

# Travels With Charlie

In which a savvy entomologist journeys to towering rock chimneys in Venezuela with one of the world's last professional explorers

A call from Charles Brewer-Carias is an experience that increases a biologist's heart rate. "Mark, how are you doing?" he will open with a disarmingly gentle voice. Then in delicious detail, he will describe the expedition he's organizing to places not only extraordinarily wild, but in some cases never before seen by *Homo sapiens*.

For me, the call came in mid-February. "Drop everything," he said. His newest expedition was to begin in just three weeks, but as an entomologist with an enduring curiosity about the world's most remote faunas, how could I not drop everything? Charlie—a former dentist and one of the few people alive today who can call himself a professional explorer—was arranging a trip to the sandstone mesas of his Venezuelan homeland, mesas named *tepui* by the Pemón Indians.

The appeal of exploration has captivated humankind for ages, and Venezuela's wildlands carry a special allure. "Why shouldn't somethin' new and wonderful lie in such a country? And why shouldn't we be the men to find it out?" wrote Sir Arthur Conan Doyle of these mountains in *The Lost World*. This novel about prehistoric life in Venezuela was inspired by British botanist Everard Im Thurn, who in the 1890s brought back specimens almost as

Story and photographs by Mark W. Moffett

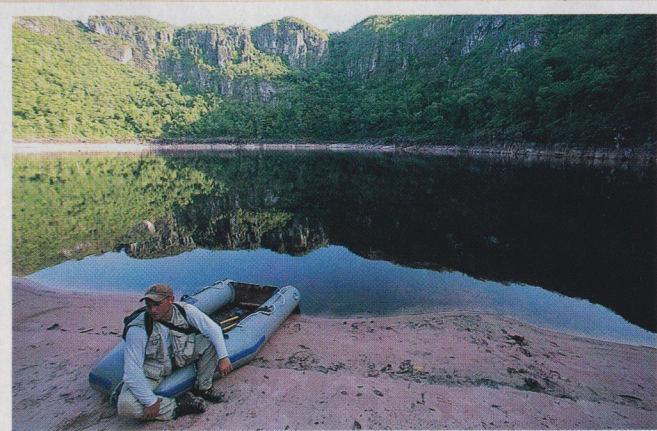


● A longtime explorer and adventurer, Charles Brewer-Carias displays a vintage Venezuelan magazine with an early picture of himself on the cover, a marine toad perched on his head. His home library in Caracas is packed with books on South American exploration, plus documentation on the various expeditions he has led. Last year he invited the author on a helicopter trip to Venezuelan tepuis, or flat-topped mountains, in search of new species.

MARK MOFFETT (MINDEN PICTURES) (15)



● One prize of the expedition is a tree frog (left) that may be new to science. Researchers found it at Lake Leopold (below), atop an eroded tepui. Herpetologist Oswaldo Fuentes (bottom left) uses a raft to explore the lake. The area also turned up a novel color morph of the poison dart frog, *Dendrobates leucomelas* (bottom right). To carry specimens, Brewer tears tree bark (opposite) to make a basket.



startling as Darwin's from the Galápagos.

While no dinosaur has yet to show up from a tepui, these isolated mountaintops have in recent years yielded hundreds of species of plants and other organisms new to science, many of them directly due to Charlie's enduring curiosity and unbridled planning skills. Charlie himself has more than 20 species named after him, a few of the uncounted new animals and plants collected on the hundred expeditions he has organized over the years.

Three weeks later I am met at the Caracas airport by a chauffeur who tells me Charlie left for the tepuis yesterday. Delivered to the civil airport after a night in a hotel, I sip tea in a waiting room decorated with photographs of biologists at remote sites. In each one is Charlie, looking very much the gentleman explorer, almost unchanged today at 62 from some of the earlier images except for the increasing gray in a trademark handlebar moustache. I know almost nothing of the itinerary, and in that incongruously immaculate, air-conditioned room, my anticipation is growing electric.

In the course of my life, I have traveled deep into forests around the world. In the process I've met many extraordinary people, but Charlie comes closest to the heroes of my childhood: the early explorer-biologists such as Alexander von Humboldt, Alfred Russel Wallace, Thomas Belt and Richard Spruce. And, of course, Charles Darwin. I admired them then, as now, for their breadth of knowledge and their courage, and for their sheer joy in nature experienced firsthand, an approach seemingly distant from modern scientists' often laboratory-driven lives.

For field biologists, Charlie's life is as legendary as those of the early explorers. A self-taught natural historian who was for a time a high-ranking Venezuelan politician, Charlie has gleaned a knowledge of dozens of topics over the years—from geology and geography to ecology and anthropology—particularly as they pertain to Venezuelan rain forests.

Other cars roll in, and I meet Patricia Phelps de Cisneros, patron of the expedition, an elegant Venezuelan who I discover has a passion for national conservation. We talk for an hour about the marvels of her country on board a private jet that rushes us to a



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landing strip by the Orinoco River. Two red helicopters await us there, gleaming with an intensity unique to freshly unwrapped cherry candies. Within minutes they are crammed with supplies, and up we go.

Another hour airborne, with the roar of helicopter blades thankfully muted by my headset, I begin to see the distant, misty forms of tepuis, natural rock chimneys towering thousands of feet into the air. My pilot points out one, Cerro Autana, so high and narrow I may have guessed its distant hazily-etched form to be the product of vertical clouds acting on my now overactive imagination. This tepui will be one of our targets over the next few days. Is that where we are going now? The pilot shakes his head, pointing below: Within the emerald green forest and at the center of an eroded tepui lies an inky lake rimmed by white sand, surrealistically resembling the eye of a squid. We spiral down toward it.

Our landing on the beach kicks the sand up in a maelstrom. As the propellers slow, Charlie and others emerge from the forest to greet us. Charlie grins from ear to ear, arms outstretched to encompass the lake. "Look around. Amazing! The first time ever for a biologist!" I meet Fanny, his wife and at times fellow adventurer, her eyes sparkling. Then Oswaldo Fuentes, a herpetologist from Venezuela's Central University. There is my friend Juan Carlos Ramires, an expedition organizer based in Caracas. Patricia introduces her son, Guillermo, a television producer, and her daughter Adriana, a student at Columbia University in New York on her mid-term break.

As we offload supplies, Charlie explains that the lake was produced after the collapse of the center of the tepui, which gave the mountain a volcanolike shape. "Unpack and explore!" he shouts, throwing my impossibly heavy bag over a shoulder before I can stop him and trotting off into the forest surrounding the lake. Following Charlie, I find a camp already erected among the trees. It consists of hammocks of a special Brewer design strung up under rain tarps.

The lake has been named Leopold, after the King of Belgium, who sponsored the mapping of the region in the 1950s by Jose Cruxent, the first European to see its waters. Charlie has visited it once previously, in 1981. While accessible to surrounding tribes, the area remains largely untouched



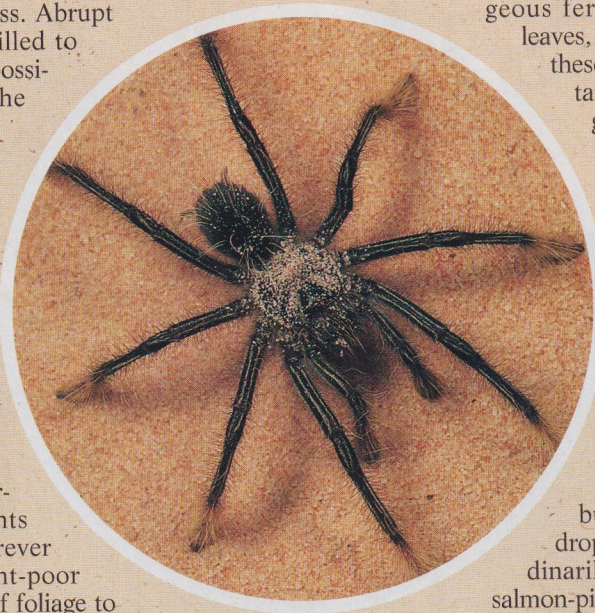
because of the belief that a giant anaconda guards its shores. Spotting no anaconda, we pause to enjoy the midday heat, basking on the beach like reptiles ourselves. We swim its 1,150-foot span, Charlie streaking by the rest of us at speeds reportedly near the world record in his age class. Abrupt changes in the water from chilled to warm lead us to speculate on possible geothermal activities in the rock beneath.

The lake is so murky we can't see submerged hands in front of our faces. In spite of this, the water is tasty. Yet it is strangely barren: The final member of our team, ichthyologist Ramiro Royero, is disappointed by the absence of fish. Lake Leopold is the shade of strong tea for the same reason tea is that tint—pigmented by acids leached from plants. The acids are natural insecticides that many plants synthesize in abundance wherever growth is impeded by nutrient-poor soils. At such places, the loss of foliage to herbivorous insects is a big deal to plants. The secondary compounds in their tissues keep most would-be munchers at bay.

Tepuis are nutrient-poor because rainfall totalling up to 12 feet a year washes most dead organic material from their peaks. Beneath the thin, accumulated humus lies Precambrian rock, older than fossilized life. Charlie shows me the wide brush-stroke pattern in its grain, a pattern left (he explains) by the passing of ancient dunes and later compressed into the forming sandstone. Over time, this sandstone buckled and fell apart. Simply by remaining intact, the largest rock fragments to escape disintegration were transformed into tepuis.

For the most part, then, these are not mountains that rose; rather the landscape crumbled away around them. As a result, their upper surfaces have been continuously occupied for unimaginably long periods. Charlie likes to call tepuis "islands in time" when describing their ancient and unique floras and faunas.

Lake Leopold is less distinctive biologically than many other tepuis, however. That's because its eroded, sloped sides are occupied by forests continuous with the lowland terrain. At its summit is a forest of a type ecologists label premontane, and some of the tree species there are familiar to me from other regions. I also see widespread species of insects, such as workers



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of the jumping ant *Gigantiops*, which bound about like coal-black grasshoppers.

On the far side of the lake, Charlie and I hit the jackpot. Gleeefully he gathers up armfuls of a bristly, green bromeliad that he is sure is a new species while I collect a gorgeous fern with stalked, heart-shaped leaves, called *Pterozonium*. I know that these ferns, endemic to these mountains, are desperately needed by a graduate student friend at Berkeley for her studies. Ever-resourceful, Charlie retrieves our booty using a basket partially concocted of a cord that he weaves in minutes from the bark of a certain tree.

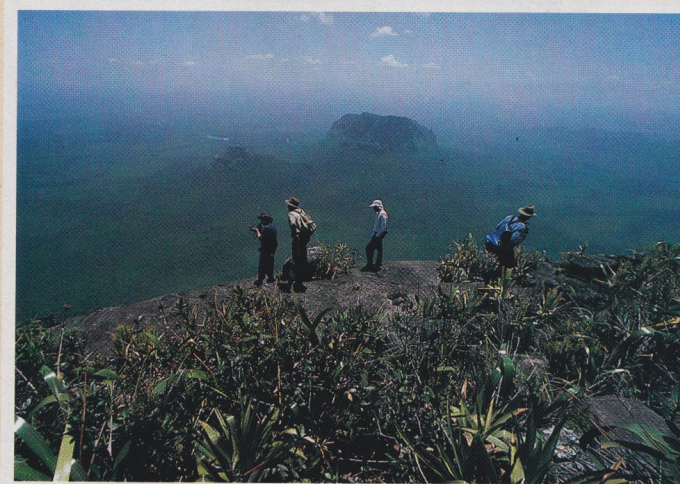
That afternoon we scramble into the helicopters to visit the mountain that had awed me earlier from the air: Cerro Autana, the best studied and most dramatic tepui in this part of Venezuela. It is flat on top but for a small, central hill. The drop-off around its margin is extraordinarily abrupt, with sheer white and salmon-pink walls extending a half mile to the lowland rain forest below. Yet along its narrow axis, Autana is not much wider than two or three football fields.

As our helicopters circle these walls, we take in a cave that goes through the mountain like an eyelet on an enormous boot (which at some angles is what Autana actually resembles). The cave was first explored in 1971 by Charlie and my photography colleague, Robert Madden. I recall an image of a young Charlie Brewer inside the cave, standing in a chamber with a ceiling vaulted like a cathedral. The cave had been carved by an underground river during that ancient epoch when all tepuis were part of the general bedrock below ground.

Because of its precipitous height and the extreme isolation of its upper face, Cerro Autana harbors a community much more distinctive than the tepui with Lake Leopold. There are no foreign invaders here, and most species are unique to these mountains. It does not take a biologist to appreciate this. Our helicopters land on what seems an elaborate garden fantasyland. Curious plants glow pastel yellow and green in the brilliant air. Each of their leaves reflects light with the efficiency of a jewel as an adaption to excessive highland radiation. Our engine roar sends blue and red macaws wheeling in pairs from roosts along the cliff. Like an astronaut making contact with a new planet, I lower my foot

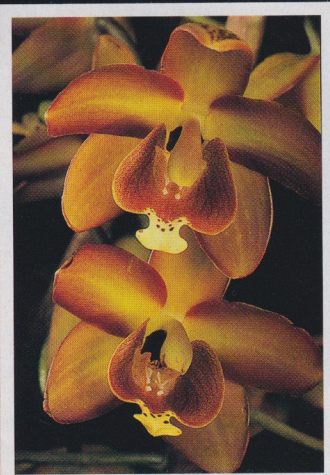
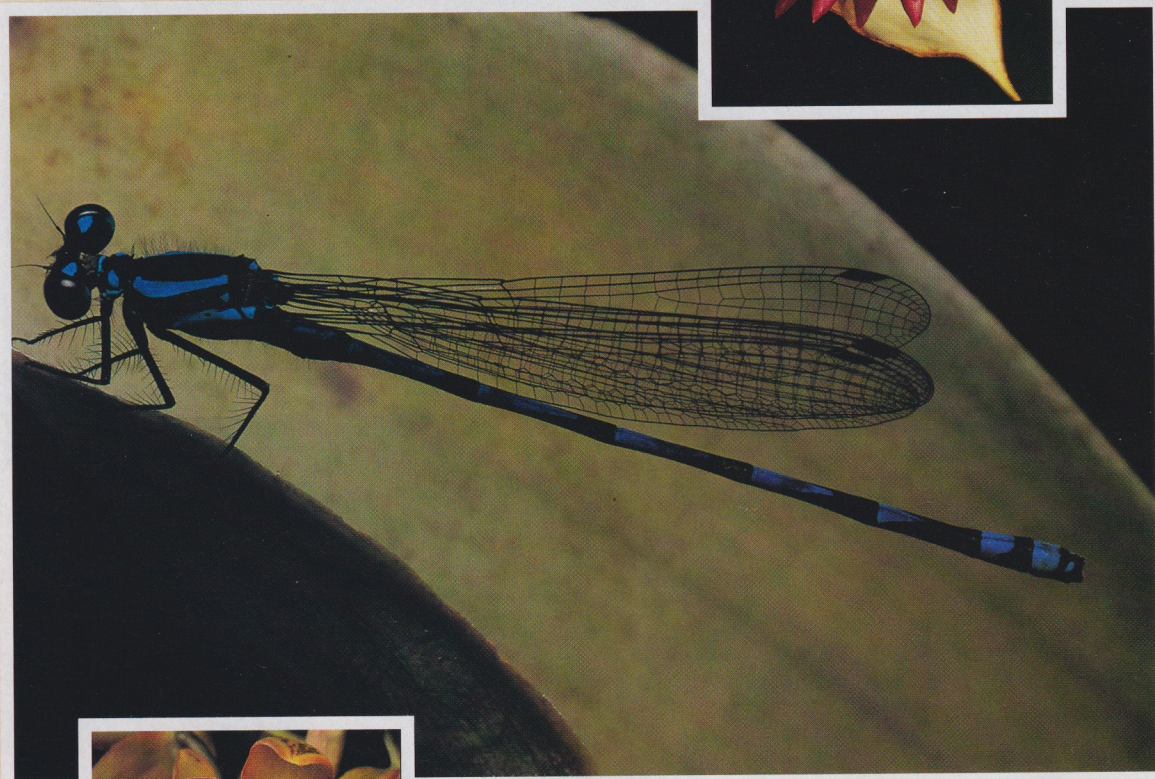


● A sheer wall of Autana tepui (above), complete with a cave that penetrates through, dwarfs one of the helicopters from Brewer's expedition. The chopper delivered expedition members to the dizzying top of Autana (below). Specimens collected from tepuis include a carnivorous sundew plant from Sipapo (right) and a tarantula from Lake Leopold (opposite).





● The tops of tepuis are usually separated by perpendicular drop-offs to the forest below and thus often harbor distinct species, especially plants and insects. Among those with otherworldly looks: a neon-blue damselfly (below), *Kunhardtia* flower (right), and two orchids (below left and opposite). Brewer's wife Fanny, a sometime fellow adventurer, holds a *Pterozonium* fern (bottom right).



gingerly to the surface, taking note of a surprising squishy texture.

Much of the plateau is a soggy savanna. Dark algal mats and waterlogged mosses on a layer of peat are spotted with carnivorous, quarter-sized sundews, red as rust. From this substrate grow toughened plants, most a couple feet high. Many of them have leathery leaves that rise in clustered vertical spikes. In *Kunhardtia rhodantha*, the leaves are arrayed into fans, above which extend clumps of blood-red flowers. In the bromeliad *Brocchinia hechtoides*, the leaves form bronze-toned tubes with water-filled bases that look like promising frog habitat to herpetologist Fuentes, who instead lucks onto a new species of lizard.

The toughness of the foliage and the plethora of carnivorous plants are further evidence of a scarcity of nutrients. Alternatively drenched and sunbaked, this is a world seemingly almost alien to life. Only at spots where a little humus has accumulated grow clumps of bushes and stunted trees.

Disappointingly soon, the helicopters whisk us back to camp. Dinner is prepared and a fire arranged on the beach. With our lake being sunk into a mountaintop, the sky's dark indigo bowl lies unusually small and high above us. "What's your most remarkable experience today?" Charlie asks each of us seriously.

We compose our thoughts, and soon the tales spin off in unpredictable directions. Charlie describes Venezuela's evolving landscape, plants and animals as if they are part of some vast love story. I counter with my stories of the hunting prowess of spiders and ants. Charlie tells of tracking (and of being tracked) by *tigre*, the jaguar. Of his long experiences living with Indian tribes. Of how one can survive being marooned on tepuis by eating earthworms and leaves.

He recalls an expedition to one famous mountain, Cerro de la Neblina, when a journalist had become lost. Fanning out to find her, Indian members of the party kept in contact with each other using their traditional hooting call. In time they stumbled upon her, wet and shivering under a log. Imagining their hoots to be the cry of some dangerous animal, she had spent nearly two terrified days on the run from her rescuers.

Soon after he finishes this story, all conversation freezes. A howl has risen from the



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far end of the lake. Even Charlie has no clue what it might be. Not, I suspect, anyone coming to rescue us.

After a pleasant night's sleep, our "rescue" comes the next morning, when the helicopters return to deliver us to a new but equally magical spot in the mountains. We explore a corner of the Sipapo Massif, which to Charlie's knowledge has never been visited. I tally about three dozen species of plants in flower and wonder to myself which animals pollinate them. The ecology of these remote areas remains shrouded both in clouds and in mystery.

The helicopters retrieve us to camp. That night around the fire, I reflect on the transformation of the expeditionary experience. In Charlie's early days, reaching tepuis meant weeks slogging through forest. By contrast, even the toughest explorer today packs a global positioning system. But technology is not the critical issue. The thread linking the likes of Charlie to Darwin, Wallace and Humboldt is that they look at adventures as "voyages of discovery." Physical challenges are combined with an inquisitive nature common to both scientists and children.

Such explorers do not conquer—they find. At the same time that adventure is more and more being equated with hang-gliding in Tibet or bicycling across Antarctica, the explorer-biologist tradition survives in a few intrepid scientists and in informed naturalists like Charlie—though thanks to the Cisneros family, this particular expedition had afforded us the luxury of not having to climb any mountains.

The next day at the edge of Autana I gaze out at a wide world that for the moment remains gloriously unspoiled. Near me, Charlie and Juan Carlos flip a boulder. Whomp. Bang. Finally it topples over the edge. Charlie freezes, eyes closed, one hand cupping an ear, the other with index finger raised. "Listen," he whispers. Seconds of absolute stillness pass. "Did you hear it?" He opens his eyes and smiles. "My favorite sound. The sound of nothing. Quiet." I imagine the boulder exploding like a meteor one half mile below. So far out of earshot we might have dropped it from the moon.

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