

EXPEDITIONS AND

ADVENTURES ACROSS

A CONTINENT

Alzada Carlisle

Kistner



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## Acknowledgments

NEVER started out to write a book; I was a cool scientific observer and note taker. But the free spirit and determination of my parents, William T. and Alzada C. Carlisle, shaped my abilities, just as their unswerving care enabled our family to have unlimited African adventures. The help of the Belgian government's research arm, the Institut National pour l'Étude Agricole en Congo (INEAC), and its courageous research workers in the Belgian Congo made it possible for my husband, David H. Kistner, and me to collect insects there and saved our skins during the 1960 revolution. Thanks are given to the U.S. Air Force for rescuing us from Stanleyville, Belgian Congo (now Kisangani, Democratic Republic of Congo), during this tumultuous period. The Liberian Institute of Tropical Medicine, Liberia, and the overseas arm of the Institute of Tropical Research, Ivory Coast, were our sheltering umbrellas in West Africa. In South Africa, Dr. William Coaton, the Plant Protection Research Institute, and the South African National Parks Board provided facilities, transportation, guides, guards, labor, and expertise. Rudyerd Boulton of the Atlantica Ecological Research Station in Salisbury, Rhodesia, and his dedicated staff made possible our three major tented safaris throughout Rhodesia, Mozambique, and Botswana possible, during which we found new species in previously uncollected areas. Dr. Karl Kühne allowed us to use the International Red Locust Control Center in Mbala, Zambia, where we took the first known photographs of an army ant queen marching to a new nest. In Tanzania, we worked under the aegis of the East African Malaria Research Institute and were given free reign to collect in the national parks of Tanzania, Kenya, and Uganda. The Namib Desert Research Station, under the direction of Dr. Mary Jenson Seely, introduced us to yet another side of insect collecting. Finally, the rich insect fauna of Angola would have been impossible to touch during that country's war-torn years without the protection and support of DIAMANG, the Diamond Company of Angola. Dr. and Mrs. Antonio Machado of DIAMANG's headquarters in Dundo supplied physical, technical, and emotional sustenance.

Such cooperation, along with funding over the years from the National Science Foundation, the Guggenheim Foundation, the American Philosophical Society, the Shinner Foundation, and the California State University System, made it possible for us to experience sub-Saharan Africa as few have.

Without the devoted efforts of our stalwart American students Bob Banfill, James Clover, and Riley Swift, the expeditions would have been much more difficult. Our daughters, Alzada and Kymry, aside from the years of excellent collecting they contributed, added an ever growing dimension of excitement and fun. They were great company and our best friends. Thank you both.

An Affair with Africa was written because my friends insisted it be written. At California State University, Chico, faculty wives and members of the American Association of University Women, the Great Books reading group, the Play Group (we ladies who regularly drive to San Francisco for plays and concerts), and even the Crazy Ladies Luncheon Group read and reread sections of the manuscript. Robie Amer and Barbara Mahler read it line by line, and editor friends Jeanne Locey and Pauli Galin pulled it together. But Laurie Burnham, editorial director of Shearwater Books, turned it into the book it is. She took a shy, matter-of-fact observer and

made me set down my fears, dreams, and hopes. She let my mind sing of its love for Africa. To her, I am forever indebted for my newfound voice.

Most of all, I owe thanks to my husband, Dave. I feel honored to have been at his side, literally, during a massive forty-year undertaking to shed light on the world of unknown insects that live with certain ants and termites. I'm thrilled by the 500 new species and 150 new genera Dave and I turned up in the course of collecting 250,000 myrmecophiles and termitophiles, and I'm awed by the depth of his insight into the evolution and adaptability of these animals. Professor Alfred Emerson, my husband's thesis adviser at the University of Chicago, was right in predicting that Dave would make a significant contribution to basic knowledge. He has also brought adventure and exhilaration to my life and made it possible for me to see the world from the ground up.

Thank you, Dave, for being you . . . and for letting me be me.

### First Word

T WAS a different world between 1960 and 1973, the years of our five African expeditions. Sub-Saharan Africa was changing from a European-dominated continent to a self-governing African continent. When we first arrived, Europeans made the rules, enforced the laws, paid the bills, and ran the show. That's the way it was, and that's the way it had been for nearly a century or more. But by the time we completed our last research expedition to this vast and biologically rich land, Africa was breaking apart. Country after country was declaring independence from colonial powers and beginning a continuing struggle for stability, with little support from the outside world.

We too were different when we set out for Africa in 1960. Two naive biologists just out of graduate school, we were trying to make a scientific reputation, trying to stretch a much-too-slim budget, and we were neither cosmopolitan nor political. We were scientists, intent on our research, happy to cast our eyes downward on the teeming jungle floor, and oblivious to most of the events unfolding around us.

We spent most days on our hands and knees, collecting tiny beetles living amid legions of marching army-ants or from the cavernous depths of termite nests. While few would envy our choice of lifestyle, our efforts have produced valuable knowledge about beetle evolution and behavior, as well as a wealth of new species. To date, Dave has described 204 new species, many of them named after people and places encountered on our travels. The species name of one, *Sympolemon uburui*, seen on the dedication page of this book, recalls the freedom shouts (*uburu!*) that once resonated throughout the Congo. When we first set foot in Africa, a mere 3000 of these specialized beetles were known to the world. Five expeditions later, we had increased that number by 114, 581.

Had we not met with so much kindness during our travels, we would never have been so successful. As guests of the countries in which we found ourselves, the research stations, and the individuals we visited, we believed we had no right to inflict our attitudes on our hosts' lives. They had to live there; we could go home. We tried to be pleasant and courteous and to cause them as little extra work as possible. Without exception, people went out of their way to help us. We will be forever grateful for the opportunity to pursue our research in Africa and to experience Africa the way it was.

I wrote it all down while we were there. Although the attitudes of our hosts varied, the innate goodness of most people shines through. Step back to a different time, a different place, and join me thirty-five years ago.

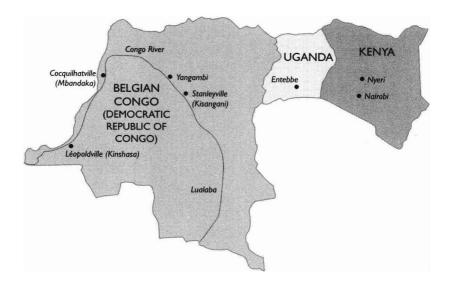
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# Tirst Expedition

#### JUNE-SEPTEMBER 1960





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## Ants Everywhere: Iselgian Congo



THEY COVERED MY ARMS AND LEGS,

CRAWLED INSIDE MY SHIRT,

UP AND DOWN MY NECK . . .

Westled our cameras and flight bags into the air terminal in Léopoldville, Belgian Congo. Long, snaking lines of somber Europeans, loaded down with carry-on luggage, waited to board the Belgium-bound plane, which would refuel and head back full of refugees. Small children hung on to fistfuls of their mothers' skirts. Pandemonium reigned at the ticket counter: the plane, which had carried few passengers coming in, was overbooked going back. Six thousand Belgians from remote areas of the African bush were trying to get out of the Congo, and we were trying to get in.

Independence Day, June 30, 1960, the day when European control would pass to the native Congolese, was less than three weeks away. Would the Congo have a peaceful transition, as had Ghana, nearly 1,700 miles away, or did these people know something we didn't know? Would fighting and violence rule the day? All we

knew was that by being in Africa, we were fulfilling a dream. For biologists, there is no richer place on earth than the tropical rain forest and no greater thrill than that of trying to unravel the mysteries of the living world.

As a child, consumed with a love for biology, I read about intrepid explorers, fell out of tall trees, and rode impossible horses. My father, a physician, patched me up and shook his head. As I grew older, my mother longed for me to become a Chicago debutante. Instead, I have remained an avid adventurer, finding the world endlessly beckoning, a lively, bubbling cauldron of questions and intrigue.

At the time of our first expedition to Africa, my husband, David H. Kistner, was just getting started, trying to make a name for himself in science. Three years before, during a dinner to celebrate our engagement, Dave's thesis adviser, Professor Alfred Emerson, had drawn me aside. "Alzada," he had intoned earnestly, "David is the most insightful student I have had in thirty-five years. I expect him to make major contributions to human knowledge. Please . . . let him think."

Stunned and frightened by the possibility that the Dave I knew to be a self-driven, outrageously bright worker would become an icon in his field, I resolved to create a studious atmosphere at home, help in the field, help in the laboratory . . . and let him think. I dropped plans for my own Ph.D. degree in biology, a decision I have never regretted.

Sixteen months after our wedding, our daughter Alzada was born. Watching her develop from a helpless infant into a walking, talking toddler was the most exciting experience of my life. Yet when the opportunity to go to Africa arose, I couldn't say no: not only did the prospect of exploring a foreign land thrill me, but also the leader of the expedition was madly in love with me. Still, there was the matter of baby Alzada. Leaving her behind was almost too much to ask. And yet, although Dave and I could take risks, we could not risk her life. Alzada would spend the next three months

with her grandparents at my family's ranch in Montana. My parents begged me to stay home. I was torn to shreds. But in short, I had to go.

So there we were on June 10, touching down on a refugee-packed tarmac in the Belgian Congo, later to be Zaire (now the Democratic Republic of Congo). If our arrival on the cusp of independence strikes some as absurd, our reason for being there will seem even more so. We had come to collect beetles. Not just any sort, but specifically the kind that live among ants. Known as "ant guests" or, more technically, myrmecophiles (myr'-me-co-philes), these specially adapted insects dwell within ant nests—house guests of the worst sort, if you will. Not only do they rely on the ants for food, housing, protection, and care of their young while doing no work themselves, but they also eat their hosts. Life is risky for these intruders; if discovered by their hosts, they are attacked, torn apart, and tossed, lifeless, onto the ants' refuse pile. Stress abounds even in an ant nest.

Many other animals love ants and thus, strictly speaking, are myrmecophiles. Bears, aardvarks, ant birds, lizards, and some snakes all love to eat ants. Edward O. Wilson, the Pulitzer Prizewinning Harvard University biologist who knows more about ants than almost anybody, might be the ultimate myrmecophile. But the term usually applies to the beetles and the few wingless flies that parasitize ant societies.

Dave and I are not so much lovers of ants as lovers of ant guests. We have been endlessly curious about the ways of these strange insects, what they look like, how they evolved, and how they survive within a hostile environment. Our interests extend to the broader topics of taxonomy, evolution, and mimicry. Whereas antinvading beetles may seem trivial in the scheme of things, they exemplify the larger issues, such as ecological and biological diversity, and thus are relevant to all of humanity. And that is what our trip to the Belgian Congo was about that summer. Unaware, we were risking our lives in the pursuit of science.

Few would describe a scientific expedition as restful; ours certainly wasn't pleasurable by most objective criteria. We were there to study the myrmecophiles that live within colonies of army ants. For certain beetles, an ant nest is almost the Promised Land. And so we would spend much of our expedition on our hands and knees, peering down at millions of streaming ants, looking for beetles. Army ants were once described by the famous Harvard ant biologist William Morton Wheeler as the "Huns and Tartars of the insect world . . . vast armies filled with an insatiable carnivorous appetite." Notorious for their foraging raids, these tropical ants form synchronized columns many millions strong and readily devour any animal in their path. Their reputation is not unjustified: their large jaws, called mandibles, act as razor-sharp sabers, slicing through flesh with little difficulty. Tales abound of babies devoured in their cribs, pigs torn apart while tied to trees, and chicks in brooders overrun by rampaging ants. Yet swarming army ants are not dangerous to any animal capable of moving out of their way. Tribespeople typically evacuate their huts for several hours while the ants move in and dispatch roaches and other vermin, an effective if unusual method of housecleaning. I learned to step carefully across a raiding column, which would continue on, seemingly oblivious to anything not directly in its path.

In 1957, there was enough interest in army ants and their guests in Africa that the Musée Royale de l'Afrique Central in Brussels published Dave's doctoral dissertation on myrmecophiles, "The Evolution of the Pygostenini (Coleoptera Staphylinidae)." Two years later, Monsieur Jurion, director of the Institut National pour l'Étude Agricole en Congo (INEAC), having seen Dave's paper and knowing he had studied only dried museum specimens, invited him to visit two of INEAC's extensive research facilities in the Belgian Congo. The catch? INEAC could not guarantee that the invitation would be honored after independence. It was a golden—perhaps the last—opportunity to find new species, to further scientific knowledge, and possibly to do what others had not

done. Bolstered by the receipt of a grant from the National Science Foundation, Dave jumped at the chance. I refused to stay home. And fortunately so; my adventures with Dave have been more exciting and exhilarating than I ever imagined they could be.

LÉOPOLDVILLE appeared to be a city of many contrasts: old and new, poor and rich, dirty and clean, primitive and urbane. Wide streets were lined with brilliant red flame trees and blooming hibiscus. Older colonial stone-and-stucco houses with tile roofs and wide verandas shared the streets with gleaming multistoried buildings. From a distance, the native market seemed to be a dark pool swirling with iridescent daubs of yellow, purple, green, and orange. As we drew closer, we could see the sweat-drenched, glistening black torsos of men intermingled with women who moved in a wild profusion of brilliant hues, bedecked in their brightly patterned wraparound kangas. Some vendors had stalls, but most just spread their wares on the ground, ranging from modern plastics and detergents to carved ivory tusks and tanned leopard skins.

Bob Banfill, our assistant, was a tall, solidly built sixteen-year-old high school student and 4-H Club award winner from Columbus, Montana, population 3,000. He had helped us mount and label insects for Dave's research while we put up hay every summer on my family's 25,000-acre cattle ranch. Bob had been electrified by talk of the Congo but had never traveled farther than Billings or seen a building taller than nine stories. Clearly shaken by the incomprehensible languages and unimaginable smells, Bob was unprepared for what he encountered in Léopoldville: the confusing hodgepodge of sounds and scents, even the blackness of human skin.

We were all naive. We had <u>gleaned</u> most of our information about the interior of the Belgian Congo by <u>poring over</u> old *National Geographic* magazines. A twenty-five-year-old book had told us that Coquilhatville, our next stop and the site of one of INEAC's smaller research stations, was five days' travel upriver by