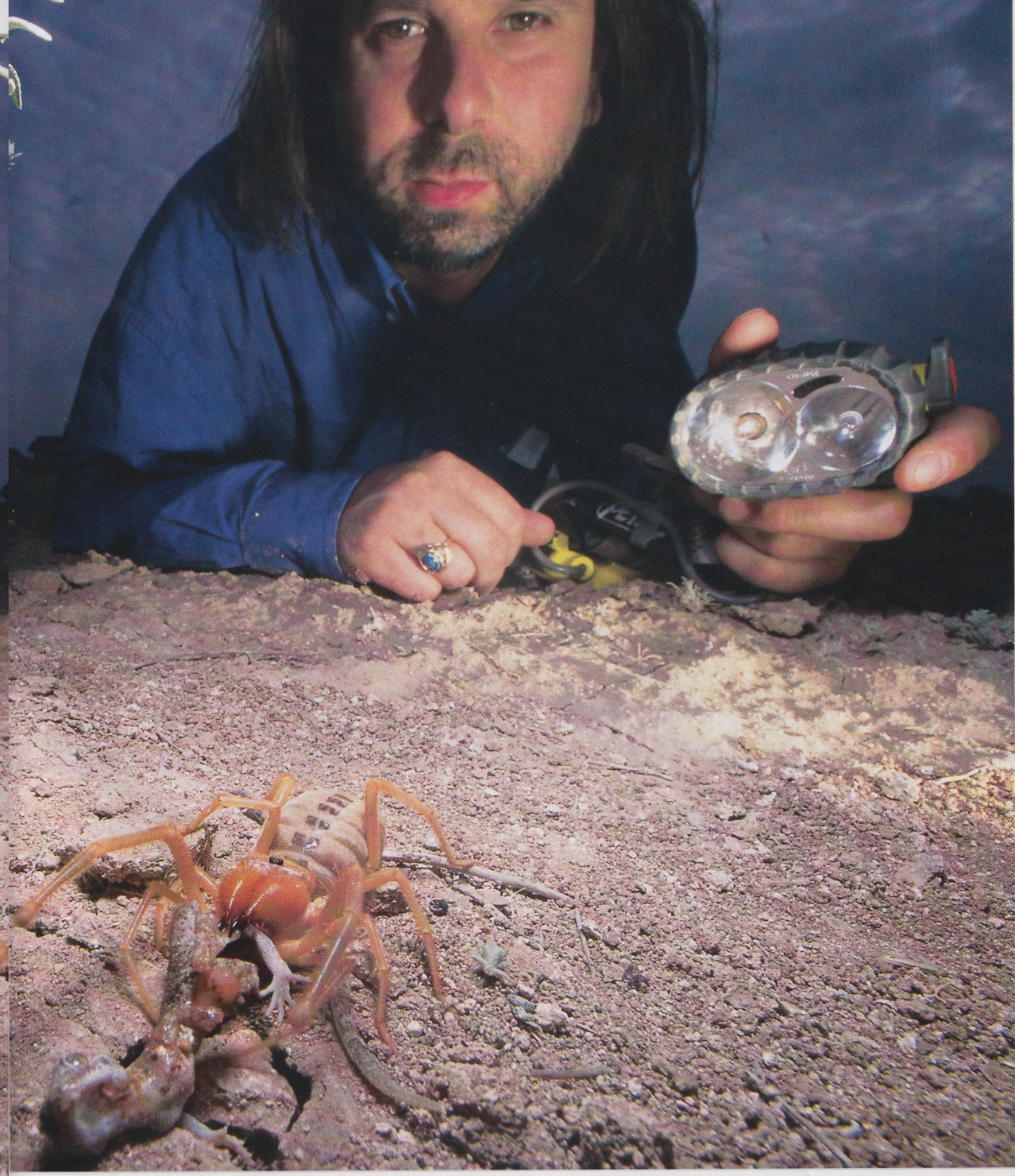
CLOSELY WATCHED BY THEIR GUIDES AND MILITARY ESCORT, HARRIED BIOLOGISTS SURVEY THE WILD THINGS THAT SURVIVE HERE

Casting Light on Iranian Deserts

TEXT & PHOTOGRAPHS BY MARK W. MOFFETT



Herpetologist Bob Macey comes across a sun spider devouring a baby gecko during a night collecting trip in a desert basin in southern Iran

The biologists are accompanied by soldiers and a truck-mounted machine gun.

"WALK QUICKLY. I THINK WE CAN LOSE THEM," SHEDA MORSHED WHISPERS, LOADING THE last collapsible traps into an already jammed pack. At 6 P.M. the sun has lost none of its welder's torch intensity, forcing her to squint over a shoulder at the parked vans, jeeps and cars we have left strung along the road. Perhaps 15 people cluster around these vehicles, every one of them talking to somebody. At least two hold cell phones to their ears with a comfortable familiarity, gesturing to empty air. The voices merge into a drone of Farsi (the language spoken in Iran) variously confiding, anxious, serious, pushy, conspiratorial, officious. We Americans understand little of it.

The tamarisk shrubs provide scant cover, and so Sheda's chance of going unseen is slim unless we can make it behind the dune. Draped in her black, tentlike cloak, she is glaringly obvious in this open landscape of pastel sand and shrubs. Here in Iran, concealing attire is mandatory for women in public view above the age of 7. But in the heat her coverings are no longer merely constraining, they are physically intolerable. If we can evade our military escort, Sheda confides, she might at least remove her scarf. On another boiling day, in a mangrove swamp far from spectators, police had agreed that, yes, it would be OK for Sheda to uncover her head, then pulled out notebooks to write her up when she did. Getting comfortable is not easy in a country where even singing in front of men in public is illegal. This does not stop Sheda from offering them the occasional opinion on women's rights.

Sheda is Iranian, but her family left for the United States when she was 7. Since then she has returned to her homeland only for brief intervals. A recent college graduate trying to qualify for a graduate biology program, she is here to work with Jim Patton of the University of California at Berkeley, one of four academics on this six-week expedition, the first team of American biologists sanctioned to do research in Iran in two decades.

I am one of those scientists, the mission entomologist. Striding beside Sheda, I scan the sand for my favorite organisms, the ants. Two other Americans, herpetologists Ted Papenfuss and Bob Macey, are circling brush in which they have no doubt cornered a lizard. They are watched by a man in military green hefting a machine gun, who fortunately takes no notice of Sheda and me.

Ted and Jim are my office neighbors at the Museum of Vertebrate Zoology on the Berkeley campus. Like me, Ted spends part of each day in Berkeley on the phone or on-line to remote and improbable countries, organizing his next expedition. My favored haunts tend to be rain forests in Southeast Asia and Latin America. Ted seems to prefer drier climes, like the mountains and deserts of Central Asia. Weather-beaten for his 58 years from treks across the Sahara and Inner and Outer Mongolia, Ted communicates with a wry smile and calm understatement, outwardly mellow under the most trying conditions.

He has organized this expedition, but only after testing the waters on a solitary trip to Iran in 1998. We have all been intrigued by his stories. The scientist he contacted met him at Mehrabad International Airport in an old (prerevolutionary) Chevy, "to make me feel at home." He found a driver who didn't mind chauffeuring a strange American who preferred stalking lizards to normal sightseeing. The two of them had gone north to the forests of the Caspian Sea. When Ted asked about a topographic map, the driver delivered him to a military station, where he was quizzed on American baseball before being provided anything he wanted. Hiking to a cave, he had found giant salamanders that ate bats, or at least bat babies that fell into pools from the ceiling above. At Ramsar, colleagues put him up at one of the palaces of the shah. He had gone as a tourist and had traveled almost unnoticed.

Adding three more biologists and arranging the trip as an official science mission makes a difference. Apparently the minimum number of Iranians required to escort four Americans is 20: an ever-shifting group of secret police, military personnel, scientists and graduate students, assistants to arrange food and shelter, and others of mysterious and at times vaguely threatening capacity. Plus, of course, drivers for all the additional vehicles. And finally, Oskouie, the mandatory government-provided tour guide, who understands little English and, despite his title, seems to know very little about his country: when we come upon an archaeological site where only knee-high foundations of rooms remain, he offers the local legend that the walls are short because they were built by midgets.

There may be legitimate reasons for the seemingly absurd size of our entourage. Whereas the northern sites Ted scouted on his solo excursion were politically uncontroversial, our expedition is focused on the southeast, a region best known today for drug trafficking. We'll even work at the Afghan border, where we had heard that camel trains weighted with opium were being captured or blown up by Iranian militia. It won't do for important visitors to come to harm, we are lectured. All these escorts are for our own good.

To the Iranians we may truly be important, not least as a political statement. Whether we should be allowed to come at all was apparently discussed in the press. Divisiveness of opinion about us must still exist at official levels in a country where symbols of disdain for the West are common. At one university we make an

effort to ignore a prominent "Death to America" banner hanging in the entryway of the Sciences Building. Still, the reception we receive is always warm. Biologists are delighted to meet us; many visited or studied in the United States before the revolution. A few travel with us for a time, becoming good friends.

A soldier has spotted Sheda and me. He peels from a knot of people at the parked cars and trots up the dune, slowing yards away to match our pace. I give a low curse, but am not surprised we've been discovered: Sheda is hard to miss, and not just because of her attire. Even cloaked, there is something about her that catches the eye: something different, American. Whereas Iranian women move in a smooth glide, she skips, bounces, dashes and weaves. From here I can see Soheila Shafii, an enthusiastic Iranian woman who studies reptiles at Shahid-Bahonar University. By comparison with Sheda, Soheila seems to float over the ground.

Under the guard's watchful eye, Sheda spaces the traps a few yards apart along a meandering line, positioning them at the base of tamarisk bushes. Her mentor, Jim Patton, is a mammalogist, and the spring-loaded traps are intended to catch rodents. Opening each trap, Sheda baits it with sunflower seeds, walnuts and barley, then marks its bush with an orange streamer. Somewhere out of view Jim must be setting a trapline along a transect of his own.

Sheda's scarf gradually slips back on her head as she works, until it threatens to fall to her shoulders. Nervously I motion toward her forehead. "Oops!" She covers her hair again with a sly grin, making me wonder if her veil slips so often because of inexperience or by intention.

Ted's first trip was to a comfortably warm, moist part of Iran, but conflicting schedules have put us in the hottest part of the country in the middle of a severe dry season. We have no thermometer, but temperatures reportedly approached 120 degrees Fahrenheit at another site we visited. More significant than the discomfort are problems collecting specimens. On most days I find only the most xeric (dry-adapted) ants, such as *Messor*, harvesting tufted seeds in columns up to six inches wide, and *Cataglyphis*, long-legged, swift ants undeterred by sizzling conditions. Many of the species I most desire seeing have moved far below ground to wait out this extreme weather.

We are near the Persian Gulf, where the habitat includes forms I recognize from the Dead Sea of Israel and Jordan, among them biblical plants like apple-of-Sodom and Christ-thorn tree. It had seemed drier in the deserts we had visited in the north. Some resemble habitats we know from Southern California: water-leaching tamarisk (also called salt cedar) was introduced from this region to the United States at great cost to our environment.

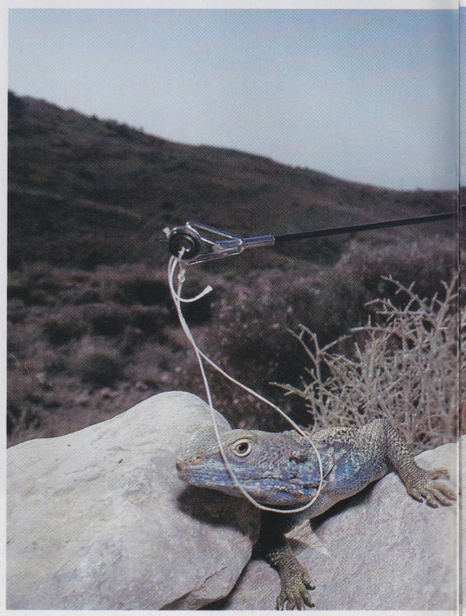
By 10 P.M. almost everyone has returned to the vehicles, exhausted, thirsty and ready to depart. Ted, however, is nowhere to be seen. Perhaps he is lost, but I know from experience that he has trouble giving up when there is interesting game afoot. I decide to try to find him at the most distant and largest dunes, a brisk 15-minute walk. In time I see a light on the slip face of a dune. There is Ted, eagerly collecting a gecko species new to our expedition.

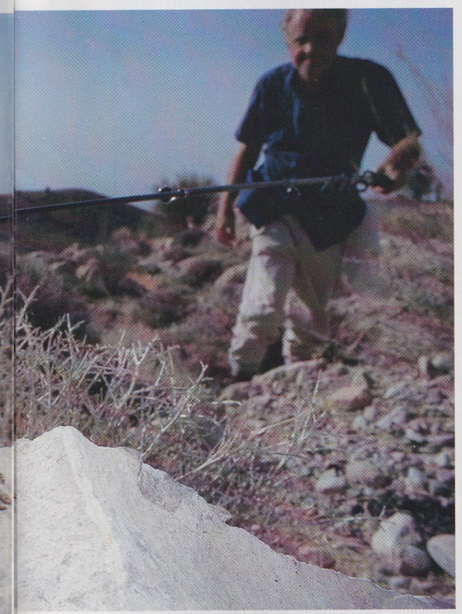
Geckos are lizards; most are nocturnal. Many can be easily seen with a flashlight: their eyes look like double stars. We stroll back along the dune crests, light beams directed below, sliding down the sand to catch more geckos. Iran's ground-dwelling geckos are slow compared with most lizards. Many seem to enjoy lazy lives sitting near their burrow entrances, waiting for insects to meander by.

Early the next morning I return to the still-steamy dunes with Jim and Sheda, who hurry off to check their traps. I chase lizards with Hadi Fahini, a bright Iranian undergraduate. In this pursuit, most herpetologists use a fishing pole for which the line has been cut short, its tip fashioned into a noose. You see the quarry from a distance, lower your pole so the noose falls around its neck, and jerk it tight. This to me lacks the hunting satisfaction of the hands-on approach. For that, a tandem method I use with Hadi is most effective. Moving slowly, the designated catcher approaches the beast obliquely and, if possible, out of view behind vegetation so as not to startle it, while a companion advances in clear view but at such an angle that the lizard is likely to make a dash toward the catcher. Repeat as necessary, changing roles as the situation dictates, until one of you is close enough for the final lunge. In one hour, Hadi and I have each captured three specimens of a slim gray species.

Sheda runs by in a panic: her traps have been stolen! There ensues a frantic exchange with our security force. Unbeknownst to her, Sheda had placed her trapline near a village. Later the traps mysteriously reappear.

More traps are stolen a week later.





Left to right: Iranian biologist Soheila Shafii soaks her hat in a small waterfall to beat the heat; using a noose on a fishing pole, Ted Papenfuss lassoes a lizard; Jim Patton pins newly prepared rodent specimens to a tray for drying.

Sheda Morshed and Jim Patton watch hedgehogs explore a room at an agriculture station.

This time Hooshang Ziaie, Iran's premier mammalogist, soon returns them with a smile. He has climbed to a nearby village and told them we have lost some traps. "That is not important, since the food in them is poisonous. Return them and I will give you the antidote." Built to catch rodents live, the traps had been baited with ordinary nuts. But Ziaie gives out a vitamin pill for each trap returned, a placebo cure for thievery.

Despite the waylaid traps, the day yields 35 gerbils, hamsters and rats. Beneath a shady willow, the Iranians and Americans dispatch them and prepare them for study, skinning each and stuffing the pelts with cotton. Sheda recounts dissecting a fish from the Caspian Sea as a child while her sister watched in disgust. "You were born to do this, my lady," Jim says. "You just didn't know it."

For biologists like Ted, Bob and Jim, a lizard or rat in the hand can be a marvel to be admired in its own right, but more than that it represents a clue with which to unravel the mysteries of its species. When Ted and Bob look at a map of Asia, they see geological history, the complex folding of tectonic plates that drop valleys and lift mountains while creating deserts and seas. Lizard populations shift across this changing landscape, and this evolutionary history can be traced from the variations in their DNA. Part of Ted and Bob's work is to freeze, in liquid nitrogen, tissues from animals they collect, for later genetic analysis at the Washington University laboratory in St. Louis, Missouri, where Bob works.

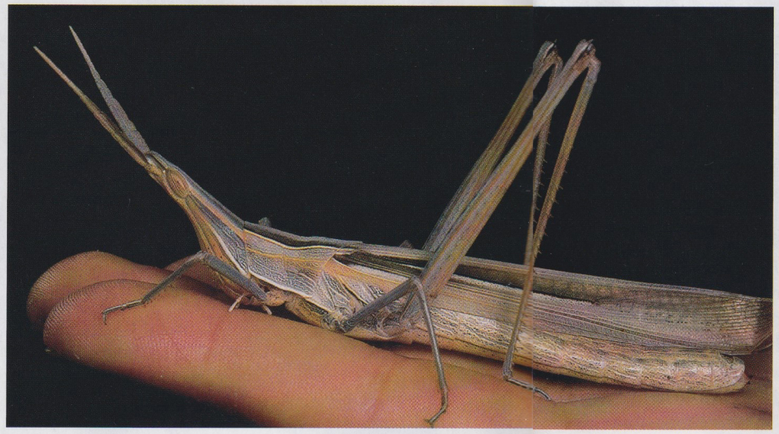
Jim usually works in the Amazon Basin, a very different landscape. This floodplain looks simpler than the varied terrain of Asia, but the Amazon harbors more species. It is tropical, and the many rivers can block dispersal, allowing new species to form on each bank. What Jim discovered is that for his beloved rodents, the bank matters less than the location along the river, upstream or down. Ranges of similar species tend to begin and end together at the same spots along both sides of a river. Again the mystery was solved through sleuthing geological history: Jim and colleague Maria da Silva noticed these spots correspond to ancient ridges that had eroded away. These had once split the populations.

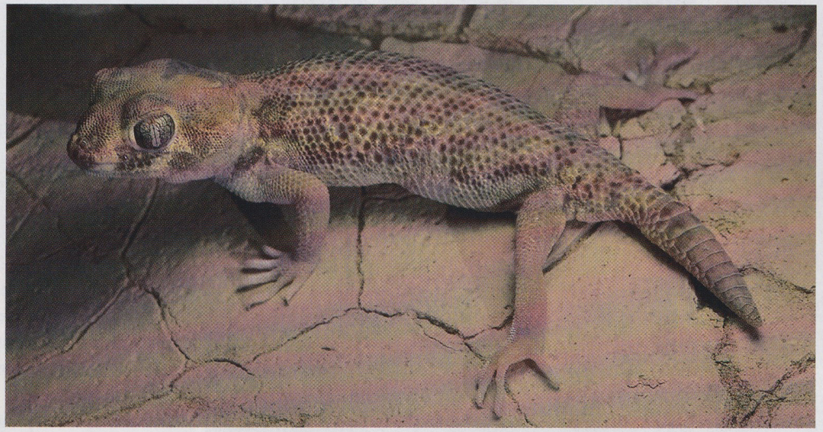
"It's never too early for a Delster!" comes our group's traditional morning cry from the kitchen. Bob is tipping back a bottle of a nonalcoholic beverage that is the closest thing to beer available in Iran. Alcohol is not legal in this Muslim country, but (although we never did it) it seems widely known that one need only add yeast and sugar to an open Delster, seal the bottle, and wait a week to concoct the real thing.

From our guest house at the agricultural station in Kerman, Bob and I make our way to the dining room at 5 A.M. to join the other American and Iranian scientists eating omelettes, cheese and delicious Iranian flatbread. Ted has opened a jar of Skippy—keeping up his tradition of introducing locals to peanut butter. I first met Ted and Jim in Vietnam two years before, and there Ted's Skippy had not gone over well. (Indeed, the Vietnamese may have found American devotion to peanut butter every bit as curious as our policy of wearing panty hose to ward off leeches.)

We are up early this morning to begin a notable leg of our journey. The plan is to pass through the Dasht-e Lut (one of the great deserts of the Middle East) and, continuing on, to go right by the site where Pakistan, Afghanistan and Iran intersect, to reach a corner of Iran where Bob and Ted are eager to collect. "It's the easternmost extension of an important geographical region called the Sistan Basin," Bob says. "We'll find some unique animals that otherwise only exist in Afghanistan." But, as every morning, our departure is delayed about an hour. Jim groans. "Sure, maybe there are some risks. But I'd rather die with a rat in my hand, happy, than just sittin' around waiting all the time."

Eventually what should have been a 7-hour ride is drawn out to 18 hours, as at various times we run out of gas, stop for supplies, deal with flat tires and have film confiscated by police for photographing what turn out to be dumped drums of benzene. The Lut Desert is bleak and flanked by distant gray hills. By 3 P.M. we





Here are just a few of the cast of characters the biologists encountered on their excellent adventure. Denizens of the desert are (clockwise from far left): a miniature owl; a mouse-size rock hamster; a camouflaged grasshopper nymph; a four-inch gecko lizard; and a short-horned grasshopper.

reach the city of Zahedan, where people with more Mongoloid features than we have encountered before stare at us in frank fascination. It is dark by the time we near the Pakistan-Afghanistan border. We have to stop at crumbling buildings: the first of eight military checkpoints. After some negotiations, we're provided with a military vehicle. This is exchanged for another one at the next checkpoint some miles down the road, and so on over the next few hours. Each time, the escort is a Toyota pickup truck with a machine gun mounted on the flatbed, which is packed with armed troops.

The next day I stand only yards from Afghanistan on the grounds of Sistan-Baluchistan University's Agricultural Station, where we will spend a couple of nights. Across the border the earth is barren and unoccupied, except for some mud dwellings visible in the distance. Ted has bagged a snake given to him by a farmer. For once no guards have chosen to watch us. After the others move on, I splash into a stream that apparently marks the border and leap right out again, proud of having sneaked a moment in Afghanistan.

A day after our equally arduous return journey, Natasha Ananjeva—a Russian herpetologist who joins us for four weeks—learns from anxious messages from home that a kidnapping occurred along the route we have taken. Three Italians had been abducted. Sheda tells us that such events are common. It has happened to her cousin. Invariably prisoners are fed well and treated kindly. Still, perhaps we should be taking our security more seriously.

Our escorts tell us the Italians were freed in exchange for Iran's release of 27 death-row drug smugglers, who were flown to Pakistan. A news report says the Italians were held in the mountains near Zahedan, where they played backgammon and ate kabob. We cannot help but notice that by the Italians' account, the kidnapping took place when they were passing the same spot we would have been passing at that moment if there had not been delays on our journey.

With so much bustle it is hard to meet ordinary Iranian citizens, but every time we do we are met with great kindness and an open curiosity about America. On one occasion three families on their weekly picnic together motion for us to join them. They insist I try a fragrant noodle soup called *ash-e reshte* and share some sweet plums and nectarines and then a smoke on a water pipe. At a sheepherding village a dozen boys chatter around me, turning stones to show me critters.

At other moments, however, friction runs high. Many nights I take an electric generator to the field, plugging in ultraviolet lights to attract insects. Whenever possible I stay up all night to observe the comings and goings of

species or, if too tired for that, awaken for a half-hour every 90 minutes to check their activity. At 9 o'clock one night a military vehicle roars up to my light. An officer insists that I move two miles away. Fuming, I tear down my equipment, heap it in my arms and, joining the troops in the back of the pickup truck, loop electric cord defiantly around the mounted machine gun and stare back at six stubbly faces as we bounce along.

The author, left, and Iranian scientist Hooshang Ziaie use a light to attract insects at night. The specimens are plucked from the air and popped into jars.

By the time I set up my light again it is 11:30. The troops have stayed, and with my colleagues in their sleeping bags, they find I am the sole entertainment. One guard becomes two, until all six stand in my work space, a Persian carpet thrown over the sand. In the hope that they will lose interest, I feign sleep by lying on my side, keeping my lower eye open to view the light. Behind me the voices do not stop. At 2 A.M. I see a two-inch sun spider, an ugly creature related to scorpions that moves like cotton fluff in the wind. Before I can respond, a boot drops and crushes it. I am on my feet instantly. Without missing a beat I find myself in a screaming match, nose to nose with the officer. It is dangerous, he indicates. No it's not, I reply. I'm here to study such things. Very dangerous, he warns, glaring. No, I respond. He and all but my first two guards walk away, muttering to themselves. I wonder if I've gone too far, and where exactly danger does lie.

But the remaining guards now seem cheerful. We strike up a conversation, they with 20 words of my language between them, I with fewer of theirs. Another sun spider appears as a horrifying blur of motion. We chase it back and forth over the dunes. It shifts course at dazzling speed as we throw ourselves at it again and again. For ten long minutes it gives no sign of tiring, as if this pace were normal. Finally I force it into a bottle and other guards return to admire our fierce-looking prize. They now help me on my hourly rounds of the area. We pass Ted, Jim, Bob, Sheda and the others, asleep under a broad sky. I wonder at the absurdity of it all, this Midwestern boy chasing strange-looking arthropods with Muslim militia.

They manage to convey how one can't see stars in Tehran because of pollution. Same for American cities, I tell them. "Dinosaurs in your country?" No, I say, imagining they have seen a bootleg copy of *Jurassic Park*. "United States is dinosaur?" I hope not, I say, amused by this clearly unintended commentary. At 5:30 A.M., they climb back into the Toyota and roar away, giving me a playful salute just as my friends begin to stir with the dawn's early light.

Ted and I are now back in Berkeley. We have new species, data to write up. We are also organizing our next expeditions. Ted is in e-mail contact with someone in Afghanistan who seems excited about having an American visitor. Doubtless, Ted is already dreaming of lizards at the opposite end of the Sistan Basin.

If the current round of fighting in Afghanistan ends in this computer penpal's favor, Ted says he'll go. I don't have the heart to tell him that I have already been there. ♜

Mark W. Moffett is writing a book about Western ideas of adventure and discovery. He wrote about vines in September 1993.