



# Tipping the scales

Marine nomads, the Bajau Laut have lived on the waters of Southeast Asia's Coral Triangle for centuries but their way of life is being destroyed – as a result of ravenous demand for reef fish in Hong Kong and the mainland.

**Johnny Langenheim** explains. Pictures by **James Morgan**.



Cover story

Have you ever wondered how, if the region's waters are supposedly so depleted of fish stocks, the seafood restaurants in places such as Sai Kung and Lei Yue Mun are able to offer such a wide variety of species, and in such large quantities? The answer lies in part in the Coral Triangle, a bioregion that encompasses the tropical marine waters of six Southeast Asian countries and which harbours the greatest marine biodiversity on Earth, including 76 per cent of all known coral species.

Demand for seafood from the Coral Triangle – predominantly from Hong Kong and the mainland – has led to the proliferation of destructive fishing techniques. Although some resist and operate responsibly, local fishermen are being encouraged, often by Chinese and Balinese exporters, to employ home-made fertiliser bombs and potassium cyanide, which is squirted at fish to render them immobile. These fishing methods are


not only destroying the reefs and the species that live on them but are also changing the lives of people who live in the area. Few communities have been affected as much as the Bajau Laut.

The Bajau are some of the last true marine nomads. For centuries they have called the ocean home, plying the coastal waters of Indonesia, the Philippines and Malaysia in narrow boats known as *lappa lappa*, which are just five metres in length and 1½-metres wide.

Recently, many Bajau have been encouraged by government initiatives in Malaysia and Indonesia to leave their depleted hunting grounds and settle on land, usually in stilt villages, but a dwindling number still spend months at a time on their boats, returning to land only to secure staples such as rice and fresh water, or to attend ceremonies. Their knowledge of the marine environment is legendary and although historically marginalised, they were counted upon by the great Malay sultanates to establish and protect trade routes. The Bajau used to fish exclusively with nets and

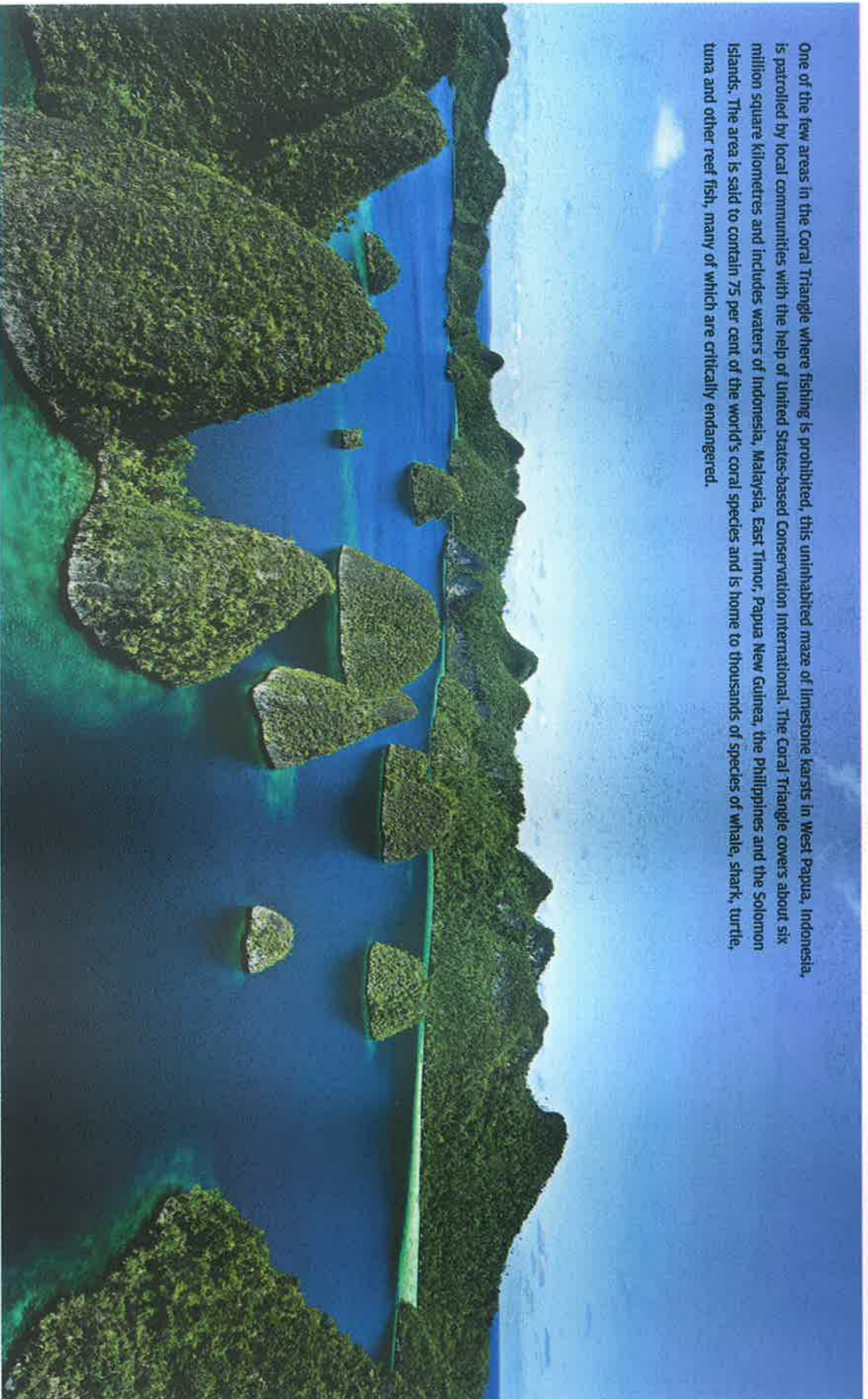
lines and were expert free-divers, going to improbable depths without breathing equipment in search of pearls and sea cucumbers, or to hunt with handmade spear guns. These days, however, the rumble of compressors is a common sound in many Bajau villages. With no knowledge of decompression sickness – which develops when compressed air is used without understanding the science: the need to come up slowly, take safety stops and so on – Bajau divers spend too much time at depth fishing with cyanide and a number of them have been crippled or killed by “the bends”.

Cyanide fishing is driven almost exclusively by the live-fish trade and target species include grouper and Napoleon wrasse. Since the industry is barely regulated, there is no way for consumers to know whether the fish they're eating was poisoned – and then injected with tetracycline, an antibiotic that increases a fish's chance of living and stays in its system for up to a week – or caught using sustainable methods. Or what might have happened to the person who caught it. ■

A large, light-colored shark is swimming in clear, shallow water over a rocky reef. The shark is the central focus, moving from the upper left towards the lower right. The water is a vibrant turquoise color, and the rocky bottom is visible through the clear water. The lighting is bright, creating a high-contrast scene.

Enal plays with his pet shark, Wangi. Wangi, few Bajau Laut children are born on boats these days but the ocean remains their playground. Although they are getting conflicting messages from their communities - which refrain from spitting in the ocean but seem perfectly willing to dynamite its reefs - these children could play a crucial role in the development of marine-conservation practices.

One of the few areas in the Coral Triangle where fishing is prohibited, this uninhabited maze of limestone karsts in West Papua, Indonesia, is patrolled by local communities with the help of United States-based Conservation International. The Coral Triangle covers about six million square kilometers and includes waters of Indonesia, Malaysia, East Timor, Papua New Guinea, the Philippines and the Solomon Islands. The area is said to contain 75 per cent of the world's coral species and is home to thousands of species of whale, shark, turtle, tuna and other reef fish, many of which are critically endangered.



Above: Ibu Diana Botutile is one of the few remaining people in the world to have lived their entire life at sea. She visits land only occasionally, to trade fish for rice, water and other staples.

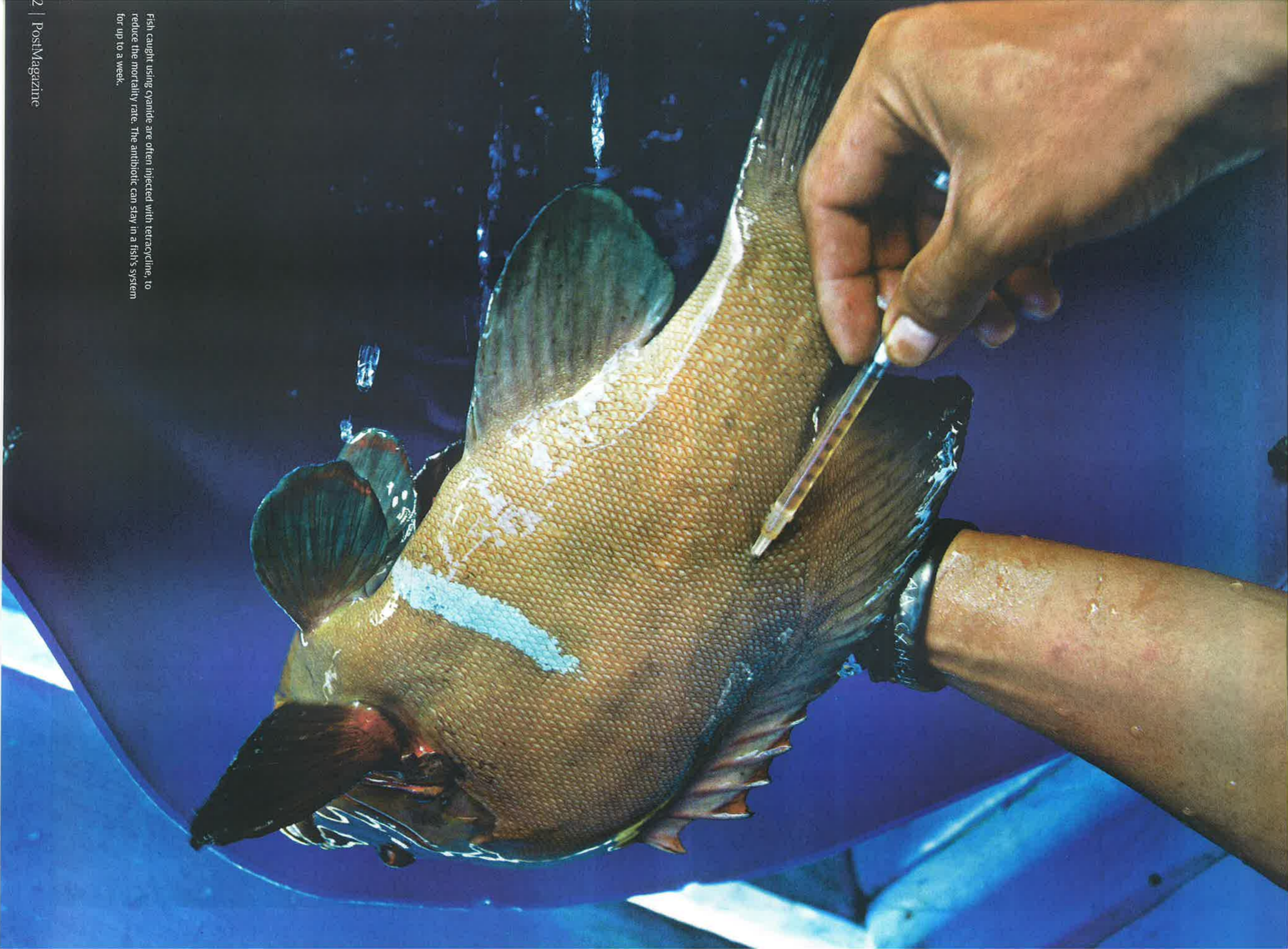
Above right: Moen Lanke, who free-dives for clams with a tyre iron. The weight of the iron holds him down on the ocean floor, allowing him to run along the reefs. In order to get around the problem of equalising (a technique used by scuba divers to balance the pressure of the inner and outer ear at depth), it is common practice among the Bajau to deliberately burst their eardrums at an early age. The trade-off is deafness in old age.

Far right: Ibu Hanisa lost her hands and the sight in one eye when the home-made fertiliser bomb she was making blew up prematurely.



Bada Ipus lays out a square kilometre of net off Sulawesi, Indonesia. When he was young, he says, his nets were much smaller, but his catches much greater.





Fish caught using cyanide are often injected with tetracycline, to reduce the mortality rate. The antibiotic can stay in a fish's system for up to a week.



Top left: grouper are kept in tanks at Heru Purnomo's holding facility in Bali, Indonesia, before being flown to Hong Kong or the mainland. Purnomo is one of the few live-fish exporters who doesn't use cyanide and he is working with WWF to conserve both the environment and the future of his industry. Purnomo's company exports 400 tonnes of live reef fish a year.

Top right: a Coral Triangle grouper for sale at a seafood restaurant in Sai Kung town.

Above: catching a grouper with hook and line, as opposed to cyanide, results in radically decreased profits. Ultimately, consumer awareness is key to making a sustainable live-fish industry a reality.