

ultra marine

In far eastern Indonesia,
the Raja Ampat Islands embrace
a phenomenal coral wilderness.

Golden sweepers shelter beneath a canopy of table coral.

PARAPRIACANTHUS RANSONNETI (GOLDEN SWEEPER)



Layers of life: A nearly transparent triplefin (left), less than two inches long, lingers on stony coral studded with blue polyps. A porcelain crab (right) could rest on a thumbnail. It blends with a soft coral's striations, bits of calcium carbonate that brace the coral's water-inflated body.



UCLA XENOGRAMMUS (FISH); *PORCELLANELLA* SP. (CRAB)



Text and photographs by David Doubilet

What scientists found when they surveyed the waters of the Raja Ampat Islands six years ago set off an international alert for their preservation. The archipelago's reefs were not just rich—the region would prove to have the greatest coral reef biodiversity for its size in the world. Even a short initial voyage confirmed more than 450 species of reef-building coral, nine newly discovered. The entire Caribbean, by contrast, holds fewer than 70 species. With so many of the world's reefs destroyed or suffering catastrophic decline, efforts to safeguard this treasure went into high gear.

One of the first divers to get an inkling of the abundance that lay below wasn't a scientist but an adventurer named Max Ammer, who came to the sparsely populated Raja Ampat Islands from the Netherlands in 1990 looking for abandoned jeeps and sunken aircraft from World War II. He stayed for the coral and carved out two eco-resorts on the small island of Kri. In 1998 he guided renowned Australian ichthyologist Gerry Allen on a few dives. "Each dive was a mini-exploration," says Gerry. "A light snapped on in my brain, and I thought: This is it."



Jungled karst islands form the magical maze of Wayag (top) at the northern reach of the Raja Ampat Islands. Its baroque geography is a microcosm of the archipelago. Protection efforts include the newly created Bird's Head Seascope (inset).



Gerry lobbied Conservation International (CI) to conduct a marine survey. Both the region's remoteness and the political turmoil in Indonesia had made it difficult to study these waters systematically, but in 2001 Gerry was among the scientists gathered by CI to make a rapid assessment of Raja Ampat. His intuition had been spot-on. The survey brought Raja's fish species count to an astounding 970; Gerry set a record for personally counting 283 species on one dive. Follow-up surveys coordinated by CI and the Nature Conservancy added to Raja's species count in fish, corals, and other marine life, and confirmed that this biological frontier was an El Dorado of coral reefs.

But these are not all vacation-poster reefs bathed in bright, gentle waters. This is an unruly frontier. Fortified with plankton, key to the reefs' fecundity, the waters are often murky and veiled, churned by currents so powerful you feel as if you're diving in a washing machine and so dizzying with life that the scene could have been painted by Jackson Pollock.

As diving partner Jennifer Hayes and I swam over the lip of a reef off a rocky islet near Kri, the sea changed from lighthearted blue to brooding green. Purple fields of leather coral rippled as the current came at us like threatening gusts of wind. Reaching a protected undercut, we entered a grove of orange, red, and yellow sea fans surrounded by a pink and purple hedge of soft corals. Swarms of orange anthias fish hovered at the edge of the current, while a squadron of plate-size batfish patrolled the perimeter of the soft coral garden.

Running low on air, I pushed off to return to the boat and spun into the propelling current, one hand on my cameras, one hand stretching for the boat's ladder, which I caught like a trapeze artist. The islet itself was trailing a wake from the current whipping around it. It's easy to believe the local tale that during World War II the Americans bombed this islet at dusk, thinking it was a Japanese patrol boat steaming across the bay.

What makes these waters a cauldron of life? "Habitat, habitat, habitat," says biologist Mark Erdmann, senior adviser to CI's Indonesian Marine Program. "Extensive fringing reefs, wave-pounded drop-offs, calm deep bays funneling upwellings of nutrients, sand flats, mangroves, sea grass meadows—all in an area that's isolated and still for the most part intact."

How these reefs became, in Mark's words, "a species factory," goes back geologic lifetimes to when a series of ice ages lowered ocean levels, leaving small, isolated seas in which species could evolve and diversify. Now the region is a crossroads for Pacific and Indian Ocean species, whose numbers are still being counted. Surveys in 2006 revealed marine life rivaling Raja Ampat's richness—and at least 56 new species—just to the east along the island of New Guinea around Fakfak and Cenderawasih Bay. To encourage protection of these sites as well as Raja Ampat, CI, the

Nature Conservancy, and the World Wide Fund for Nature—Indonesia, with the backing of the Indonesian government, created the 70,600-square-mile Bird's Head Seascape. Most of it is not yet legally protected, but the government this year named seven new marine protected areas covering nearly 3,500 square miles in Raja Ampat.

What the Bird's Head Seascape holds: 2,500 islands and reefs, more than 1,200 fish species, 600 coral species, 700 mollusks (including seven species of giant clam), sea turtle rookeries, and more. What it's been robbed of: sharks. They've been slaughtered by outside commercial fishermen supplying the shark-fin soup market. Commercial fishing remains a threat, as does logging and nickle mining. Blast fishing by local subsistence fishermen has damaged some reefs, though the practice is fading as villagers become economic partners in conservation programs.

Raja Ampat is the seascape's crown jewel. Fittingly, the name means "four kings." Centuries ago those kings were men, four rajas granted rule here by a sultan of the Spice Islands, today's Moluccas, just to the west across the Halmahera Sea. Now Raja Ampat's four largest islands are considered the kings. Their waters make them truly royal.

📌 **Dive on the Wild Side** Take a narrated journey with David Doubilet, and find links to organizations working to preserve coral reefs at ngm.com/0709.



PERICLIMENES IMPERATOR (SHRIMP)

The parquet-patterned skin of a sea slug sets a choice table for an emperor shrimp. The inch-long crustacean cleans the slug, about as broad as a pancake, by eating plankton and detritus that collect on it.

A coral jungle, a heart of
darkness—not bright and sunny
but veiled and fertile



NASO CAERULEACAUDA (UNICORNFISH); *PLECTORHINCHUS POLYTAENIA* (SWEETLIPS)

A lone barracuda insinuates itself into a school of bluetail unicornfish (above). These fish congregate by the hundreds, following currents at the edge of reef drop-offs. At the base of a reef 65 feet down, ribboned sweetlips peer from a towering coral tree (right). The small school often shuffled its formation, but never left the sanctuary of the branches.





MANTA BIROSTRIS

They were like condors soaring on thermals, mantas with wingspans of ten feet and more, caught by sunlight as they glided and looped in currents ripping through Dampier Strait. While mantas filter-feed in this murky broth of plankton, yellow-striped jacks find protection among the giants.

Creatures odd, rare, and newly discovered stake claims in this remote frontier



The shark that walks: A two-foot-long epaulette shar (above) propels itself on muscular fins near Fakfak. One of two new species of epaulettes discovered here, it swims if alarmed, but normally strolls, hunting crustaceans, snails, and small fish in coral crevices. A tasseled wobbegong shark lurks in an oil drum, perhaps from World War II. Usually camouflaged against the ocean bottom, looking like a disheveled rug, the ambush predator is also called a carpet shark.



HEMISCYLLIUM SP. (EPAULETTE SHARK); *EUCROSSORHINUS DASYPAGON* (WOBBEGONG)

Reef meets rain forest in the serpentine passage between the islands of Waigeo and Gam. Ten feet below the surface, a glade of sea fans bathes in light scattered by jungle above.



In terms of biodiversity,
this is the Amazon of
coral reefs



HIPPOCAMPUS DENISE (SEAHORSE); *PRIONOVOLVA* SP. (COWRY)

Imitation is the sincerest form of survival for Denise's pygmy seahorse, no bigger than a pinky nail (above). White bumps mimic the polyps of its coral corral. Flamboyant in close-up, a cowry (right) is well disguised at a distance in the fluffy arms of pink-and-white soft coral. The mollusk's body covers its shell, polishing it to the famous cowry sheen.





AURELIA AURITA

Moon jellies rise at nightfall off the island of Gam. Brightened by my strobe, their translucent bodies glowed. Thousands of them pulsed in this sheltered bay, luminous heartbeats of a living sea. □