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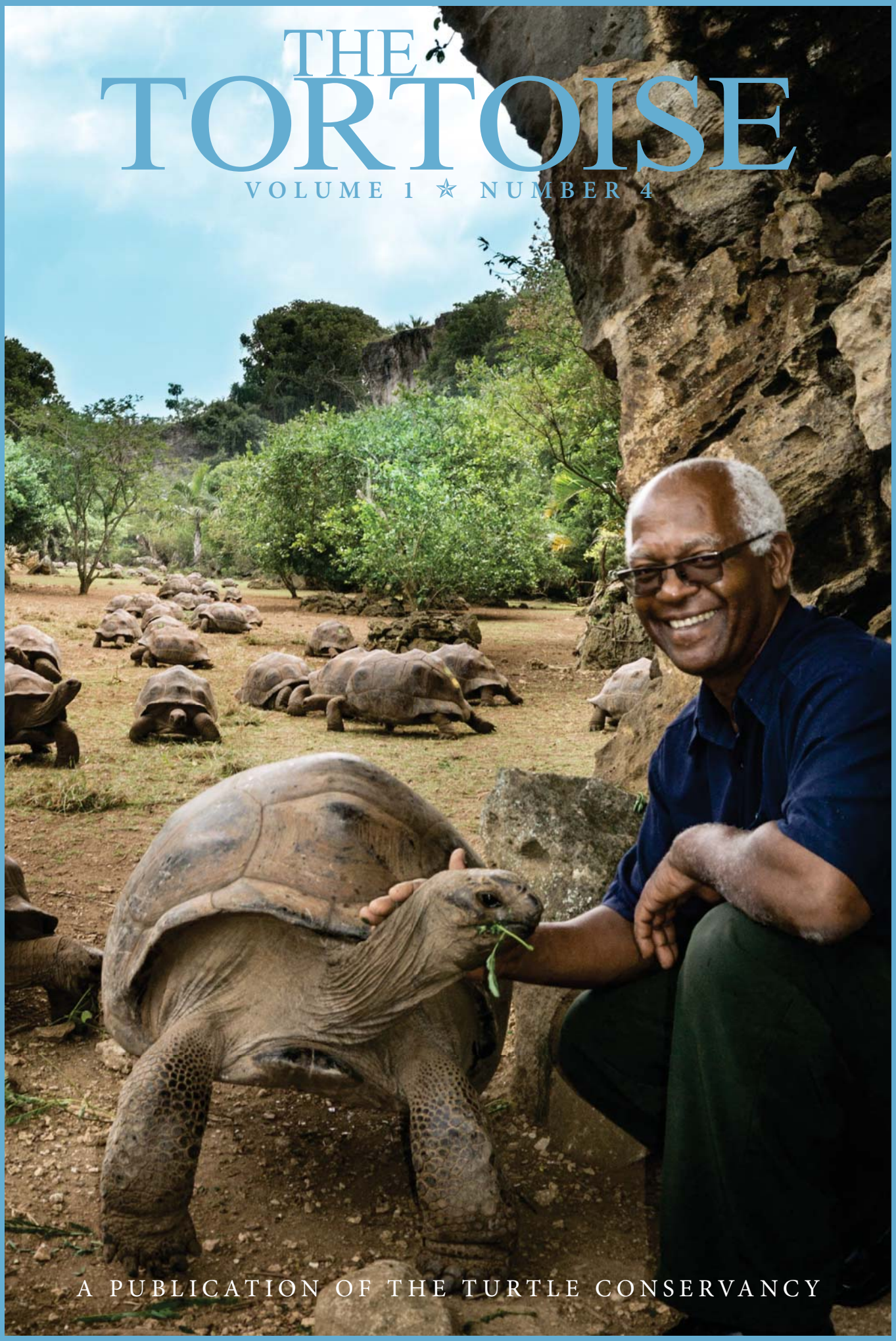

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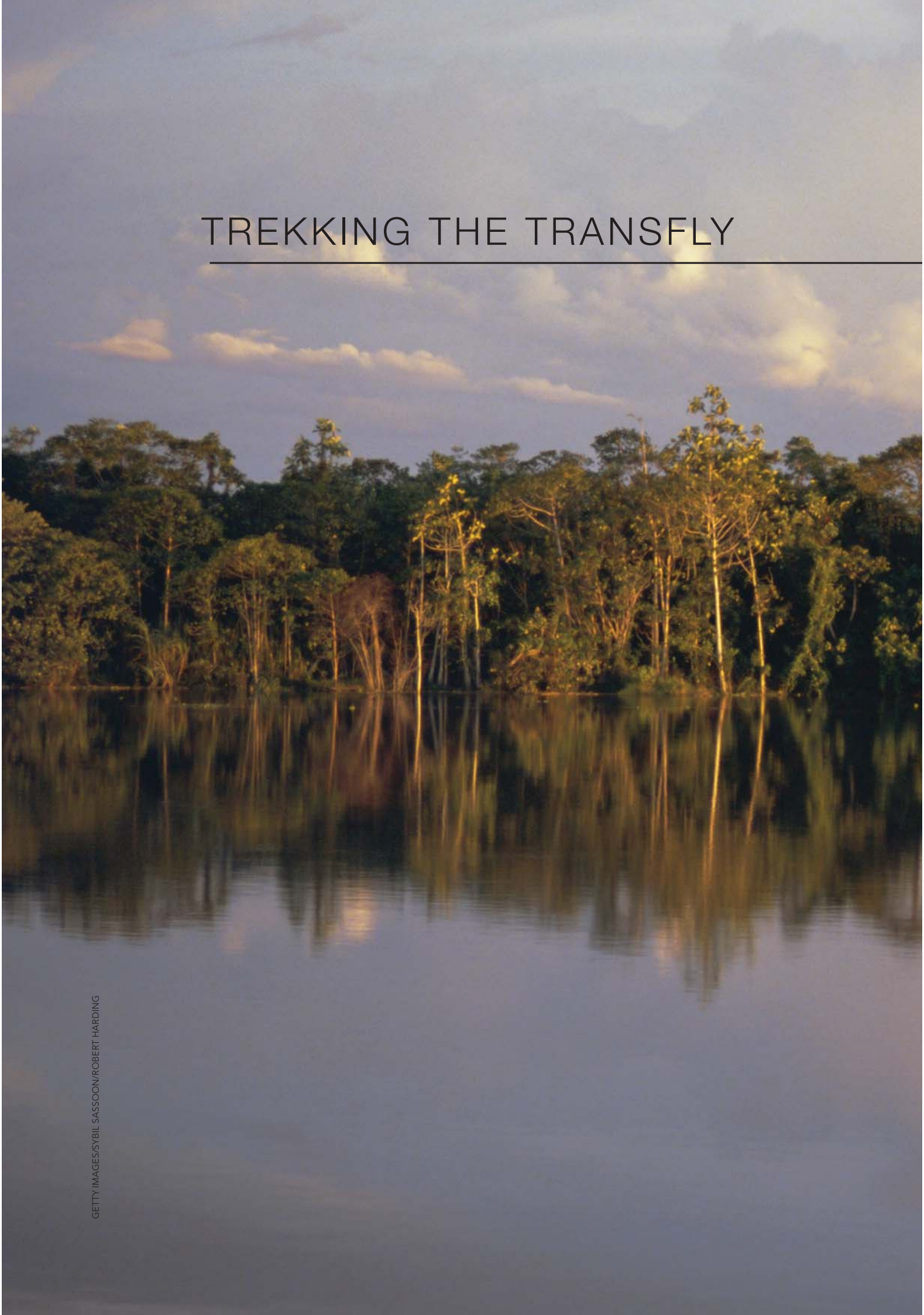
TREKKING THE TRANSFLY



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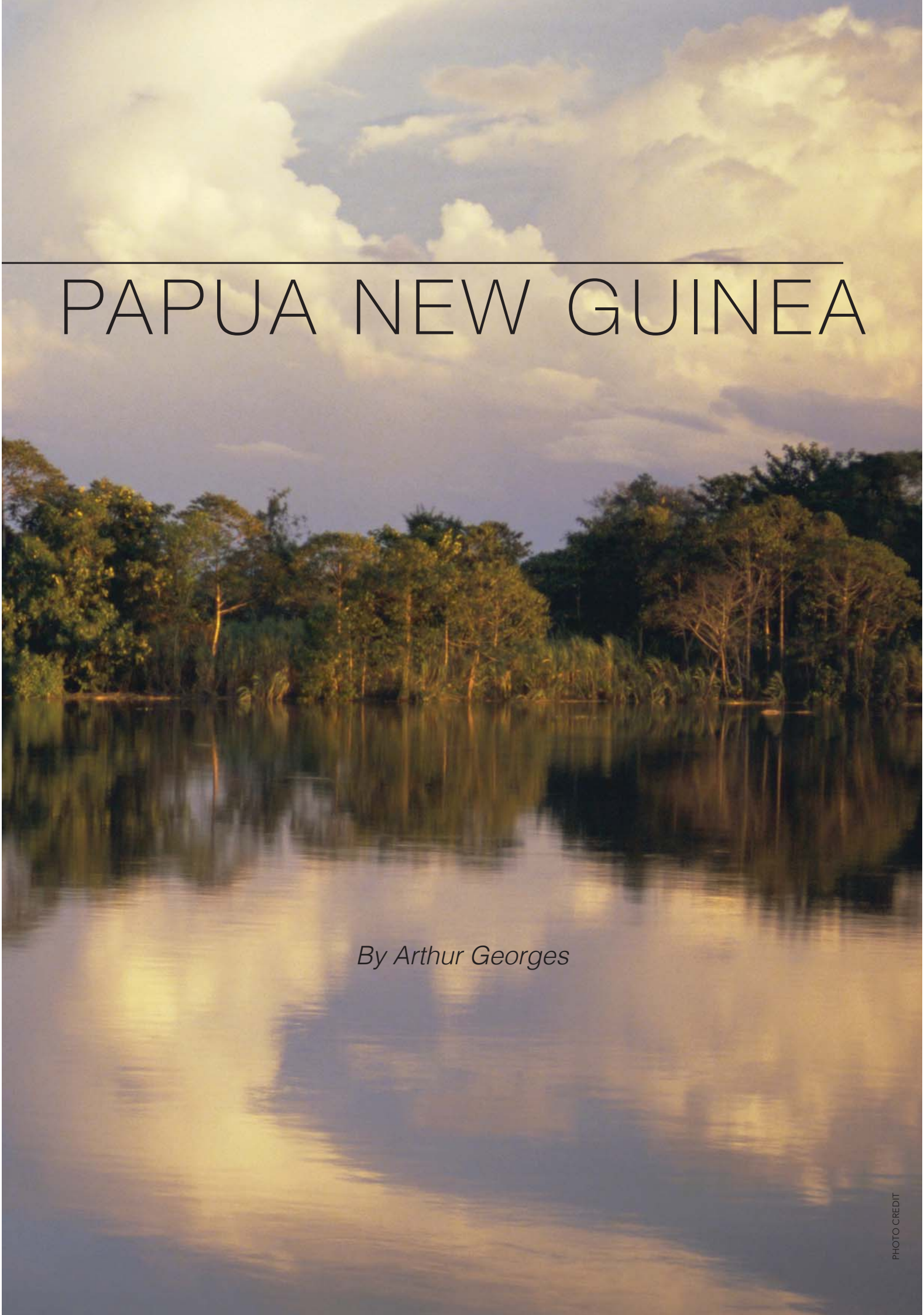

PAPUA NEW GUINEA

By Arthur Georges

PHOTO CREDIT

I have long held a deep fascination for turtles that has taken me from the ancient landscapes of the Arnhem Land in northern Australia to the spectacular dune lakes on eastern Australia's Fraser Island, the world's largest sand island, to the dryland rivers of the country's arid center and the rugged gorges of the Kimberley in the west. Through my peripatetic travels and my academic studies, I have learned a great deal about how the freshwater turtles of down under, all but one in the Gondwanan family Chelidae, survive and thrive on a continent that has undergone dramatic aridification in recent times. Australia is now the driest vegetated continent on Earth.

It was only a matter of time before I turned my attention north, to the island of New Guinea. Less than 10,000 years ago, New Guinea was connected to Australia by a land bridge, which has since eroded and been replaced by a stretch of water called the Torres Strait. About 10,000 years before that, New Guinea was broadly connected to and essentially part of the Australian mainland. Yet despite its historical connection to the mainland, the contrast in landscape, in climate, and in biology could not be more stark.

On my first journey to New Guinea, my colleagues, Florenzo Guarino and Biatus Bito, and I visited the Transfly, a region of Papua New Guinea that is situated between the Fly River and the Indonesian border and is reportedly the region of New Guinea richest in freshwater turtles. We arrived in the country via plane at the capital city, Port Moresby, where we boarded a much smaller plane that headed west along the coast to the township of Daru, then inland to the tiny village of Suki. We flew over some of the most extensive floodplains I have ever seen, and our view from the light plane was spectacular. This area has a tropical wet-dry climate, and the floodplains extend like fingers out into savannah woodland. Small streams bordered by broadleaf vine forest drain into the swamps, and larger channels

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Villages are constructed by the Suki-Aramba people on what appear to be inverted river channels, or upland areas snaking their way through the extensive swamps. The people make their way out into the swamps through a network of constructed channels in their dugout canoes.

Huli Wigmen of the southern highlands, an area north of the Transfly region.

THE TRANSFLY REGION OF PAPUA NEW GUINEA

Turtles of Papua New Guinea: From left, New Guinea Painted Turtle (*Emydura subglobosa*), Parker's Snake-Necked Turtle (*Chelodina parkeri*), Southern New Guinea Snapping Turtle (*Elseya branderhorsti*)

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snake through the swamps to eventually reach the Fly River, which is the primary source of water for the swamps.

We landed on an earthen airstrip in the village of Suki, disembarked into a sea of faces eager to welcome all those arriving on the weekly flight from Port Moresby, and made our way to the local merchant, Jerimiah Naipu, who had arranged our accommodations and made the preparations for our journey.

The indigenous communities living in the Suki-Aramba swamps of the Fly River drainage region are literally called "swamp people" in the local languages, of which there are an astonishing 800 in Papua New Guinea alone, not counting variations and dialects. The swamp people build their villages on what appear to be inverted river channels—that is, clay deposits from former riverbeds that have slowly risen to become higher ground as the surrounding area eroded to form the swamps. From their villages, the people go out in their dugout canoes to hunt and fish for protein, which supplements the produce they grow in their most remarkable and varied home gardens.

Enter the author: white of skin, with blue eyes, silver hair, and a full gray beard, seeking out the kids to give them little gifts, but finding instead frightened stares of disbelief.

Parents like to tell their children stories about how the land on which their village is built arose. According to one tale, at night their dead ancestors gather clay from the bottom of the swamp and use it to build up the land, a process that has extended over many generations. The stories are embellished to strike fear into the hearts of the kids, which fairy tales often do, telling how the dead rising out of the swamp have turned white, having lost their color in death. Enter the author: white of skin, with blue eyes, silver hair, and a full gray beard, seeking out the kids to give them little gifts of small toy koalas and other trinkets, but finding instead frightened stares of disbelief, then cries and flight as their worst nightmare comes to pass. Unfortunately, I resembled too closely one of those white village-building ancestors!

The next day, we met with the assembled villagers and explained our purpose: to collect freshwater turtles, take small tissue samples, and learn as much as we could about their reproductive biology. They asked us many questions: What benefit were we to gain from this? What were we doing with the tissue samples? Were we going to take the turtles away? Our answers must have been satisfactory, for we were rewarded with three colorful specimens of the New Guinea Painted Turtle, *Emydura subglobosa*, which they had recently captured in the swamps in preparation for a meal. This species is found throughout the still and slow-flowing waters of the wetlands of the southern lowlands of New Guinea, and it is particularly abundant in the Suki-Aramba swamps. The locals called it *anki kani*, a name derived from the fruit of a walnut-like tree (*Endiandra* sp.), which, when eaten, turns the lips red.

At this point, our own questions flowed: What do they eat? When do they breed? Where do they nest? Nesting would seem to be a particular problem as high dry land is in very short supply, but the villagers reported that they nested on the floating mats of vegetation that are found throughout the swamps and are buoyant enough to easily carry the weight of a man. It was breeding season, so a quick trip in a dugout canoe was all that was needed to find, first, a cluster of eggshells from a predated nest and, soon after that, an intact nest with its seven white hard-shelled eggs buried in the moist humus of a floating mat of vegetation. Each egg had a white patch indicating that development was underway.

We spent the following day preparing for the next leg of our journey, which was to be in an amazing 17-metre hollowed-out tree fitted with a 25-horsepower outboard motor and large enough to carry 10 men, one dog, and all our gear. Our destination was on the other side of the swamp where the village of Serki was located and where we were to meet Moimoa K. Bariga, Chairman of the Suki-Aramba Wildlife Management Committee. That was where we would also collect a four-wheel-drive vehicle to carry us on the rest of our journey. It would take us four days to reach Serki by boat, weaving our way through myriad small swamps and channels in which I became completely lost and totally reliant on my local companions.

CORBIS/ANDERS RYMAN

The New Guinea Turtle (*Elseya novaeguineae*) is a common species in the streams and swamps of the lower Fly River. It is caught by hand, in fishing nets and in basket traps by local villagers.

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Above: The welcoming committee at Keru village.
Opposite: A young warrior from Keru village.

Our first port of call was the village of Sapuka on the Fly River, where we obtained our first, and as it turned out only, specimen of the New Guinea Long-Necked Turtle, *Chelodina novaeguineae*. The locals called it *magipinini*, which translates roughly to "leaf turtle," because it is often collected from beneath the leaf litter in the forest. I can only imagine that this species has similar habits to its Australian relatives, the Eastern Long-Necked Turtle (*Chelodina longicollis*) and Cann's Snake-Necked Turtle (*Chelodina canni*), species that spend much time on land, moving between ephemeral swamps, rain pools, and their underground burrows where they wait out the drier periods.

At the next village, Pukaduka, we found a real prize: the Pig-Nosed Turtle (*Carettochelys insculpta*), or *budu susa*, as the locals call it in reference to the medial ridge of the posterior carapace (in other words, its sharply ridged back). This species lives in the riverine deltas, lowland freshwater swamps, and lakes of southern New Guinea where it is widely hunted for its highly prized meat and eggs. The species nests two or three times every second year, either by migrating down to the coast and nesting on beaches there or on beaches of the delta islands, or by migrating upstream to nest on the sand bars that litter the banks of faster-running freshwater streams. At the coast, it nests at the time of the highest of tides, a behavior that is easily predicted by the local villagers, of course, which means that nesting adult females are particularly vulnerable to harvest. The villagers are devastatingly efficient at collecting the eggs and adults, both of which are destined for the table. In Indonesian New Guinea, the eggs are harvested and incubated, then the hatchlings are shipped out by the thousands for the pet trade. The Pig-Nosed Turtle is a species in decline.

From Pukaduka we entered the Suki-Aramba swamps, with their astonishing beauty and wonderful bird life, reason enough for those willing to endure the rigors of field camping. We passed by what is considered the site of the first landing of the swamp people, who are of Melanesian origin, in New Guinea. Many stories, passed down the generations, refer to this important event. Nearby we found our first Southern New Guinea Snapping Turtle (*Elseya branderhorsti*), or, in their language, *medepka*. It's not abundant in the swamps, possibly because it requires high dry land on which to nest, and much of that is now occupied by humans. We found one remote location where nests had

Above: At Mabini village, we were presented with a real prize: two specimens of *Chelodina rugosa*. It is a favored food because if its size and the fact that it accumulates much body fat in preparation for aestivation in the dry season.

Below: On returning to each village, we were rewarded by several different species of turtles. At Keru village, a freshwater crocodile was thrown in for good measure.

been found and raided by humans, and we even stumbled upon a local fellow who had set up a pit trap—a steep-sided hole he had dug in the clay soil with low wooden picket fences reaching out to the left and right to guide the turtles in as they returned to the water after nesting. The Southern New Guinea Snapping Turtle is often mistaken for the superficially similar *Elseya novaeguineae*, another snapping turtle in New Guinea; the locals have the same name for both, as they believed the former is the adult version of the latter. The two have even been confused by museum curators. The holotype of *Elseya branderhorsti* lodged with the Zoological Museum at Buitenzorg had been lost, so we sent two specimens of *Elseya branderhorsti* to the Papua New Guinea National Museum to be used as neotypes, which, it is hoped, will resolve the confusion.

There was a common theme in all these greetings: We could have killed you, but we chose not to. Welcome!

We heard also of another species of turtle, which we did not have the good fortune to capture, called *sokrere*, or the "earthquake" turtle. Its name refers to the experience of walking across a floating mat while one of the creatures passes underneath, bumping the mat in its wake. It is known in English as the Giant Softshell Turtle (*Pelochelys bibroni*), found only in southern New Guinea, and is closely related to Cantor's Giant Softshell Turtle (*Pelochelys cantorii*) of Southeast Asia. Both are highly prized for their meat and eggs, but unlike the Pig-Nosed Turtle, the Giant Softshell Turtle is a solitary nester and so is only harvested incidental to other activities. It is found throughout the Fly River drainage and, like the Pig-Nosed Turtle, it nests both on coastal beaches and upstream.

Eventually, we reached our ultimate destination, the village of Serki. A welcoming party had formed prior to our arrival, with the entire community dressed in their best finery, beating sticks on snakeskin drums as we alighted from the canoe and made our way up the path to the center of the village. The group formed an arc in front of us, backing away slowly as we advanced. We were relaxed and enjoying the show when, without warning, two young warriors, wearing full war paint and armed with menacing bows and arrows, leapt into the air, pointed the weapons at my chest, and loosed the strings. My look of shock and dismay was matched only by the delight of the villagers, who laughed uproariously and cheered at my expense. The strings were not connected to the arrows! Four days of anticipation by the villagers had certainly paid off for them. Moimoa Bariga of the wildlife management committee reassured me that if I had not been suitably horrified, they would have moved on to plan B! I shudder to think what plan B might have been.

It transpired that every village we were scheduled to visit had similar designs on my sensibilities. So ingenious were their plans that, even though I knew to expect some kind of shenanigans, they still managed to catch me unawares. One time, a club, wielded by a warrior strong enough to snap me in half, was brought down to within an inch of my forehead while someone else simultaneously smashed a log to the ground behind me. In another incident, 16 warriors amassed behind a curtain of leaves ready to loose their bows as I passed through. There was a common theme in all these greetings: We could have killed you, but we chose not to. Welcome! As it happens, cannibalism was still practiced among some tribes up to the mid-20th century. In 1961 Michael Rockefeller, son of Governor Nelson Rockefeller, disappeared while on an expedition in the Asmat region of New Guinea. Local stories tell of his boat motor failing and of him making his way to a nearby village in search of assistance. Unfortunately for him, that village had recently suffered some barbaric treatment at the hands of the Dutch colonists, the "tribe" to which the villagers mistakenly assumed Rockefeller belonged (in their limited experience, all white people were of the same group). His body was never found, and it is speculated, even today, that he may have fallen victim to cannibalism.

After a tour of Serki and a night of discussions and festivities, we made plans to head west by four-wheel drive, from village to village, ultimately to our destination, the village of Weam on the Indonesian border. When our four-wheel drive arrived, I was rather surprised to see it in such good condition. We headed off, but the smooth ride was not to last. It turned out that the vehicle had been stolen, but while we were using it, its loss had been discovered and the police tracked

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Above: We made our way through the swamps in a 17-foot dugout canoe fitted with an outboard motor. At times it was a hard slog through the receding waters of the early dry season.

it down and took it away. Unabashed, my can-do team located another truck. This one had only two seats, one for the driver and one for me (from that point on referred to as Big Man Beguwa, the meaning of which is still a mystery to me), and no brakes at all. In this tin can on wheels, Fiorenzo, Biatus, six locals, and I, minus the dog, made our way at breakneck speed down a single-lane bicycle track to Bensbach, then Morehead, and up to Weam.

We hatched a plan, which was as follows: At each village, we would first ask how many names they had for turtles, then we would ask which of the names were for the same turtles (there being multiple languages spoken at any one place); we then asked them to describe each turtle without giving them any information up front. Once we had a reliable list of turtle names, we would show the villagers photographs to confirm their identity. In this way, we would be able to identify any species that were not known to us, then focus on those where we had no communication difficulties and make sure that we obtained specimens of all species known to the locals. When this discussion was finished, we advised the villagers that we would be back in two weeks and would pay them for any turtles they could collect, with a premium paid for those species that were unusual or rare. In some parts of Papua New Guinea, telling them that we would be returning with money on a specified date would be quite dangerous, but the peoples of the Transfly are too distant from major population centers and Western influence to devise sinister means of separating us from our money.

The plan worked like a charm. When we returned to each village, the people lined up at our door with their string bags (*bilums*) and wicker baskets in tow, each containing a new delight. We would carefully untie each container to find one or more turtle specimens looking back up at us. Then the bartering would begin. In Tonda, we were proudly presented with two specimens of the Coastal Snake-Necked Turtle (*Chelodina rugosa*, formerly *siebenrocki*) that had been captured in the tea tree (*Melaleuca* sp.) swamps near the coast. One hunter even threw in a New Guinea Crocodile (*Crocodylus novaeguineae*) for good measure.

The Coastal Snake-Necked Turtle was unexpected and of great interest to us, largely because

GETTY IMAGES/THE PRINT COLLECTOR/HERITAGE IMAGES

A circa 1920 print depicting dancers of the Fly River region from *Customs of the World*, published by Hutchinson and Company.

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They listen for the distinctive thunk *when the pole strikes the turtle carapace, then get down on hands and knees to pull the hapless turtle out.*

of its unique habits in northern Australia, where it survives the dry season by burying itself in the mud at the bottom of receding waterholes. We asked if we could accompany the villagers while hunting the turtles. They agreed and took us to a tea tree swamp, which was indistinguishable from those I had seen in the Arnhem Land floodplains of northern Australia, and we watched as the village women probed the mud with sharp poles. As with the Aboriginal people of Australia, they listen for the distinctive *thunk* when the pole strikes the turtle carapace, then get down on hands and knees to pull the hapless turtle out. Most turtles were found buried at the base of *Melaleuca* trees. This confirmed my view that the New Guinea turtle populations sometimes referred to as *Chelodina siebenrocki* are simply extralimital populations of the Australian *Chelodina rugosa*. I wonder if these turtles nest underwater like they do in Australia.

Part of our adventure in New Guinea was living off the land. Jerimiah and his team of men worked for me all day, prepared the evening dinner, talked until midnight, and then left the camp with their machetes to hunt. Not permitted by the government to own guns, they stalked feral deer in the moonlight, with several men spooking the deer so that it would run past another man hiding in the vegetation. A downward sweep of the machete through the withers or hindquarters brought the beast down. In the mornings they would return triumphant with meat in tow. A meal at the Tonda camp was particularly memorable. In something akin to the dinner prepared in the film *Babette's Feast*, we had our venison, barramundi, catfish, the leg of a cassowary that had been traded for deer meat, some string beans and spinach from the local gardens, and the ubiquitous yams. The people of the Transfly may be cash-strapped, but they are not poor.

It was at meals like this that Jerimiah and his team opened up and became more talkative, sharing their stories. One tale was of a white man who came through the Transfly in the 1960s and took advantage of one of the local girls. This created some disquiet among the village men, but it simmered and no action was taken. The white man, perhaps feeling the tensions, left the village and traveled to a lake where he camped. The story has it that he lost his mind, probably having contracted cerebral malaria, and resentment rose until a group of men went to his camp and killed him. They feasted that night on what they called "long pig"! He was the last white man in the region to have met this fate. After telling this story, in the late evening, one of the men, William Bariga, leaned toward me across the campfire, pinched my belly, and said, "Hmmmm. Greazy!" which generated much mirth.

We talked of crocodile hunting and of how the skins are prepared, as well as the avenues for sale, which included legal sale through agents in Port Moresby but also, for a time, illegal trade across the Indonesian border. Unfortunately, these crocodiles are becoming increasingly hard to find. Deer antlers are transported across the border and sold for cash or traded for sugar, rice, and fuel. The stark white plastra, or belly bones, of Branderhorst's Snapping Turtles are traded in the same way; they are highly prized and ground down for use in medicines that are shipped out to Java and China.

On this, my first expedition to New Guinea, we learned a great deal—not only about the region's freshwater turtles, but about the rich culture of the Papuan peoples. We caught 360 specimens of turtles from seven species and learned about their biology, how they are captured, and their value to the local peoples. My memories of the swamp people of the Transfly will remain with me always.

The process of bargaining with the villagers for the turtles they captured for us usually involved a young person with good English, with their elder watching over them. To their amazement, we paid for the turtles, and then returned them after taking only lik lik hap for DNA testing.

TURTLE CONSERVANCY

"If we do not do something to help these creatures, we make a mockery of the whole concept of justice."

— Jane Goodall

"It's a moral question about whether we have the right to exterminate species."

— David Attenborough

"We are not God. The Earth was here before us and was given to us."

— Pope Francis

"The tragic irony for turtles and tortoises is that a life that worked so well for so many million years – being passive and tranquil inside an invulnerable shell—has left them so defenseless in the face of humanity's march. We need to do all we can to protect them."

— Craig Stanford

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