divers can swim through the companionway which is adorned with beautiful soft corals. From there, they can enter the armor-plated bridge.



Left Rounding the stern gun on the s'Jacob. below Ascending from the s'Jacob, among a school of batfish.

Using several lights to illuminate the inside, we found Thomson machine guns. Outside the bridge, we made our way to the ship's telegraph, and on to the top of the bridge for some pictures of the ship's large lantern.

The best thing about the s'Jacob's is that everything is still intact, and it lies perfectly upright in clear tropical water, which makes

it one of the best shipwreck dives in the South Pacific.

The s'Jacob was built in Rotterdam, Holland, in 1907. Lloyd Register of Shipping shows her length, breadth and depth as 99 metres, 13.4 metres and 7 metres respectively.



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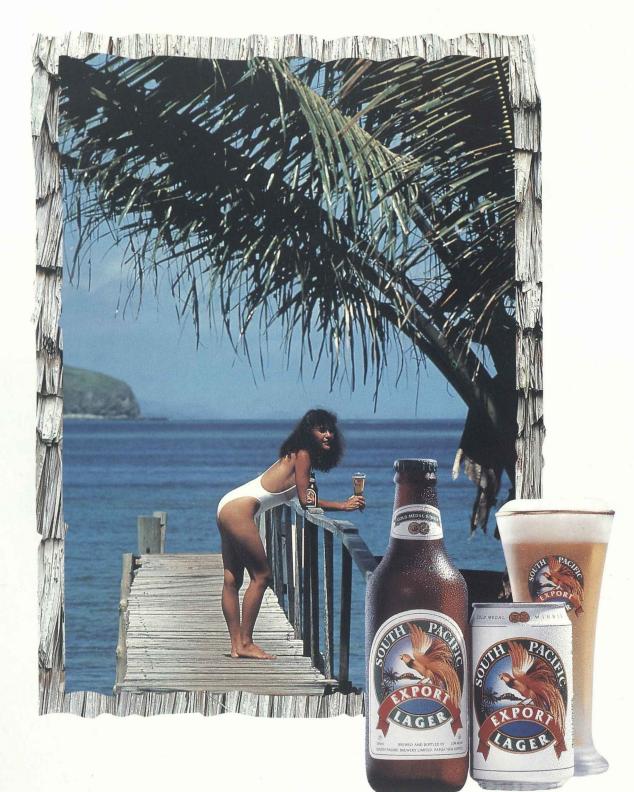






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SOUTH PACIFIC EXPORT LAGER

Below Tiata, which means 'little dolphin', sails from Alotau, at the north-western end of Milne Bay.

Story and photographs by Rick Puig

maiden Vorjage of LALA 1:18

A nyone who has been to Papua New Guinea or knows a diver fortunate enough to have been there, will attest to the fact that the diving is second to none. I had heard this from other welltravelled divers, but had not been able to experience it first hand until the maiden voyage of Tiata.

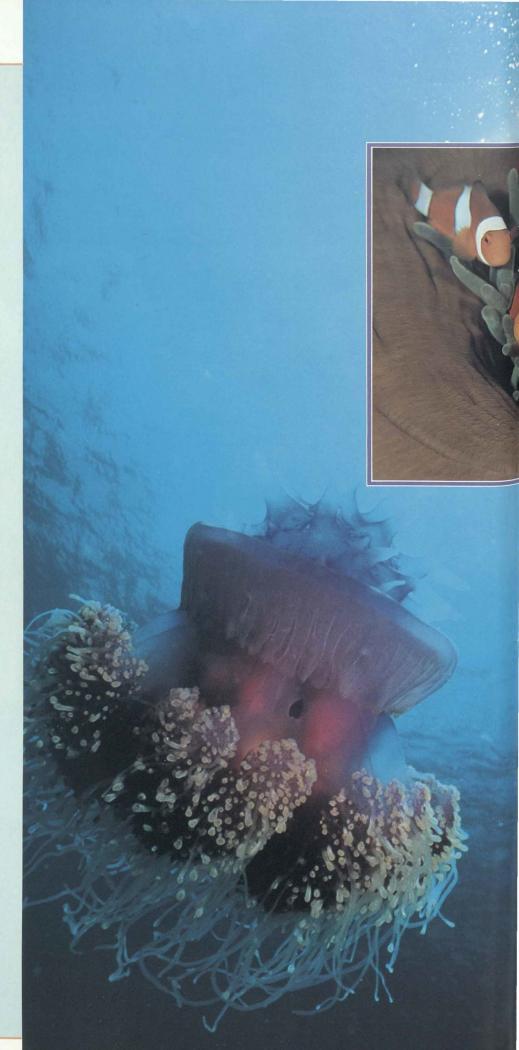
I will admit to having second thoughts as to being in the 'first group' of divers to participate in the life of this new ship, but now after the fact, I can vouch for the professionalism and attention to detail in every facet of this operation.

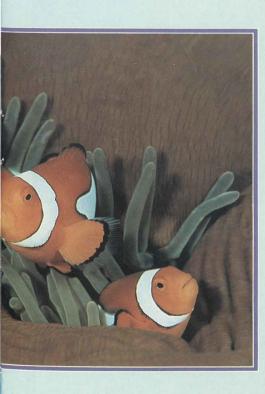
The initial trip of Tiata (which means little dolphin), journeyed across Milne Bay to East Cape, Normanby and Goodenough islands.

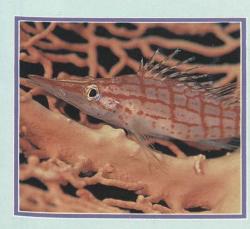
Many of the sites we visited are known 'world class' reefs, found and pioneered by Bob and Dinah Halstead on their live-aboard, Telita. Some are famous for specific fish or other marine life, and are named accordingly. Some of the sites included Banana Bommie, Hammerhead Reef, Boia Boia Waga Island, Doubilet Reef, Wahoo Point, Calypso Reef, Balaban's Reef, Dobu Island with its underwater hot water sulphur springs and Rhinopias Reef, named after the rare species of fish often found on this site.

The diversity of species and numbers of specimens in a given dive site are the most amazing aspects of the diving. We had multiple encounters with large sea turtles, at least 21 different mantas, various shark species, and

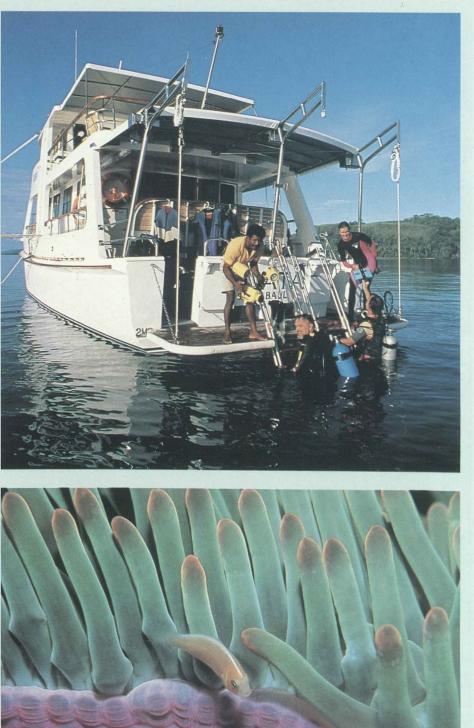
Clockwise, from top The photogenic anemone fish or clown fish; Tiata; spectacular colors of the coral garden; nudibranch; the elusive tartan hawkfish; marine life has many unusual shapes and sizes.

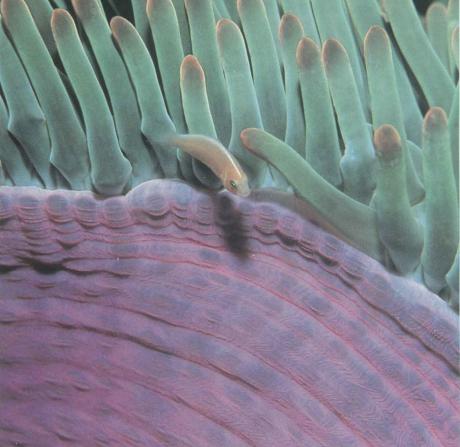












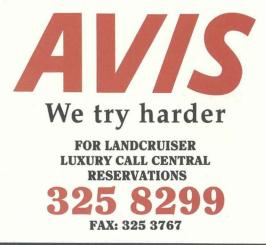
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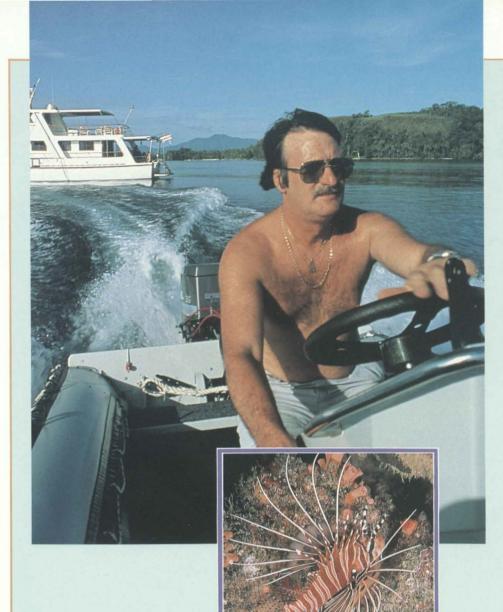


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Above Kevin Baldwin at the wheel of Tiata. right Rare pigmy lionfish. below Between dives on board Tiata.



encounters with dolphin, as well as the humpback and pilot whales. Although no encounters with whale sharks or orcas took place on this trip, it is not uncommon sighting these in such a rich area.

On many reefs, there were five to 10 different 'flavors' of anemones. Likewise, lionfish in such numbers, varieties and sizes on a single dive site that would stagger the imagination. We even found the rare pygmy lionfish in the reef at Dinah's village. Can you imagine trying to photograph a pygmy lionfish while lying prone on the ocean's rubble bottom, having to be careful as to where you place your elbows and other extremities so as not to touch one of maybe 10 to 20 other lionfish roaming within inches from you?

On one site, we saw multiple octopuses and ribbon eels, juvenile emperor angels, juvenile regal angels, juvenile catfish and more. We looked for the rhinopias aphanes – the very rare scorpionfish – but no luck on this trip.

At some sites, there were hundreds of crinoids, sea fans and whips in a variety of colors, patterns and sizes. Exotic sea slugs (including the peppermint pattern variety) and nudibranchs were found on almost every dive, and brilliantly colored sea urchins were also common. I enjoyed viewing the largest pink fan I've ever seen – approximately six metres across and three metres tall, with at least 30 to 40 crinoids on a single fan.



Air Niugini operates regular services between Port Moresby and Alotau in Milne Bay.

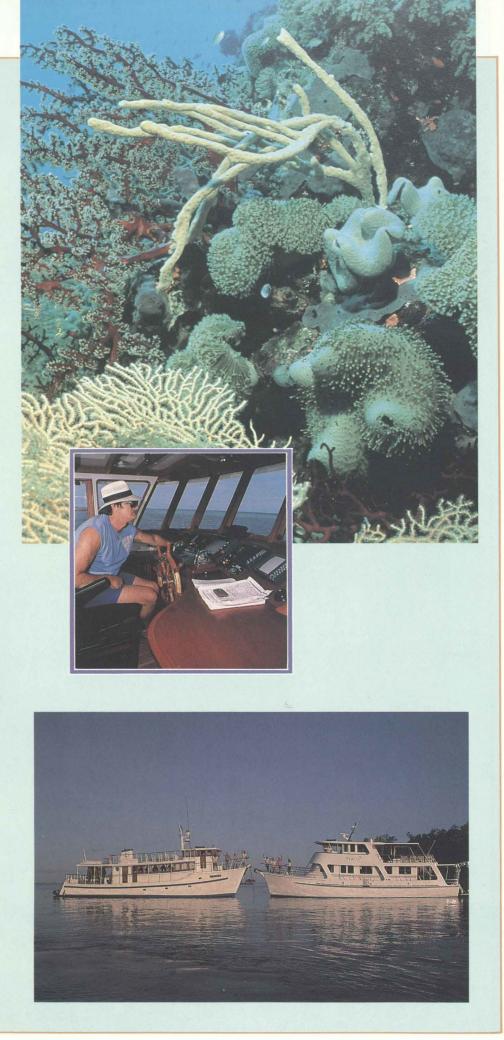
Giant clams, some over a metre long, can be found in many areas, and come in various patterns and shades. Even the elusive tartan hawkfish, one of my favorite photographic subjects, became rather commonplace.

The multitude of different fish seen sent us rushing to the ship's well-stocked library after almost every dive, in the hope of describing our finds to the other divers in the group and share the experience.

On the fish action sites, typically dives on locations with strong currents and amazing numbers of reef and pelagic fish in feeding frenzy, careful orchestration by the ship's staff made the diving even more enjoyable. On some sites, a drift dive would be planned with simultaneous water entry after precise boat placement without anchoring. Other sites allowed anchoring with placement of a current line from the dive platform to the anchor line. Typically, on these current sites the soft corals would be 'in bloom', providing a color feast hard to describe.

I would not advise this trip for a beginning diver. To fully enjoy this type of diving, a fair amount of open water and current diving experience would be helpful. It is fair to say, the staff will take into account the experience level of each diver and will help as needed, yet allow independent divers to perform to their desired level without interference. Dive computers are highly recommended to take advantage of the 'unlimited' diving to the extent that your stamina and safety will allow.

Above right The living coral. inset above right Kevin Baldwin. right Tiata meets her sister ship, the famed Telita.





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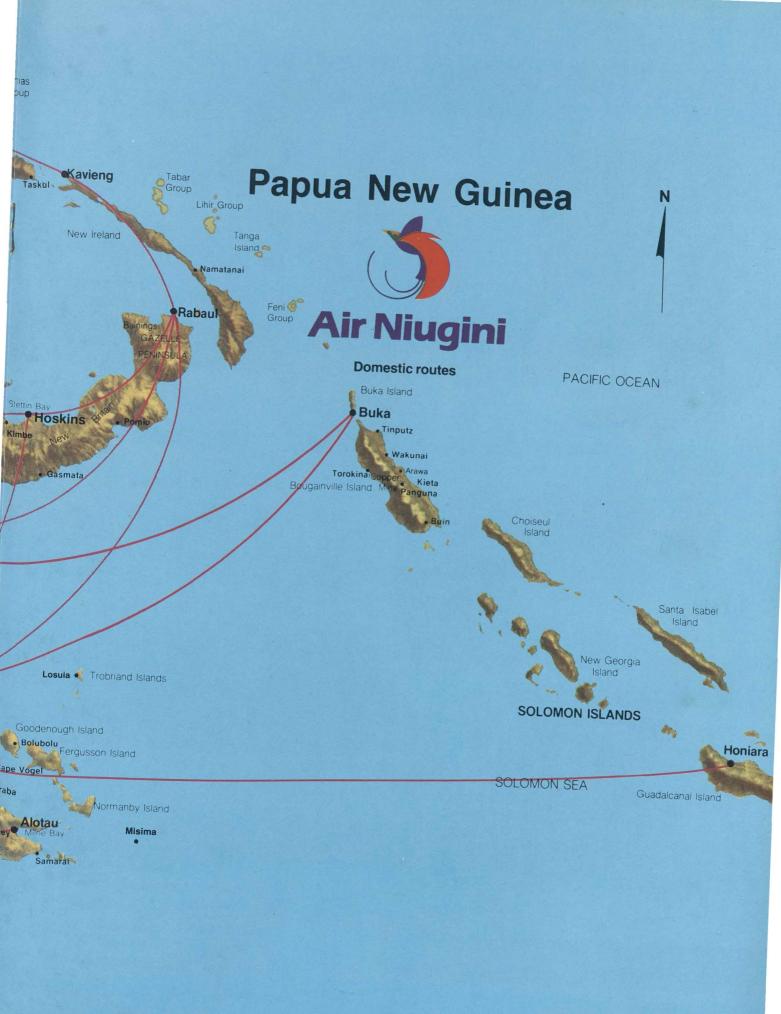
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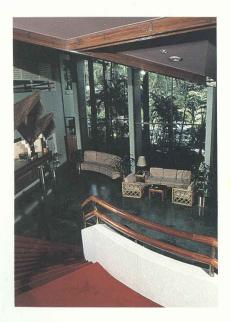
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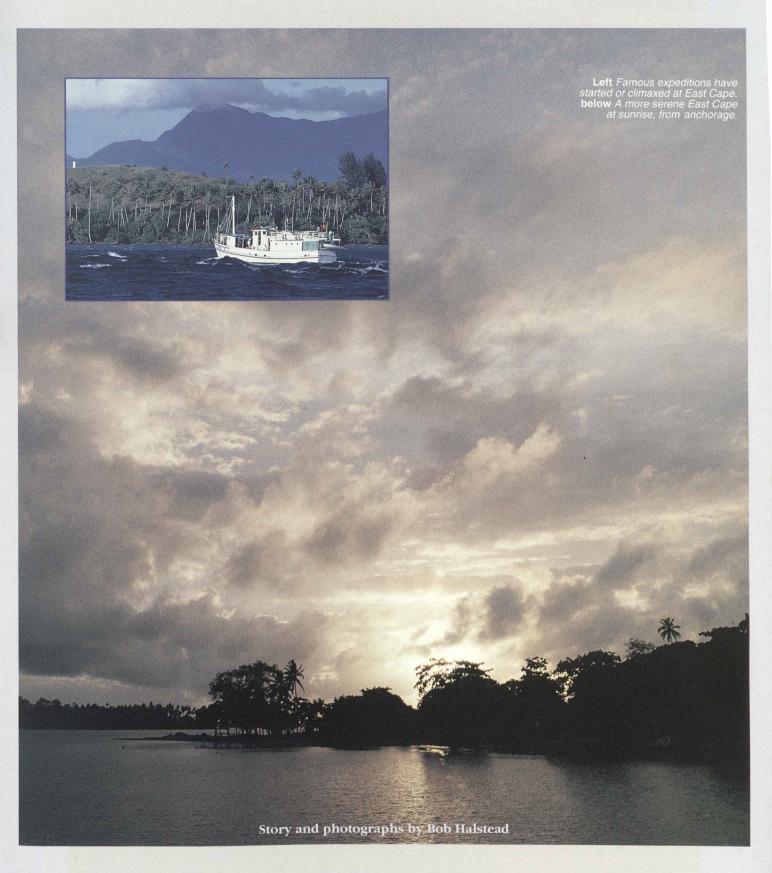
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EASTCAPE

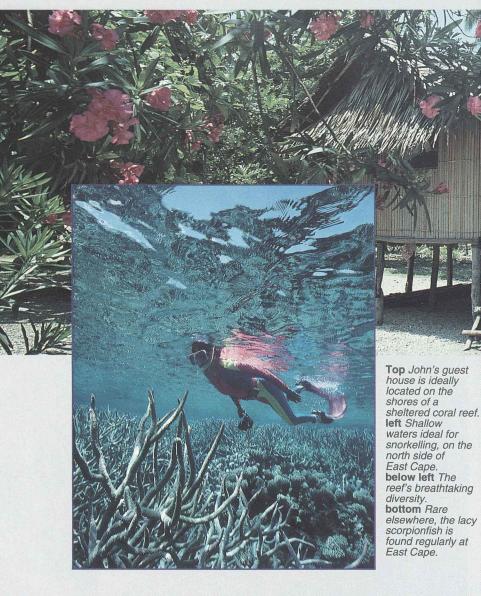
and's End, Cape Horn, The Cape of Good Hope - the names conjure romance and adventure. Here, oceans collide and thrill sailors with their power and wild beauty. Famous expeditions have started or climaxed at East Cape, and so it is not surprising that this is one of the most popular places to visit in Milne Bay.

East Cape is located at the end of a hilly, tapering peninsula that makes up the northern coast of Milne Bay. Situated at the Cape is a large village where the pretty traditional houses, surrounded with frangipani, poinciana and bountiful palms, give little hint of the precipitous underwater cliff, just off the northern shore, that falls through fathoms of blue water to unexplored depths.

There are two small islands in line with the peninsula just off the Cape. The first, Mei Mei'ara, has a narrow channel between it and the Cape and a navigational light on top of a small hill. Boa Boia Waga island is a kilometre or so further away. A second channel connecting the north coast to Milne Bay, cuts through the maze of coral reefs between the islands.

The light on Mei Mei'ara island has guided ships for many years. However, in the days of sail, rounding the Cape into Milne Bay was not without its difficulties. Strong currents surge through the channels and mostly flow from the south. When the southeast trade winds were blowing, sailing ships found it impossible to sail against them and had to remain at the small anchorage on the northern shore until favoured by a change of wind or tide.

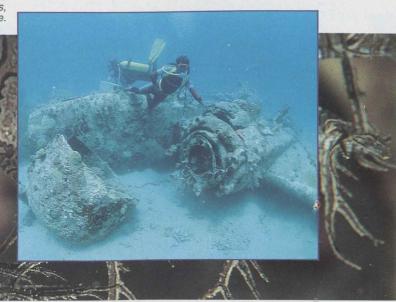
The most commonly used passage is the one between





Inset above right Village children welcome visitors to John's guest house. right Mysterious skull cave. below right Wreck of Hudson aircraft, complete with machine guns, near East Cape.





East Cape and Mei Mei'ara. The wreck of a large steam powered ship that misjudged the reef lies in shallow water, all but the massive boiler now buried in the living coral. The identity of the ship remains a mystery, but the reasons for its demise are all too obvious, as the clear water reveals massive coral claws reaching for the surface.

The diesel-powered boats used today have little difficulty navigating the channels, though the water can be rough if wind and current oppose each other. Nevertheless, these small boats, essential to transport villagers and their cargo to the provincial capital of Alotau, still regularly anchor just on the north side of East Cape.

Comfortably sheltered from the trade winds, the crews and passengers rest here after crossing from Normanby Island, whose towering mountains are clearly visible from East Cape, or after running down the coast from Tufi or Dogura.

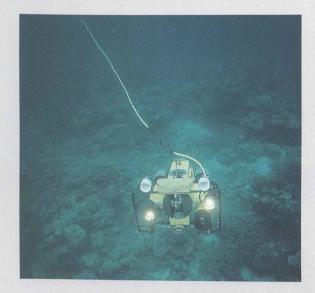
As they anchor they are greeted by John, whose family owns the land near the anchorage. John is friendly and enterprising and paddles out to all the boats visiting the anchorage to welcome them and see if anyone needs to buy food, betelnut or other supplies. He uses his canoes to help ferry passengers ashore and has earned the nickname of 'Harbormaster' which he accepts in good humour.

In the calm of early morning, after a peaceful night's sleep, the captains heave their anchors and head through the passage to make the four-hour cruise up Milne Bay to Alotau.

John has a vast knowledge of local traditions and can also arrange expeditions to nearby skull caves where the skulls of ancestors or perhaps vanquished **Above** Whale sharks are an awesome sight for experienced divers at East Cape. **bottom and centre** Remote Operated Vehicle (ROV) is used to film sand tilefish 60 metres below the sea.







enemies have been preserved. There is good coral reef right in front of John's guest house, in shallow, sheltered water ideal for beginning snorkellers, and excellent reefs around the islands with world class snorkelling and scuba diving.

As a bonus, close to shore on the south side of the Cape, there is the upside-down wreck of a Hudson aircraft ditched during World War II, and complete with all its machine guns and other artifacts.

Although swim currents often flow through the channels - which make for exciting drift dives for experienced divers - there are many places on the northern side of the islands and Cape that are sheltered from wind and current and can be dived or snorkelled by beginners.

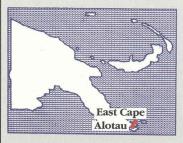
There is also fabulous diving suitable for only the most experienced divers. All along the northern side is a steep slope eventually reaching over a l,000-metre depth. Killer whales and pilot whales are regularly seen and we have swum with them on several occasions.

Fish considered rare elsewhere are regularly found at East Cape. These include the lacy scorpionfish and the leaf scorpionfish. The sand tilefish lives at 60 metres, allowing scuba divers only a few brief moments to try and get some pictures.

In 1994, we were able to arrange a special cruise with Dr Eugenie Clark, Professor Emeritus of the University of Maryland, who has been leading eco-tours with us for many years. She invited well-known deep water photographer, Emory Kristoff, from National Geographic Magazine, to join us. He brought a deep water ROV (Remote Operated Vehicle) on board Telita.

The ROV carries lights, a video camera and a still camera. Operators on the boat use a joystick to control electric motordriving propellers that can manoeuvre the ROV into position, as seen by observing a television monitor. Once on the bottom, fish activity is watched on the monitor and photographs of any interesting behaviour are taken by remote control. We were able to get some unique photographs and video footage of these fascinating fish building their rubble mounds behaviour never before witnessed.

Even with the ROV, only relatively shallow depths have been looked at. Nobody knows what exciting new creatures will be found deeper down the slopes, but, for sure, there are plenty waiting to be discovered.



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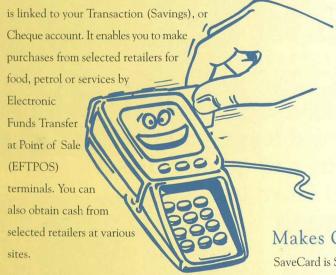
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NIGHT

Story and photographs by Rob Vanderloos



Left The 'basket star' which sleeps by day, will become active when the sun goes down.

ilhe Bay Province combines the most southerly parts of the mainland with over 600 islands and coral atolls. Here, divers and snorkellers can explore one of the greatest ecosystems of all, the living coral reef.

and the second second second

The MV Chertan is one of many live-aboards which conduct night dives from various locations off the mainland and, on occasions, at reef outcrops and old wrecks. Diving at night, with only a torch beam as guide, forces concentration on a very small part of the ocean at any time. Colors become much more pronounced, and creatures more readily identified.

Just as we of the land dress up on a night's outing, so too, do the creatures of the reef. This includes the reef itself, which appears to take on a brilliance not experienced during day dives.

Coral and rock formations



which appear a dull bluegrey by daylight hours, reflect bright oranges, yellows and reds under the torch beam.

During our night dives, we encounter many creatures, which by day either go into hiding or sleep. These creatures are known to be nocturnal, active only at night.

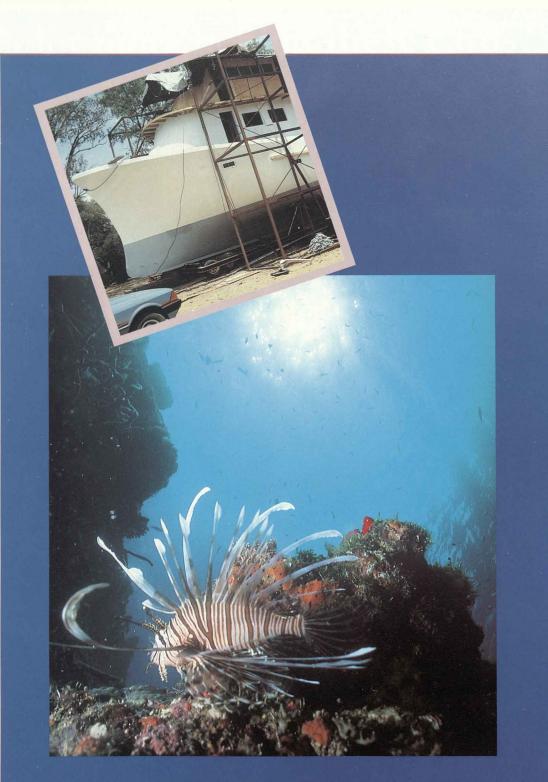
These nocturnal creatures include molluscs, many of which produce and develop a calcium carbonate skeleton which we all know as the sea shell.

The sea shell is formed by the animal secreting a substance — calcite — from the outer mantle of its body. The calcite forms the outer layers of the shell, while argonite, secreted by the inner mantle, forms the inner layers of the shell.

When diving at night, one can truly appreciate the beauty of the sea shell, not just for the color but for the way in which molluscs create these amazing and sometimes fragile residences.

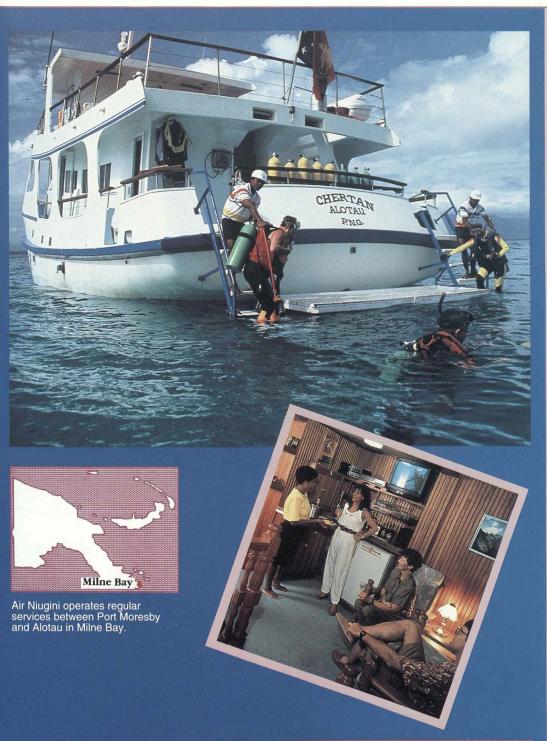
Many of the shells in the cowrie family lie dormant during the day beneath rocks, ledges and coral outcrops, then come out to feed in the early hours of the night.

Top The MV Chertan, pictured during construction, is popular with night divers. above right Torch light illuminates the unique beauty of the scorpion fish. right Spanish dancer. far right The colors of the living coral are more dramatic during night dives.













They emerge showing the reds, greens, blacks and see-through color of their mantle.

The soft mantle covers and protects the shell and repairs it if it is damaged. The mantle does not usually resemble the color pattern of the shell in any way.

Green mantles produce orange, black and brown shells. Black mantles produce brilliant white shells. Not knowing exactly what color lies beneath the mantle always adds to the excitement of a find.

Many of the cowrie species have developed soft spikes or spines as part of their mantle. Though these pieces of flesh may offer to the predator a fierce image, they are in fact harmless.

Another of the more interesting nocturnal creatures is the basket star. This creature, which occasionally reaches sizes of one and a half metres across, climbs to high points of the reef, where it extends its long arms into oncoming currents and picks microscopic food known as plankton from the passing water.

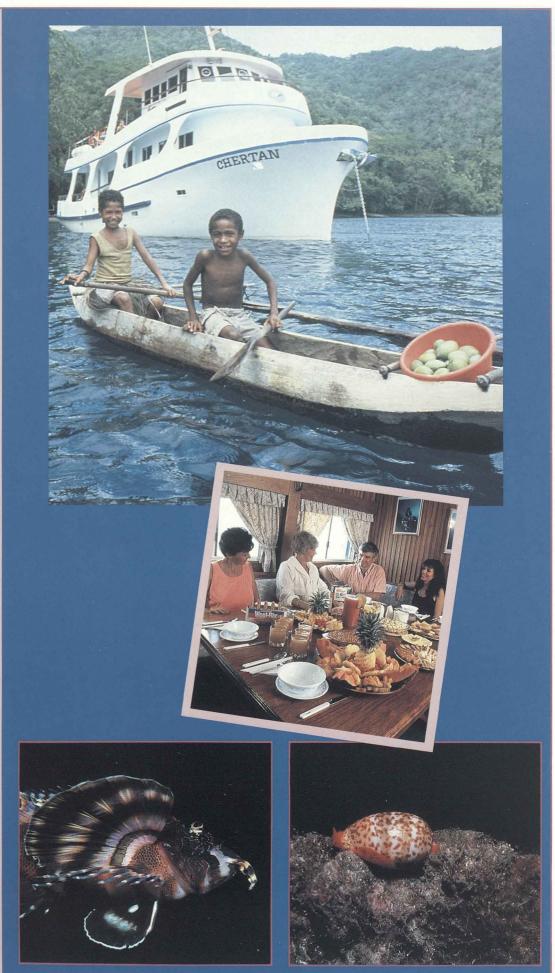
Torch light often sends these shy creatures scurrying to the shelter of their secluded hide-outs under the reef.

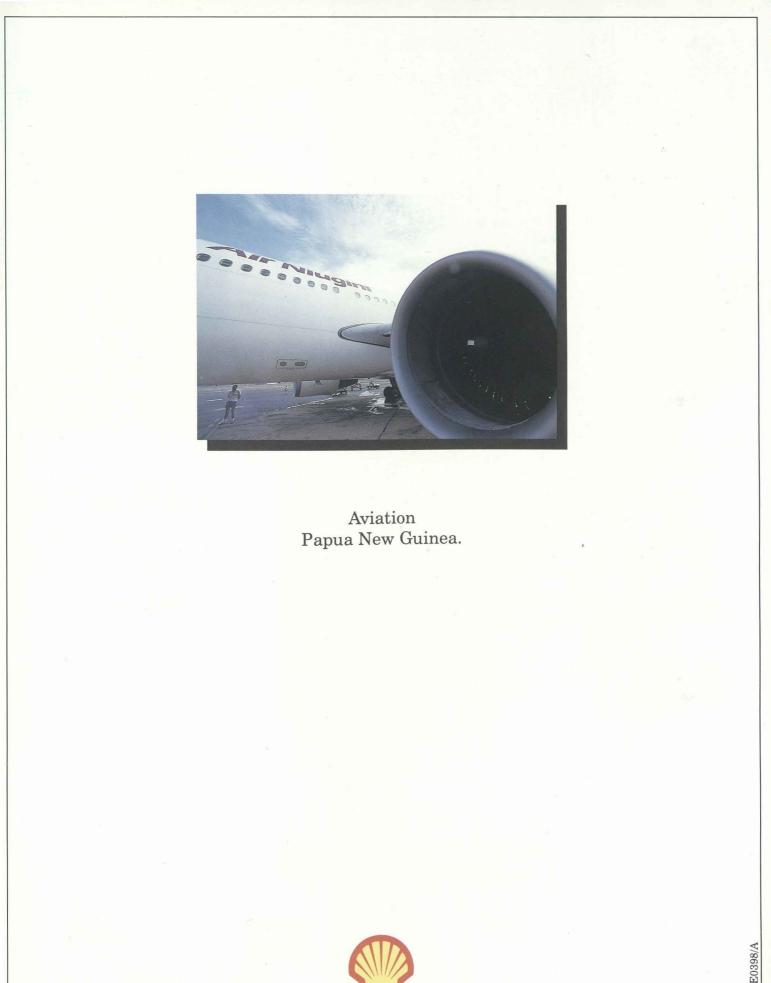
Top MV Chertan dive platform. above left Relaxing in a saloon of the MV Chertan. left Cowrie shells and their colored mantles are fascinating nocturnal creatures. far left Coral takes on an added brilliance. On night dives, one can expect to encounter a large variety of fish species — not all of them nocturnal. Fish that feed by day, find shelter for the night. They tuck themselves into small holes and gaps in the reef to avoid predators. Some species sleep out in the open, relying on other forms of defence to get them through the night.

Many of the harmful shells to man come from the condae family or cone shell. Some species from this family protect themselves from predators, as well as hurt their prey, by actually shooting a poisonous dart or harpoon from the animal's proboscis. Some species have inflicted injuries to man, some fatal. Consequently, cone shells should always be treated with caution.

Despite some dangers, the sea shell is one of the highlights of PNG's living coral reef. And the brilliant color transformations of the sea shell from day to night, make the night dive well worth doing on an adventure holiday.

Top Village children in Milne Bay Province carry cargo in their cance. **above right** A breakfast feast on board the MV Chertan. **right** Lionfish roam the reef at night for food. **far right** The beautiful cowrie.





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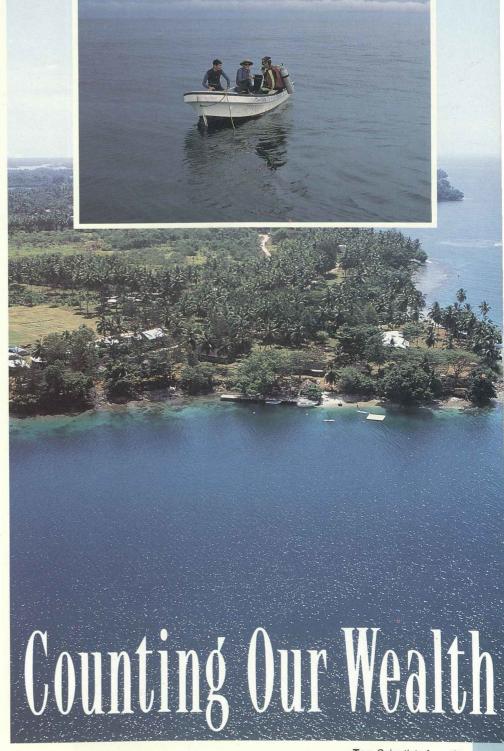
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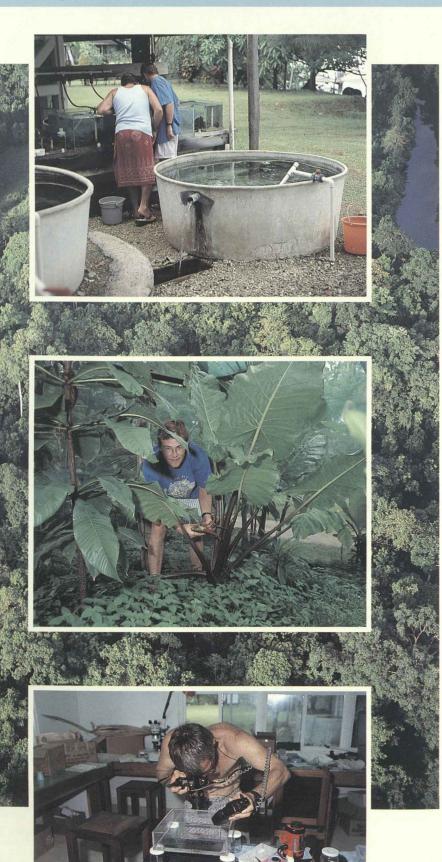
A MEMBER OF THE MARSH & MCLENNAN GROUP INTERNATIONAL INSURANCE & RISK MANAGEMENT CONSULTANTS Ph: 21 1811 Fax: 21 1324 lutching his small load of poison, Dr Allen went first. Five minutes later, the rest of us followed. On the reef, 20 metres down, the scene was comic. Thin clouds wafted in the current while a triggerfish darted from meal to meal, gulping down fish stunned by the poison. Along further, a trevally was likewise enjoying a free meal courtesy of the doctor and his load of rotenone.

The result of the early morning work for Dr Gerry Allen - noted ichthyologist and author - was two or three bottles of tiny fish, fish too small and too difficult to collect without the aid of rotenone. After two dives, Dr Allen and the other scientists motor back to the Christensen Research Institute (CRI), located on the tranquil shores of Nagada Harbour, 15 kilometres north of Madang, in Papua New Guinea. Here, Dr Allen examines the fish under microscope, and photographs them in a small square water tank. About 22 species are recorded, a typical count for that reef zone, although no new species are identified. Discovering new species is a routine fact of life at the CRI for many scientists who pass through. The nudibranch, a colorful shell-less mollusc, highlights this fact.

Dr Terry Gosliner, from the California Academy of Sciences, listed 360 species of nudibranch from the Madang area in 1988. Following a visit in 1989, the count went up to 429 species, 180 of these being undescribed. In Terry's fourth visit, in November 1990, the count increased by 72 species to an incredible 501. Again the count increased during 1992 to 543, making the nudibranch the richest fauna by far anywhere on planet earth.



Top Scientists from the Christensen Research Institute (CRI) prepare to dive on the Madang barrier reef. **above** The CRI site on the Nagada Harbour peninsula. **Top** Scientists inspect new finds in the CRI aquaria. **centre** Dr Mathew Jebb inspects wild taro in the herbarium. **bottom** In the CRI laboratory, Dr Gerry Allen photographs specimens for identification.



The jury is still out on the exact cause of this remarkable biological diversity. That the north coast of PNG is very geologically active is significant; conditions and habitats are changing quickly on the geological time scale. Organisms either adapt to new conditions and evolve, or become extinct.

The CRI's Director of Research, Dr Larry Orsak, comments: "The Madang unmatched lagoon's diversity is intriguing, considering the fact that the lagoon itself is thousands, not millions, of years old. There is no other formation like it on the north coast, and what it seems to offer is a unique collection of different kinds of microhabitats, all in one place."

During 1994, Dr Donald Potts studied corals while at the CRI and was astounded at the species diversity. Although the lagoon measures just 15 kilometres long and four kilometres wide, Dr Potts estimates that between 700 and 800 species of corals may be present. This exceeds the number known from Australia's massive Great Barrier Reef, and dwarfs the species count of around 50 from the Carribean.

"Many of the species that have only been found in the Madang lagoon are probably more widespread, but the lagoon is the only place where so many north coast species pack into the same spot," Larry concludes.

Not all work at the CRI revolves around counting the wealth of the natural environment. Using ultraviolet light, scientists observe bands on coral cores, taken from drilling through a reef. Organic molecules incorporated into the coral skeleton during past wet seasons show up as discrete bands. **Top** Just one of thousands of species of butterfly found in PNG. **centre** The hornbill, part of PNG's exotic wildlife. **bottom** Fungi, an integral part of the chain of life.

A team from the University of Edinburgh, led by Dr Sandy Tudhope, found that the severe twoyear droughts recorded this century in the Madang area have occurred for thousands of years. The coral cores indicate that two thousand years ago, a drought occurred lasting at least five years. These scientists have acquired a useful tool for understanding today's weather, and predicting the weather of tomorrow.

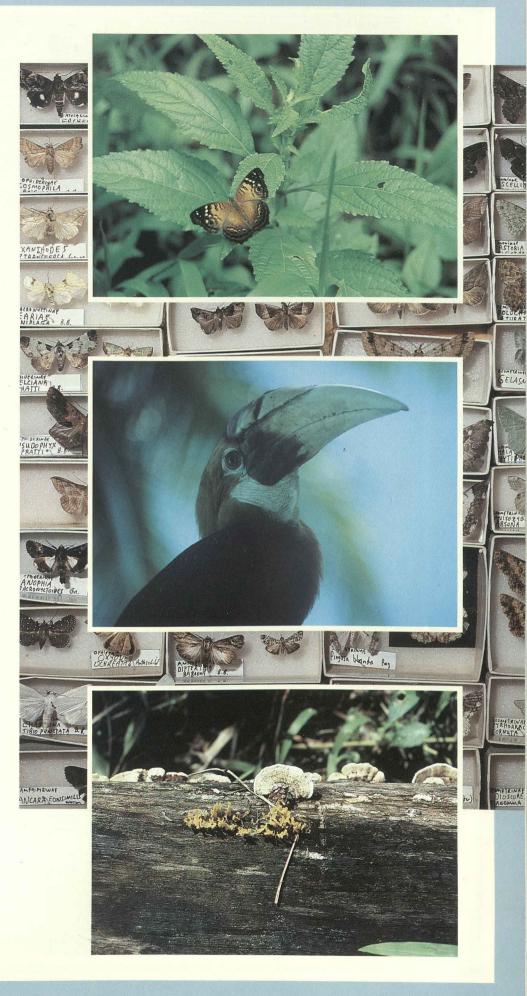
Since the CRI opened its Madang research facility in 1986, the wealth of knowledge gained has been impressive. However, much more remains unknown than known.

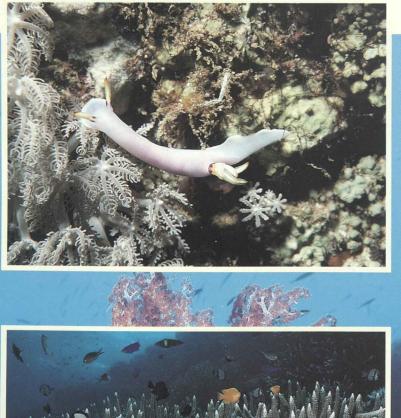
The CRI contributes significantly to its host nation and the broader PNG community in many ways. Visitor numbers are nearing 1,000 a year and this includes groups of Papua New Guinean school children.

Scientists give talks to local communities where material and data are collected and, recently, an information pavilion was constructed to house exhibits for visitors to peruse. Assistance is also given to set up wildlife protection areas where local initiative exists.

from Students the University of PNG are sponsored to undertake research doctorates overseas, and the training of PNG nationals as parataxonomists has started recently. The Institute acts generally as a coordinating centre for conferences and workshops, and the dissemination of information on PNG wildlife.

Scientists have long held conservation of biodiversity as one of the most important issues facing humankind. As the toll of disappearing species and grossly degraded environments has mounted,









the general public has realised the importance of this issue. One of the success stories of the 1980s was the control of a crippling infestation of the water weed Salvinia molesta in the Sepik River.

The weed caused villages to be abandoned by preventing navigation of the waterways, blocking access to health centres, schools, and food-producing areas. In 1982, 250 square kilometres of the river and backwaters were infested. By 1986, this had been reduced to two square kilometres.

The search for the native habitat of the Salvinia weed and a natural control agent went on for many years. Eventually, control followed the release of a weevil found in a small area of southern Brazil.

Selection of future biological control agents, development of new medicines, and improved crop species, will depend on the use of biological resources. Tropical countries are particularly wealthy in these resources. Scientists report that the canopy of a single rainforest tree can house as many as 10,000 species of insects. The irony of such great biodiversity is that usually, the greater the diversity, the smaller the population of each species. Dr Gosliner, after many months of work, still has only one specimen of nudibranch for more than half the species he recorded.



Air Niugini operates regular services between Port Moresby and Madang, with connections to other main centres.

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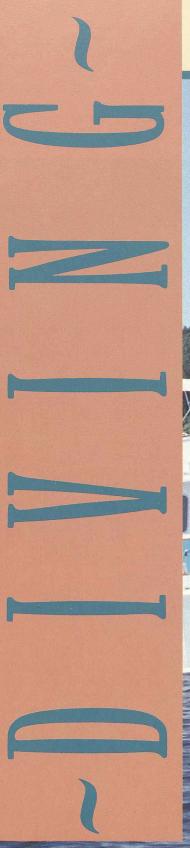
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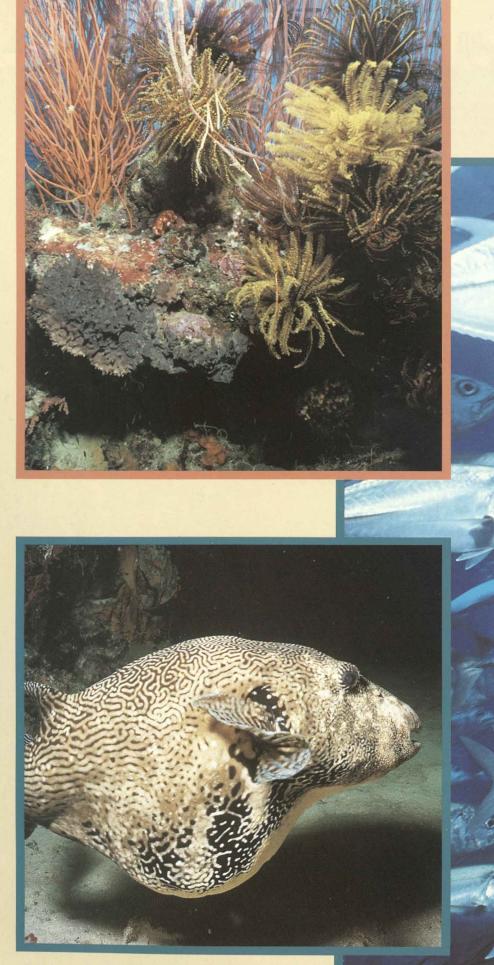
Story and photographs by John McLennan

Above Liveaboard dive vessel, MV FeBrina. **right** Polyps appear brighter at night.

on M.V. FeBRINA







Top Sea whips and crinoids are part of the rich reef life in Kimbe Bay. **above** The comic puffer fish. **right** Scuba divers encounter many wonderful coral formations.

he air was electric. Nobody spoke. Six of us stood on the slowly moving bow of MV FeBrina as we looked out across the Bismarck Sea in late afternoon, towards the four dormant and one active volcanoes of the Hoskins Peninsula. The highest of these five peaks is Mt Mululus which is over 1300 metres high.

A pod of more than 100 pilot whales swam slowly in front of us. Fine mists of spray from their exhalation of air turned a golden orange as we looked into the setting sun beyond these air-breathing mammals.

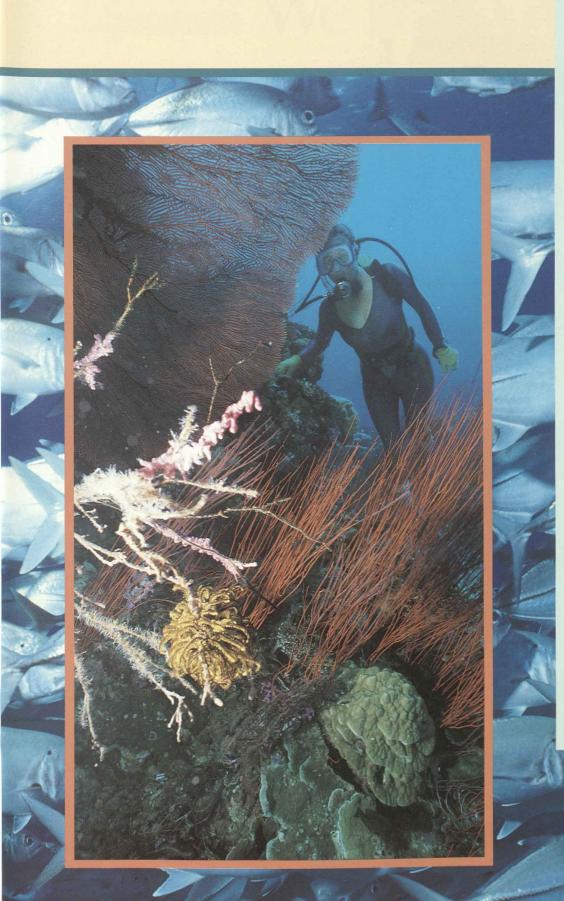
"Let's go diving", called Alan Raabe, our captain. We hurriedly donned mask, snorkel and fins and for the next half an hour attempted to swim with these sevenmetre cetaceans.

On three occasions, I was able to slide over the side of our small tender and swim up towards the pilot whales only to find that when 20 metres from a pod of six or seven, they would arch their backs and sound.

"The Bismarck Sea is as deep as 2000 metres and the upswelling currents bring the nutrients and the fish to this great new dive area" Alan explained.

Overnight while we slept, Alan headed north-west and as the sun rose we entered St Michaels Harbor on Garove Island, the largest of the Witu Islands.

St Michaels Harbor is an ancient caldera and sometime in the last million years, its volcanic core exploded leaving a highsided protected anchorage.



A small white wooden church abuts the harbour looking like a scene from a painting by Gaugin. Just as spectacular as the scenery above it, is the vista below. Lama Reef is a seamount two kilometres offshore from Garove Island, with the reef top 25 metres under the water.

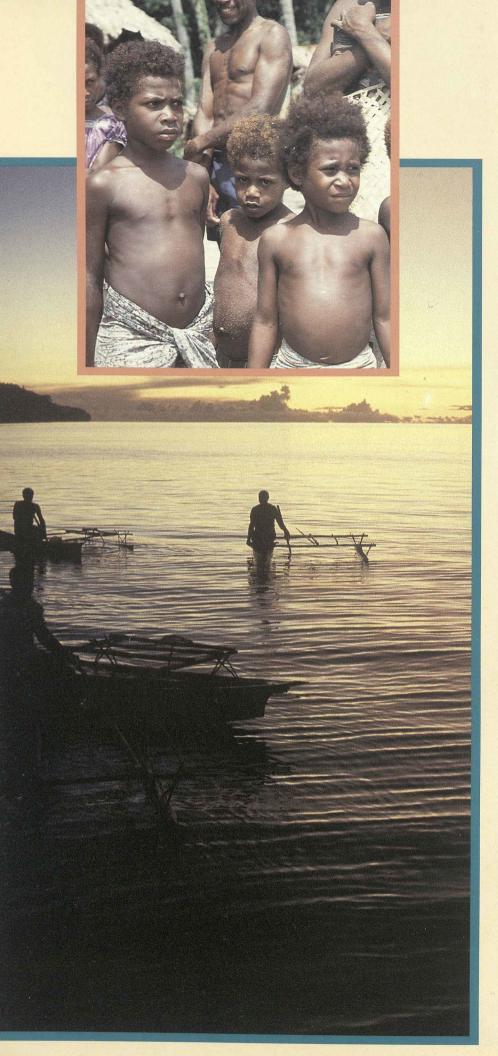
Because the current ran strongly during our dive, the open reef face was amass with large open-water fish. Behind the reef, and out of direct current, grew a lime green profusion of tree-like coral. This turned out to be black coral, which is not black at all except in death when the flesh is removed allowing the black skeleton to become visible.

During the next three days in the Witu Islands, we dived two more seamounts. The one I liked most was one that had not been dived previously, and which Alan picked up on the depth sounder.

It was late afternoon, and from the top of the seamounts in 30 metres of water, flittering pencils of blue light drifted down, giving an eerie surrealism to the dive. Schools of square spot hovered on top of the reef like butterflies, while down in the coral, lunar tailed coral trout waited for any small prey to come close enough to ambush.

Overnight we steamed east to the Ban Ban Reefs, which lie well offshore to the northeast of Hoskins.

On the first dive, the current ran strongly, and



Left Curious village children on the island of New Britain. below left Tranquil sunset at the Witu Islands is a fitting finale to a day spent in an underwater 'paradise'.

after struggling with cameras to get down the anchor line, we were rewarded on the face of the reef with huge and fast swimming schools of bigeyed trevally who gave us merely a cursory glance as they sped past in a great hurry.

Large dog-toothed tuna acted as sentinels for bigger groups of rainbow runners and, swimming closer to the reef face, were schools of feeding oceanic trigger fish.

After turning for home the diving kept its intensity. At the mouth of Kimbe Bay, we dived Bradford Shoal and Laurabada Shoal. Both these deep seamounts restrict your diving time, but, what you lose in dive time, you make up for in grandeur.

Being first in the water at Bradford Shoal, I was lucky enough to get to within 10 metres of four scalloped hammerheads, before they dived away quickly on our approach.

A diving holiday in PNG waters offers the electrifying action of schooling pelagics, the sheer awe of a pod of pilot whales swimming past, and the serenity of untouched reefs resplendent with huge pastel soft corals, covered with a profusion of small and large reef fish.



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