

A 1996 BIRDING TRIP THROUGH MEXICO

by

Jim Conrad

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THE DUNES OF SAMAYALUCA

October 4, 1996

In northern Mexico's Chihuahuan Desert, about half an hour south of the US/Mexican border between El Paso and Juárez, a Fronteras bus pulls away leaving me standing alone beside the highway. The bus's curtains have been pulled while a gringo movie with car chasing and gun shooting showed on eight video screens over head. The heavy darkness inside smelled of industrial-strength disinfectant, nachos and aftershave.

As the bus pulls away a cloud of black diesel fumes fogs around me, but very quickly the sound of the engine grows softer and the fumes drift away. As my eyes adjust to the light and the new dimensions of things at last there's nothing but the quietness of the desert. What a change this is from the last couple of days!

When the sun went down last night I was on a Greyhound bus entering Dallas on I-30, coming in from the Northeast. All afternoon I'd been looking at low rolling hills and scrubby forests of oak and hickory. Last night as I slept there were stops in Abilene and Odessa, and we got into El Paso sometime around 4 AM. I walked across the International Bridge at dawn, bought some bean tamales, and ate in a little park in Juárez while Great-tailed Grackles clamored among the palms overhead.

There's no traffic on the road right now, the only sound being my own breathing, and the rustling of a light breeze around my ears. All this sunlight, the broadness and blueness of the sky, and this silence... I just stand for half a minute or so, looking around.

The village of Samalayuca lies to the west, a fifteen-minute walk down an arrow-straight, broken-asphalt, treeless stretch of little road. To the east, white sand dunes rise above a level plain of waist-high scrub. However, I can't say how far away the dunes are. Are they huge and far away, or small and nearby? For the first of what will surely be many hundreds of times this trip, I dig out my binoculars and take a closer look: Nothing jives with how things usually announce themselves and fit together and the question remains unresolved..

I pick up my backpack, walk across the highway, and embark on a sandy, two-rut track leading toward the dunes.

After about twenty minutes I can see by how much the dunes have grown that they must lie two or three hours away. The track passes a low-strung ranch house built of rough boards, rusty tin roofing and having only two or three tiny windows with heavy, dirty towels covering them.

Presently the sand road jags hard to the left, though the dune field looms more and more to the right. I abandon the road and take wildlife trails snaking through the scrub.

WALKING THROUGH SCRUB

The sky is blue with a white sun in it. Without haze, the sky reaches all the way to the jagged, stone-gray, ridge-horizon-frame. A good distance away the dunes glare so violently that they are almost white, even ghostly. They seem to hover over the blue-gray scrub with its spines.

A certain randomness seems to have set the dunes in their places. They are like circus tents beneath poles of varying heights. They are clustered, with the highest ones gathered in once place.

Two shrubby species comprise this scrub, Mesquite and Creosote Bush. Both grow waist-to head-high, and as I walk among them I notice that in some places Mesquite grows in pure stands while in others there's nothing but Creosote Bush and, still in other places, the two species mingle indifferently. There's also a lot of knee-high Sagebrush with its ash-colored leaves, a few mostly nonflowering desert wildflowers, and several kinds of grass. I am having a problem with the grass called Sandbur.

Sandbur grows about halfway to the knee and produces straw-colored fruits smaller than peas and bristling with hard, needle-sharp spines. Each spine is hooked at its tip, but the hook is almost too tiny to see with the naked eye. The hooked spines latch onto passing-by furred animals, and socks and trousers.

Several Sandbur spines have worked themselves through my socks and they're pricking my ankles. To remove them I sit down -- absentmindedly right onto some Sandburs -- and instantly I'm reminded of the most vicious thing about Sandbur spines: Their hooks are so tiny that they don't keep the spines from entering your skin, yet when you try to withdraw a spine, the hook anchors in your flesh, and pulling the spine out hurts much more than when it jabbed into your skin. By the time I recall the old trick of removing the burs with a comb it's too late to save my fingers.

INTO THE DUNES

Walking, walking, walking through the scrub, toward the dunes, the vegetation thins imperceptibly and eventually I realize I'm walking among old, very low dunes stabilized by the plants growing on them. The dunes figure on the landscape like lazy swells at sea. As I continue toward the higher dunes the swells gradually increase in size from less than knee high to over head high. Finally they give way along a well defined boundary to dunes mantled by plants only on their lower slopes, their crests being naked sand.

Inside the main dune field vegetation finally disappears leaving just windblown, shifting, glaring sand. From inside the dune zone it seems that there's just one very broad-based dune maybe five to ten stories high, but up the sides of this mother dune there climb

scores of house-size smaller dunes. Maybe the mother-dune is two to four miles across and ten to fifteen miles long.

Having arrived, I just wander around, the wind blowing hard in mid afternoon, making my backpack's loose straps flap hysterically.

The starkness around me, the blinding sunlight, the heat, the choking clouds of sand and dust, stun me.

But what troubles me most is this: The landscape itself is uttering an ultra-base ommmmmmmmmm just like the sacred word the yogis use when going inside themselves.

HARRIS'S HAWK & KESTREL

Two specks plummet from the hollow sky toward the dune field's dead center. Through the binoculars the specks are barely identifiable as a Harris' Hawk chasing a Kestrel.

I know it's a Harris' Hawk because in the sky's overwhelming brilliance I can barely make out a dark tail with a white rim and even patches of chestnut on the shoulders. I recognized the Kestrel because of its size relative to the Harris', and the typical streamlined falcon shape, with swooped-back wings.

The little Kestrel, with half the Harris's wingspread, easily outmaneuvers its adversary, but the Harris' keeps up the attack. The whole drama lasts no more than a couple of seconds, then they drop behind the mother dune's crest and do not reappear, and I am left to deal alone with the wind, the sun, the heat, and the blowing sand.

HUDDLING

One dune after another, the sand that's pouring into my shoes burning through my socks... The heat, wind, and glare, and all I want to do is to set up my tent and crawl into its shade...

But pegging a tent in this wind is impossible. Again and again it billows and tries to fly off like a kite, more than once dragging me onto the searing sand. I peg one end and go to work on the other, but the pegs pull loose and the tent rages into my face. Gathering the tent into my arms, I go huddle next to a knee-high Sagebrush and simply wait. Hours I wait.

An hour before dusk the wind lays enough for the pegs to hold. I enter and lie on my back panting and sweating, feeling searing, banana-size sand-ripples beneath me. Gradually

the wind subsides more, then the temperature plummets and finally a raw chill creeps into the air. Black shadows pooled in troughs between dunes swell until they overflow the tent.

When Jupiter hangs suspended in the western sky the air is like crystalline glass holding everything in suspended animation. Though no Creosote Bush is in sight, its medicine odor suffuses the air. I fall into a stunned, empty sleep.

MAP ORIENTATION

At daybreak I peep from beneath the tent's flap to see what kind of day there is. In this first week of October the temperature stands at 57° F (14° C), the sky is clear, and the air is calm.

The passage from night to day takes place fast. In a matter of twenty seconds sunlight breaks over the eastern ridge and floods dune tops all around. One moment the desert is slate-gray and somber, the next, dune tops flair alive.

For a minute right after this high-speed dawn, from the Mesquite/ Creosote-bush zone surrounding the dunes, a pack of Coyotes calls -- not with dignified, lonely howls, but with silly sounding yelping and squealing, like half-drunk teenage boys.

As soon as there's enough light in the tent to read I pull out my map. The elevation here is about 4,300 feet (1,300 meters). That ridge to the east, I see, is the Sierra el Presidio, and according to the map it's only nine miles away (15 kms). To the west the ridges with clouds heaped around their peaks are the Sierra Boca Grande and Sierra las Lilas, 60 miles distant (100 kms). This western ridge had seemed much closer. The desert has tricked me.

The map shows that between here and the western ridges there's a vast plain of sand dunes interspersed with temporary lakes. I know the lakes are temporary because on the map the blue lines delimiting them are dashed. Streams leading into the lakes also are dashed, so they flow only after rains.

I love maps. I like the idea that right now I can tell you that I'm at latitude 31°21'N, longitude 106°27'W, and if you're interested you can look in your atlas and see exactly where I am.

"HEY, YOU!"

With dune crests blazing, I walk along chilly, blue-shaded dune slopes. With immense satisfaction, before having even crossed the first dune, the desert's silence is shattered by a piercing, almost startling whit-wheet, enunciated like the "Hey, you!" whistle some

people use to get attention. The call comes from a car-size thicket of yuccas atop a sand ridge connecting two nearby dune peaks.

Despite my slow approach to the yuccas, the whit-wheeter spooks and escapes to the crest of the next dune, landing starkly silhouetted against the glaring eastern sky, fairly galloping onto the ridge, kicking up a silhouetted spray of sand atop the silhouetted dune.

The running silhouette displays an eleven-inch long (28 cm) songbird with a curved bill and a longer-than-usual tail. Anyone familiar with American birds would know that it's a kind of thrasher. Circling the dune for a look at the bird's sunny side, I'm ready to say which thrasher it is after catching a glimpse of nothing more than its eye color, for it's the only thrasher in this part of Mexico with reddish-orange eyes, the Curve-billed Thrasher.

Except for its orange eyes it's a drab bird, the dark, dingy hue of a rag that's been used to wipe off a very dirty car. Filthy House Sparrows in sooty Third-World cities are this color. Indistinct streaks on the bird's chest show like curdles formed atop sour milk.

This dramatic appearance pleases me greatly. Even though the species is common in this region wherever sparse desert scrub occurs, I would never have seen it when I first started birding as a farmboy in Kentucky. The closest Curve-billed Thrashers came to my childhood home was central Texas, some 700 miles (1,100 kms) southwest of Kentucky.

This is something I've always done -- related plants and animals seen during my travels to the species I knew so intimately as a kid. In a way, the degree to which I always "feel at home" varies in direct proportion to how many plants and animals around me are the same as I knew as a kid. When I see something like this Curve-billed Thrasher, I am thrilled by its exoticness.

Now, with an immense sense of satisfaction, I bring out my notebook and write:

October 5 latitude 31°21'N, longitude 106°27'W

MEXICO: Chihuahua; ±10 km NE of town of Samalayuca, elev. ±1,300 m (±4,300 feet); sand dunes with some sparse herbs, grasses and low shrubs in dune troughs, a few yuccas on dune slopes

1. Curve-billed Thrasher

ARABESQUES

Flying low, like a skipping stone striking upon every wave crest, the Curve-billed Thrasher departs for the Mesquite and Creosote Bush zone, and once again the desert is very quiet. In this dawn silence there unfolds a shadow show.

The sun surges into the open sky and the dunes' shadows withdraw into their troughs, all the while metamorphosing abstract forms. During the time taken for aesthetics on the right side to be absorbed, shadows on the left create a whole new theater to be reexamined, and when you finally absorb what's on the left, the right has changed yet again...

Sand grain by sand grain the wind has sculpted the dunes' crests, slopes and troughs. Shadows lie around these forms like patches of black silk jigsawed into long, sinuous patterns. This blending of shadow-and-light curlicues and long sweeping lines puts one into the mind of arabesques.

Now I understand the relationship between Arabic script and the desert's sand.

TRACKS

Footprints in the sand show that during nights a broad community of animals come and go. There are jackrabbits, mice and rats, a Kit Fox, lizards, insects, and critters I can't identify.

Sometimes pencil-thin ridges atop shallow tunnels begin nowhere, wander aimlessly, then suddenly end, and I have no idea who makes them, or why. Most tracks lead briefly in one direction, then jag for no apparent reason in another direction, zigzagging across the sand.

The Kit Fox, in contrast, travels in a straight line, over dune crests and into troughs. After thinking about it awhile, I realize that it makes sense for a fox to travel like this, to pop over dune crests, for among sparse grass and wildflowers down in the troughs there might be rabbits, rats, and mice.

BUTCHER BIRD

At 10 AM a raspy call erupts from the next dune's slope. Something white perches there on a brown, decaying flower-stalk emerging from a wastebasket-size cluster of bristling, bayonet-shaped yucca leaves. The binoculars show an old friend, a bird I've known since I was a kid on the Kentucky farm, the Loggerhead Shrike.

It's a handsome bird and it's handsome not because of colors, which are merely gray, white and black, but because of the boldness of its patterns. It's mostly gray with a white throat, black tail, and black wings with white patches that flash during flight. And shrikes wear black face masks like cartoon characters robbing banks. For beginning birders, the black mask separates it from similar-looking Mockingbirds.

You expect hawks and owls to be hunters of small animals other than insects, but not songbirds like shrikes. Nonetheless, Loggerhead Shrikes prey on rodents and birds as

well as insects. Songbirds aren't supposed to have hooked beaks like hawks and owls, but even from thirty feet away I can see this shrike's upper mandible curving downward into a conspicuous hook.

Shrikes, like all other predatory birds, have the problem of keeping their prey stabilized while they dissect their prey. However, shrikes don't have the powerful feet that owls and hawks do to hold their prey, so shrikes sometime impale and immobilize their victims on sharp things like spines and thorns. I've often found mice and grasshoppers on cactus thorns and barbed wire spines, surely the work of shrikes. In fact, I don't think I've ever seen a shrike without there being something spiky nearby.

Once in Mississippi I spotted a Loggerhead Shrike perched on a fence surrounding a suburban home's backyard garden, and I thought I'd finally seen one away from all spines. But then I noticed that the bird was perched on a chainlink fence with the top border wires snipped off, forming sharp spikes jutting into the air every inch or so.

This bird simply has an irrepressible passion for spikiness.

TEMPERATURE RISING

Except for birds on and around bodies of water, and for most birds during nesting season, it's typical that the most active times for birds are early in the morning and right before dusk. Here this routine is accentuated to the extreme. Once the shrike departs, all is quiet.

From 57° F at dawn (14° C) the temperature rises to 82° F at noon (28° C) and 92° F at 2 PM (33° C). These temperatures are recorded waist high, in a sliver of shade next to the tent. Keeping the thermometer in the shade but lowering it to six inches (15 cm) above the ground, 100° F is recorded (38°C). Holding the thermometer in sunlight at waist height the mercury rises the column's full length, to 130° F (54° C).

At noon, a Pyrrhuloxia, a bird similar to a female Cardinal but wilder looking, alights for about two seconds on a yucca flower-stalk on the opposite dune, but immediately flies away not to be seen again. A couple of times four or five Mourning Doves zoom low above the dunes, as if the devil himself were after them, their wings whistling with a fast-pulsating, wheezy sound, but those incursions last only seconds. Occasionally throughout the day the Loggerhead Shrike erupts with a burry call, but it stays hidden, probably deep inside the shade of its yucca thicket. Once a few Turkey Vultures circling far over the Mesquite/ Creosote-bush zone more or less wander over the dune field's perimeter, but they never come close.

Mostly, between dawn and 2 PM, there's just the sun, the wind, the sand, and me.

A LITTLE DIZZY

At 2 PM I walk among the outrageously glaring dunes, my skin tingling in the unrelenting sunlight, the wind like dry heat from a just-opened oven door. I know I'm sweating, but the sweat evaporates so quickly that my skin stays dry. I hear myself breathing, breathing shallowly as I shuffle across the sand, but the air inside me feels artificial, like plastic air, doing its job but not the right way, and I'm a little dizzy, all the dunes crooked, not much sense of what's truly up and down.

I head for a high dune possibly half an hour away, where a small, isolated gathering of trees spotted with the binoculars lies surrounded by naked sand. There I find ten Quaking Aspens, their sparse, stiff leaves rattling in the wind but affording little shade. On one tree's smooth, white bark someone has carved his initials. Because it's so hard to focus my mind I have to count several times to be sure that it's ten trees.

For a long time I lean on the tree with initials in its bark. I feel more alone here than out among the dunes. Maybe it's because as I approached these trees I saw how isolated they were, with nothing but sand around them. I know that to the trees I looked the same, but I didn't have to see myself. I just saw these trees, and their isolation was awful.

By the time I make my way back to the tent I am anesthetized to everything, everything except the heat, and it's hotter inside the tent than outside, and outside there's no shade. Hunkering next to a knee-high Sagebrush for company, I try to keep the exposed skin on my hands and face covered with bandannas, but the wind always blows them away. I sit trying to figure out whether this strange feeling is physiological or psychological. The landscape is ommmmmmmming again, now so loudly it's like overhead wires in a hard wind.

By the time the sun sinks low enough for a hint of coolness to return to the air, a certain oscillation inside me has harmonized with the landscape's humming and I am absolutely aloof, untouchable, like a flake of ash drifting among the dunes.

FIRST OFFICIAL BIRDLIST

Here is our Official List of birds spotted on our Official Birding Day among the dunes:

October 5 latitude 31°21'N, longitude 106°27'W
MEXICO: Chihuahua; ±10 km NE of town of Samalayuca, elev. ±1,300 m (±4,300 feet); sand dunes with some sparse herbs, grasses and low shrubs in dune troughs, a few yuccas on dune slopes

1. Turkey Vulture
2. Mourning Dove
3. Ash-Throated Flycatcher
4. Curve-billed Thrasher
5. Loggerhead Shrike
6. Pyrrhuloxia

Of the species listed, only the Loggerhead Shrike gives the impression of being at home among the dunes the whole day, and for most of those hours it remains hidden, apparently deep inside yucca thickets. The Curve-billed Thrasher and Ash-throated Flycatcher must spend nights in yucca clumps, but during most of the day they remain in the Mesquite/ Creosote Bush zone. The Turkey Vultures, Mourning Doves and Pyrrhuloxia were clearly "just passing through."

THE DIGGER

Wherever sand grains are finest on the dunes' lower slopes, animal-dug pits averaging three inches across (7.6 cm) and three-quarters of an inch deep (2 cm) appear. Around these pits there are no tracks indicating what animal has been there. Obviously something flies there, digs, then flies away. But the pits are surely too large to be excavated by any insect, and I've never heard of any bird or bat digging such holes.

An hour before sunset as I wander across the lower slope of a dune where the wind hardly stirs I spot a black and white, thick-bodied wasp measuring one inch (2.5 cm) from the tip of its head, not including its short antennae, to the tip of its abdomen, and it's digging the very kind of hole just described.

"Digging" is too mild a word to describe this creature's activity. It's engaged in what seems to be a mad rush to eject from the pit as much sand as possible as quickly as possible. With its two back legs anchored far apart, again and again the insect lunges forward, thrusts its two front legs into the sand, and jerks them back so spasmodically that a nearly continual spray of sand flies from the pit, landing three inches away (8 cm). With each thrust forward the insect's head and short antenna butt into the sand. If a human worked liked this, one would say that that person is hysterical.

The wasp clutches a fly in the two middle legs bent beneath it. I think that this is a sphecid wasp, a kind of wasp that deposits its eggs near or inside animal prey. When the eggs hatch, the wasp larvae then have something to eat. I'll bet that this wasp plans to bury the fly, then lay one or more eggs next to it.

However, the wasp seems unable to get the pit the way it should be. It digs a few minutes, stops and looks around, flies away, returns, makes a loud buzz, and then it either continues work in the same pit or starts a new one. Several times this cycle is repeated; sometimes the sand ejected from a new pit lands inside a pit already mostly finished.

As darkness grows the wasp's behavior becomes even more frenetic and seemingly erratic. During a paroxysm of lunging and leg-jerking it loses grip on the fly, the fly is cast from the pit along with a spray of sand, and is quickly buried. Again the insect gives up, flies away, returns empty handed, buzzes, and starts another pit.

Finally it just stops digging and for half a minute stays frozen in the growing darkness. Then, slowly, it drags itself from the pit, and drones away. A change has occurred in its nervous system imparting to it a whole new demeanor. I'm tempted to call the new

slowness a sign of the insect's having accepted defeat. This time the wasp does not return.

A grasshopper's brain can be removed, but the grasshopper will still be able to walk, jump and fly. Therefore, it's dangerous to make anthropomorphic comparisons when talking about insects. Probably it's true that insects don't think at all; they are practically little machines responding automatically to stimuli.

Yet, I feel strongly that I have just witnessed something of myself in this wasp.

NEGATIVE FEEDBACK

Dawn was clear, except for a few clouds clustered over distant western ridges. At 10 AM white cumulus clouds materialized in the open blue sky and the wind started to stir. By mid afternoon and until around four o'clock, about a third of the sky was occupied by ragged, dark-bottomed cumulus clouds, and the wind blew briskly. Then in late afternoon the clouds thinned out, and by dusk they practically disappeared.

In other words, precisely when the day's heat was greatest, that's when clouds were thickest. Of course this happened because mid-afternoon sunshine heated up the land, hot air swirled upward in convection currents, and when this hot air cooled high in the sky, what little moisture was present condensed into clouds.

The lovely thing about this is that shadows of these clouds cool the hot ground that spawned the clouds in the first place. It's a negative-feedback situation preventing the desert from becoming even hotter than it is.

STRAWBERRY-SHERBET HUES

An hour or so before my second dusk among the dunes the sun plunges into a thicket of clouds heaped around the black-silhouetted ridges to the west across the vast plain of dunes and ephemeral lakes. Clouds that all afternoon have shown white with slate-colored bottoms now grow purple and take on pink linings. Here among the dunes, everything takes on sunset's strawberry-sherbet hues, especially the dust and fine sand blowing horizontally across the desert floor between the sun and me.

Most of this fast-moving dust and sand constitutes a cloud not rising over knee-high. The cloud does not move like a diffuse carpet being dragged horizontally, but rather in fast-moving waves behaving like excited snakes tangling and disentangling and rolling one over another across the dunes.

Inside this hypnotic display on the opposite dune's leeward slope a black object heavily and deliberately creeps into view. It's a tarantula. But no tarantula could be as large as

this one, surely at least the size of a dinner plate. My mind still buzzing from the day's heat and glare I walk through the pink dust-snakes toward the lumbering black spot.

Up close, in the dune's wind-shadow, to my profound relief, not only is the air's agitating pinkness resolved to a more manageable grayness, but also the tarantula measures only four inches (10 cm) from tip of front hairy leg to tip of back hairy leg.

The tarantula, like my own mind, wanders aimlessly, changing directions frequently. It begins to enter a Sagebrush but ants inside the bush stream out and attach themselves to its legs. The tarantula shakes them off, backs up and goes elsewhere. I follow it across several dunes until darkness sends me to the tent.

The wind drops to hardly a breeze, the desert grows dark and somber, and chilly currents creep into the air, exactly as on the previous night. When I close my eyes to sleep, everything inside me is heat, glare, wind, blowing dust and sand, and a surreally wandering, impossibly large tarantula.

GRASSLAND - MESQUITE

October 6, 1996

Ducks and geese from Canada and the United States have been settling for the winter on northern Mexico's scattered shallow lakes and stubbly grain fields. I want to see this close up.

Books describe yearly fall invasions of clouds of Mallard, Northern Pintail, Gadwall, Northern Shoveler, Green-winged and Blue-winged and Cinnamon Teal, American Widgeon, Ring-Necked Duck, Lesser Scaup, Canada Geese and more. Now I want to make my tent into an observation blind, setting it up among cattails right at the water's edge just feet from daylong duck circuses. I need some cool, moist breezes off a lake, too.

According to the map a lake called Laguna Encinillas lies along the main highway some 210 kilometers (130 miles) south of the dunes. On the day my water runs out I hike back to the road and catch a bus south.

El Lucero, Ahumada, Moctezuma, El Sueco, Arados, El Carrizalillo... The map shows the highway passing through these towns between Samalayuca and the lake. On the map the nearest town to Laguna Encinillas is Arados, so that's where I tell the bus driver I want to get off.

But the bus driver, who must have driven this stretch a thousand times, says there's no town along the highway called Arados. I say that on the left there'll be a lake called Laguna Encinillas. He knows about a lake on the left, but it's not called Laguna Encinillas, and there's no town of any size even halfway near the lake. I ask to be let off as close as possible to the lake he knows about. I've seen maps list ghost towns before, just to fill up empty spaces in desert regions.

It turns out that along the entire road the only settlement with more than one permanent-looking, occupied building is Ahumada, where we stop for a break. With a population of maybe a thousand Ahumada survives on a little ranching, some irrigated orchards, and the fact that it's the only stop for busses and trucks between Juárez and the Chihuahua City area, a total distance of 350 kilometers (220 miles). With empty desert all around, Ahumada is bustling, noisy, and self-absorbed in the manner of someone keeping obsessively busy trying to ignore their loneliness and vulnerability.

Eventually the bus driver nods to me in the mirror above his head and points with his chin off toward the east. Like quicksilver shimmering in the mid-afternoon sunlight, there's the promised lake maybe fifteen kilometers (ten miles) away, across an unbroken plain of small trees and grass, and just this side of a barren ridge rising into a meager cluster of clouds.

The driver asks if I'm sure I want to disembark in such a God-forsaken place. Hearing that this is exactly what I'm looking for, he dramatically, even theatrically, rolls the bus to a slow stop, looks at me as if I'm making a very big mistake, and opens the door.

SOFTER, FRIENDLIER AIR

This landscape here does not ommmmmmmmmm. The air is moist, soft, and friendly. Breathing it deeply is almost like drinking spring water. Feeling very good indeed I strap on my backpack, heavy with bottles of water from Ahumada, cross the road and wade into the vast mosaic of intermingling grassy openings and thickets of short trees. I am simply transfixed by every hint of moist lushness. The wind shakes large tree branches and the waist-high grass rolls in graceful waves.

In the forest areas the main woody plant is Mesquite, the same species as at Samalayuca, but here it grows much higher. Spiny acacias with short, slender spines and feathery leaves are common, and there are several species of wildflower, vine, and grass.

The grassy openings prove to be complex communities of different grass species. As I walk along I spot Blue Grama, Three-awn Grass, Lovegrass, Muhlygrass, Bluestem, and plenty of species I can't identify. No Sandbur, though, which prefers drier, sandier soil.

This pleasing diversity of grasses suggests that, despite the occasional livestock trail with its cow paddies, this vegetation is fairly natural, probably just what wandering Apaches saw hundreds of years ago. Once vast natural grasslands mantled much of northern Mexico, but now most of that is so overgrazed that the native grasses have been usurped by weeds, or else the entire landscape has been simplified to cropland. Walking through this surviving species-rich ecosystem, I feel honored.

After half an hour of hiking I catch glimpses of the silvery lake through the Mesquites' upper branches. A few minutes later the Mesquite comes to an abrupt end and a stunning view spreads before me.

PLEISTOCENE LANDSCAPE

Confounded by the scale of things, a long time I stand dumbly gawking, incapable of synthesizing what I see into a coherent understanding. Alternately looking with the naked eye and through the binoculars, normal and magnified images mingle in my mind, increasing my disorientation.

The lake looks no closer than it did half an hour ago. Between the lake and me there's an ocean of blackish green, waist-high grass, the wind making enormous, silvery waves in it, and in this grass ocean there graze hundreds, maybe thousands of cattle with magnificent, woolly-white heads and lustrous, meaty, chestnut-colored bodies, looking like Pleistocene mammoths. The whole landscape tilts crazily toward the lake. Then beyond the lake there's a wall-like ridge rising almost vertically. At the ridge's base, of all things, there's a long train so far away that the entire train fits within the binoculars' narrow field. That ridge behind the train reaches into clouds. Through the binoculars, white specks

along the lake's shore are probably the ducks, herons, and seagulls I'm looking for. But in this vast grassland, spaced every two or three kilometers apart, there are men on horseback, unmoving, hunched beneath dark serapes, just sitting there absolutely still as grass waves move around them.

There's lots of money tied up in these fancy cattle, the taut-strung barbed wire encircling the whole scene, and the horsemen staying all day at their posts, so there's no place here for a wandering naturalist along the lake's shores. The whole thing unnerves me.

The tent gets pegged beneath a widely spreading mesquite about the size of a mature apple tree, and with leg-thick branches running horizontally waist high above the ground. A limb passes right over the tent, pressing down on the canvas top. Inside the tent, again and again I push the palm of my hand against the solid beam. After the phantasmal dunes, the substantial feeling of rough, unyielding wood above me is comforting.

A DREAM

I didn't dream among the dunes, but on this first night in the grassland-mesquite I have a vivid one.

I am two books hovering horizontally above the grass, bearing the library number BK 539. I see from the number that I belong in a certain section of the library but, because the number is incomplete, I don't know my exact location. I hover exhaustingly all night, expecting at any moment to receive the missing numbers, but they never come. At dawn a Coyote calls, or I dream the call, and with this wild howl it becomes perfectly clear that I am to be planted exactly here, as a grass, and the idea of being two books needing numbers is completely forgotten.

SPARROWS

Sparrows, so many sparrows this morning, peeping and rustling in the leaves outside the tent. So as to not frighten them away I furtively peep through a pinhole beneath the tent-flap's zipper. Outside I see a carnival of mostly brown and gray, stubby-billed, chubby looking little sparrows, hopping about, scratching in the soil, preening, stretching, and flitting from one grass stem or sagebrush branch to another.

Mexico has about thirty-eight sparrow species and they all are variations on the themes of smallness, being gray and brown, typically having striped backs, and having bills that are short and conical, and thus well adapted for eating small grass seeds. Not a species among them bears a single feather of blue, green, or red. Male and females look the same, but juveniles have their own plumage which are even less striking than the adults'. And around me this morning, seventy to eighty percent are young birds in various stages

of drab juvenile plumage. They are this year's new crop. Identifying them will be a challenge and a pleasure.

I'm able to name two or three species immediately because of the presence of a few adult birds with distinctive fieldmarks. However, to positively identify six sparrow species it takes two days of patient watching, of reading and rereading species descriptions in my field guide, of studying habitat preferences and species ranges, and of vainly hoping that an adult male will break into its distinctive song.

For two days I drift through the tall grass and among the low, spiny mesquites and acacias, meditating on the meanings of lesser or greater degrees of brown striping on backs, lesser and greater degrees of spotting on chests, mere hints of eye rings or eye stripes, mere hints of median crown stripes, and occasional, half-hearted, fractionally articulated songs. And these two days are a joy.

You need special powers of observation to identify birds well. I look at one of these sparrows, make all the mental notes I can on breast spotting and back streaking, on whether it has an eye stripe or an eye line, or maybe a line through its crown. Once I think I've noted everything, I put down the binoculars and look in the field guide, and then I realize I hadn't seen nearly enough.

Had the bird's tail been forked, squared, or rounded? Had its lower mandible been the same color as the top one, and had its legs been dark or pale? Nearly always by the time I realize that I must look at the bird again, already the sparrow has flown away. I feel as if all these sparrows orbiting around me in their flitting, ephemeral, seemingly unconcerned manner comprise a kind of diffuse Zen master who half teasingly, half tauntingly draws me into a frame of mind where, to glimpse the essential beauty of the thing, ever greater self-discipline is needed, ever clearer vision.

In the end, knowing that I've probably overlooked two or three species, here, in alphabetical order, are the six sparrows I identify with absolute certainty:

- * Black-throated Sparrow
- * Clay-colored Sparrow
- * Rufous-crowned Sparrow
- * Song Sparrow
- * Vesper Sparrow
- * White-crowned Sparrow

Now let me tell you about each of these:

BLACK-THROATED SPARROW

Adults wear conspicuous black bibs below their bills, and bold, white eyebrow lines over their eyes. The species limits itself to desert scrub and has a special fondness for creosote bush. The bird's range is smaller than a lot of sparrows', only nesting as far north as southeastern Colorado, and wintering as far south as central Mexico It's absent throughout the East. The bird flies erratically and close to the ground, nervously flicking its

tail, almost as if it were jittery about something. This a restrained, neat-looking, nervous little bird.

CLAY-COLORED SPARROW

Particularly small, this bird has no striking feature of plumage other than a modest, pale stripe across a dark-brown head-crown. More a generalist than the scrub-loving Black-throated Sparrow, it inhabits a hodgepodge of habitats -- scrub, second-growth, edges of both deciduous and coniferous forests, burns, along rivers... Its song, which isn't being sung now, is nothing musical, rather just three to four identical, slow, low-pitched, flat, unbirdlike buzzes. Studies have shown that the pure, clear whistles of forest birds become severely distorted by strong temperature gradients and air turbulence. The Clay-colored Sparrow's low-pitched buzzes, then, is adapted for windy, open places just like this. Most North American birds are found in either the East or the West, or from coast to coast, but Clay-colored Sparrows only occupy the center of the continent. You can see its summer breeding distribution here. The species winters from southern Texas to southern Mexico.

RUFOUS-CROWNED SPARROW

This is by far the most abundant species here, with more juveniles in more intermediate stages of confusing plumage than any other. It forages on the ground seldom moving high in vegetation. Often it scurries from one bush to another instead of flying. Sometimes it sings a few snippets of song, even though nesting time is far away. The song is a little musical, with many rapid notes, but the notes are weak and jumbled with no discernable structure. One feature setting it apart from the other five sparrow species is that it's the only one that doesn't migrate. I take this to mean that of all the birds here, this is the one most at home.

SONG SPARROW

This bird is "family" for me. Distributed from southern Alaska to Newfoundland, south at least to southern Mexico, it was with me in my old Kentucky home. Though several generations of bird were probably involved, my mother considered the Song Sparrow claiming our backyard as the same individual year after year, and she called him Chesty. "Chesty," because when he sang he threw back his head and puffed out his boldly striped chest. My mother would always say, "Just listen to Chesty out there singing his little heart out." You can hear that song here.

VESPER SPARROW

The books always speak of the Vesper Sparrow's sweet song. I've never been up North during the species' nesting season so I don't know how sweet the song is. To see if you agree with The Audubon Society Master Guide to Birding's description of the song as ". sweet, musical opening notes, usually 2 pairs of clear, unhurried, slurred notes, second pair higher pitched, followed by a descending series of rapid trills," you can hear the song here. Not having its song to help with identification, I'm glad that Vesper Sparrows have an easy-to-see fieldmark. Their shallowly notched tails have white outer feathers that flash

when the bird flies. A few other sparrow tails have white outer feathers, but those tails are rounded, not notched.

WHITE-CROWNED SPARROW

This bird also has a vast range, nesting as far north as northern Alaska and northern Quebec, and wintering as far south as central Mexico. Though as a child in Kentucky I knew this bird, it was fairly uncommon and appeared there only during the winter. In the picture, notice the bold, black-and-white head striping. In Volume 146 (1964) of Science magazine, L.R. Mewaldt reported on an experiment for which he'd captured White-crowned Sparrows in San Jose, California, marked them and flown them by aircraft to Baton Rouge, Louisiana, and Laurel, Maryland, where the birds were released. The following summer they presumably migrated to their nesting grounds, most likely in Alaska, and then the following winter they showed up once more in San Jose, California... If you know how hard it is to get a fix on one's longitude (east-west position), you'll understand how surprising this is.

HAWKS

When a hawk or falcon's silhouette mounts into the sky, alarm calls in various sparrow idioms, tense with apprehension, filter through the grass. The sparrows, typically on the ground or perched low in clumps of grass or inside short bushes, freeze and cock their heads looking upward. If the silhouette sails too close the sparrows shrink into the nearest heavy cover.

Once an American Kestrel, a falcon also known as the Sparrow Hawk, swooped in so unbelievably fast that even though it struck at something only two car-lengths from where I sat, I couldn't determine whether a kill was made. Probably I would have seen at least a feather settling to the ground if it had been.

Often I hear the loud, raspy squeal of a Harris' Hawk. With a wingspread of about 110 centimeters (forty-three inches), throughout the days of my stay, frequently it perches conspicuously on a snag about three minutes walk from the tent. This is a beautiful, unusually dark hawk, with a brownish-black body, chestnut-colored shoulders and thighs, and a black tail with a white tip. This bird keeps the sparrows on high alert.

Usually the sparrows travel in small, loose flocks. Some years ago ornithologist Thomas Caraco and his team trained a tame Harris' Hawk to fly over an area where flocks of Yellow-eyed Juncos frequently fed. Juncos are ground-feeding birds closely related to sparrows. In one experiment the junco's average flock size increased from 3.9 birds when the Harris' Hawk was absent to 7.3 when it circled over the feeding grounds. Sparrows know that there's "safety in numbers," and from the large flocks around me I'd say the sparrows here are very nervous indeed.

MONARCH ON A MESQUITE LIMB

A few days ago, on September 21, I visited my grandmother in western Kentucky. From her front yard that afternoon I saw high in the sky dozens of orange Monarch Butterflies sailing southward toward their winter grounds in the highlands of central Mexico. At dusk a few landed to spend the night in trees around Grandma's house.

At dawn on my first day in the grassland-mesquite I find a Monarch with its wings folded, daintily at rest on a Mesquite limb head-high exactly over the tent's door. It's the first of many I see sailing southward during my days here.

BIRDLIST #2

Here are the birds spotted at this stop in northern Chihuahua's Mesquite-grassland:

October 7 latitude 29°28'N, longitude 106°23'W
MEXICO: Chihuahua; ±100 kms N of Chihuahua City, on west side of lake on some maps named Laguna Encinillas; elev. ±1,500 m (±4900 feet); Mesquite averaging 3 m high, interspersed with house-lot-size natural grass meadows.

1. Turkey Vulture
2. Cooper's Hawk
3. Harris' Hawk
4. Red-tailed Hawk
5. American Kestrel
6. Mourning Dove
7. Northern (Red-shafted) Flicker
8. Cactus Wren
9. Loggerhead Shrike
10. Wilson's Warbler
11. Yellow-rumped (Audubon's) Warbler
12. Green-tailed Towhee
13. Black-throated Sparrow
14. Clay-colored Sparrow
15. Rufous-crowned Sparrow
16. Song Sparrow
17. Vesper Sparrow
18. White-crowned Sparrow

THE VERDIN

To my mind, the list's Verdin is the "most exotic" species. Restricted to mesquite and other desert scrub, it's a tiny bird, only nine centimeters long (3.5 inches), and closely related to

chickadees and titmice. Anyone knowing those birds might guess, then, that Verdins are full of nervous energy, constantly flitting from perch to perch and flying jerkily for short distances with quick, erratic wingbeats.

"RED-SHAFTED" FLICKERS

The list's "Northern (Red-shafted) Flicker" needs a comment.

When I was learning my birds in the 1960's, my Peterson Field Guide told me that in Kentucky one of our common woodpeckers was called the Yellow-shafted Flicker, and that out West there was a similar woodpecker called the Red-shafted Flicker. When our birds flew, you saw yellow in their wings, while the ones out West showed red.

After my old Peterson Field Guide was published, people began considering the fact that in certain areas at mid-continent where the ranges of the two flicker species overlapped the birds freely interbred, producing fertile hybrid individuals. When a hybrid flicker flies away, instead of yellow or red flashing in its wings, it flaunts a nice salmon color.

The traditional definition of a species is that it is a group of individuals capable of interbreeding under natural conditions. Consequently, nowadays the Yellow-shafted and Red-shafted Flickers have been "lumped" into the single species known as the Northern Flicker.

There's an almost identical story about eastern North America's Myrtle Warblers and western North America's Audubon's Warblers, which are now "lumped" into the name Yellow-rumped Warbler, which also appears on the above list.

Notice that with both the flicker and warbler, here in northern Chihuahua I'm seeing the Western forms. As far as the birds are concerned, right now I'm more "out West" than I am "back East." These highlands can be considered an extension of the Rockies.

FALL SONGS

At dusk here in early October when there's no reason for a bird to advertise for mates or defend its territory, three species are singing, and who knows why?

They are the Rufous-crowned Sparrow, the White-crowned Sparrow, and the Cactus Wren. The sparrows' songs are rather tentative, with rapid, short, jumbled notes. To me their singing, very pleasant to hear, suggests the unfocused, self-absorbed gibberish of small children. The Cactus Wren's song is different.

Cactus Wrens are much larger than most other wrens. The familiar House Wren is about eleven centimeters long (4-1/4 inches) while the Cactus Wren reaches about 16.5 centimeters (6-1/2 inches). To be making such a robust sound, it has to be large.

The song is low and rough, highly variable, and sometimes written in the field guides as choo-choo-choo-choo. To me the song is more like that of a car starting up on a very cold morning, grinding away but just not firing. Cactus Wrens are common and not terribly afraid of humans. Their songs are one of the most familiar sounds of the desert.

FOG

At dawn on my last day in the grassland-mesquite I am amazed when I poke my head from the tent to find a very dense fog enshrouding me. My previous mornings have been completely clear. It's dark inside this fog, and the grass is even darker with wetness. But spiderwebs, hardly noticed before, suddenly are draped everywhere, conspicuously white and sagging with shining dewdrops.

Walking through the tall grass and Mesquite, quickly my trouser legs become sodden and where they stick to my skin it's very cold. Thousands of tiny, straw-colored grass seeds stick to my legs because of the wetness. Though the air temperature is only 13° C (55° F), soon I'm shivering from the cold, wishing for the sunlight of which lately there's been almost too much.

I can see about as far as the width of a house. Beyond that there's just a pale, white glow. My world consists of no more than one or two Mesquites and a few clumps of grass, and as I walk that small world constantly changes, materializing before me, disintegrating behind me.

The birds are so subdued, so silent and secretive, that when I catch glimpses of them they could as well be mice leaping from grass-clump to grass-clump, twig to twig.

At 10 AM, directly above, a hint of unbroken blueness comes into the grayness. A few minutes later the sun's pale orb can be distinguished. At 10:15, the fog breaks, not by becoming more and more diffuse, but by coagulating into pale curds. Vagrant breezes move into the scene and the curds are carried upwards, becoming very low clouds. The sun, already high over the eastern ridge, again becomes as brilliant and potent as ever.

The three above-mentioned dusk-singing birds break into song, and a few other species occasionally add song fragments, chips, and chirps. A Mesquite standing alone in a small prairie is absolutely bustling with small birds. Up close I see that at the tree's top about half a dozen Clay-colored Sparrows are repeatedly fluttering into the Mesquite's leaves, wetting themselves. These birds are dew-bathing!

DEW-BATHING

Mesquite leaves are compound, looking like two green feathers joined at their bases onto a single stem. Each section of the compound leaf, or pinna, is divided into forty to fifty tiny leaflets, with the result that Mesquite leaves appear diffuse. In the present sunlight, every leaflet shows itself as adorned with a glistening dewdrop.

The Clay-colored Sparrows hop along a stem sideways until they come near a sparkling cluster of leaves, then in an instant flutter into them, land back on the stem, and more often than not shake their heads, possibly to jar dew from their nostrils or eyelids.

The dewdrop bath continues for ten minutes or so, and then Yellow-rumped Warblers arrive. It appears that the warblers have been watching and now want to join in the fun, for they land in the mesquite's crown and immediately begin excitedly flitting from spot to spot and flying about. However, they do not make contact with the wet leaves. They simply flit about the leaves and fly into the air a couple of meters or so above them. It's as if they want to share in the experience, but can't quite grasp the entire concept.

After three or four minutes, they seem to catch on. They also begin fluttering into the leaves, dousing themselves with dewdrop spray. Have I watched one species teaching another how to take dew baths?

What a shame that in this Mesquite-grassland so many discoveries like this surely remain to be made, but I'm out of water, and have so many other places to go.

THE PINE FOREST OF LAKE ARAREKO

October 9, 1996

Chihuahua City, capital of the state of Chihuahua, lies just inside the vast Chihuahuan Desert's west-central boundary and is a sprawling, cluttered, and raucous city of about half a million people. It lies about 100 kms (60 miles) south of our grassland-mesquite. I take a bus there, then a series of local buses westward, toward the Western Sierra Madres.

Approaching the Sierra Madres at this latitude and from the east, the mountains do not announce themselves as a high ridge or even as a series of peaks. Despite the fact that here one crosses the Continental Divide and that the elevation is so high (over 2000 meters, 6,600 ft), I'm traveling across a kind of undulating plain. Still, there's a sense of being at the edge of something significant. Maybe it's the clouds boiling over the too-close western horizon and scudding close overhead.

The tilted plain breaks into low, rolling hills and the grassland fractures into patches of Mesquite, of juniper, and pine. Ranches appear here and there, and unirrigated cornfields and apple orchards confirm that the Chihuahuan Desert has been left behind. The clouds pull even lower, the horizon draws even nearer, and suddenly vertical-walled canyons of surprising depth open next to the highway. Finally the landscape fractures into a jumble of towering ridges and deep canyons, and any spot mantled with a little soil bears pine forest.

In late afternoon, still within the boundaries of Chihuahua State, I arrive in the tourist town of Creel, elevation 2295 meters (7650 feet). With a population of about 3,500, Creel is the main entry point for Copper Canyon, known in Spanish as Barranca de Cobre. Copper Canyon is almost four times wider than the U.S.'s Grand Canyon, and some eighty-five meters deeper (280 feet). Creel lies not far from the canyon's northeastern rim. Because of its isolation, surprisingly few tourists visit Creel.

People flock around the bus offering me, the only gringo aboard, every grade of fancy hotel, super-cheap room, kayaking trip, mule ride, and hike into Copper Canyon. I've been here several times before so I recall that a road leads southward out of town, soon entering pine forest, so after buying food and water I take a reading from the setting sun and start hiking southward. Six kilometers later (four miles) I spot a freshly painted sign announcing the Complejo Ecoturístico Arareko, or Arareko Ecotouristic Complex. It sounds too fancy for my blood, but it looks hardly developed at all. I follow the arrow and immediately meet with another new, hand-painted sign reading (translated from somewhat awkwardly composed Spanish):

"Welcome. For the administration and operation of the Arareko Ecotouristic Complex, all us inhabitants of the village of San Ignacio de Arareko made a society of social solidarity, formed by 400 Rarámuri members of this place. The entrance fee is used for the expenses of maintaining roads, latrines, printing tickets, maps, and a payroll of 27 people. Moreover, it helps fund our organization so that we can repay the money the federal government gave us through solidarity organizations."

This campground, obviously just getting organized, is operated by a village of Tarahumara Indians, the Tarahumara calling themselves Rarámuris. I like the idea of supporting local folks in ecotourism projects, so I continue inside. The camping fee is about the price of a Coke. A very pretty lake, Lake Arareko, adjoins the campground, but there's not a single other person in the "complex." One curiosity of the landscape is that innumerable, dark, rounded, elephant- and hippopotamus-size boulders of basalt lie atop and project from the forest floor, often looking as if they had been dropped in place. With just enough daylight left to see what I'm doing, I peg the tent between two boulders and next to the trunk of a very large pine.

A BUBBLE OF BIRD SOUND

At my first dawn here, on October 9th, the temperature stands exactly at the freezing point. My breath has frozen into hoary rime coating the tent's inner walls. I scratch the canopy, feel shattered crystals shower onto my face, and clumps of frost gather beneath my fingernails. I rub meltwater from the frost into my eyes and across my face, deep into my beard-whiskers. I smell the meltwater's wetness, its freshness, and at this moment I could not feel more alive.

Though yellow sunlight filters among the pines' tops, the campground with its boulders and trees remains somberly blue. For a long time I just lie keeping warm, delighting in the fact that I am right here, right now.

Then comes a gentle pecking on wood, some familiar-sounding cheeps and calls, and birds begin foraging around the tent. I lie still with my eyes closed, focusing on the sounds, letting the bubble of bird-sounds move around me.

There's a woodpecker making pecking sounds and I can visualize him chipping off loose flakes of tree-bark. There's some kind of chickadee or titmouse out there with an accent I've not heard farther north. And there -- a single, very high, thin note I can hardly hear... a Brown Creeper. And then the nasal yank-yank-yank of a White-breasted Nuthatch, and a few other notes I can't quite place.

THE COOPER'S HAWK

In mid morning I sit on a log, letting sunlight warm me. Then there's movement to the left, and not five car-lengths away an immature Cooper's Hawk with its brown-spotted breast and brown back and tail alights on the forest floor. With a wingspread of 70 centimeters (28 inches) the bird immediately stretches wide its wings as if to fly but instead starts hopping across the ground with its wings spread. It passes not two car-lengths before me, and continues on perfectly oblivious to my presence, always with its wings open.

Cooper's Hawks are streamlined beautifully for rapid flight, but on the ground this one looks as if it's constantly about to stumble. Cooper's Hawks have long legs, so this one looks like a wobbly clown on stilts. For the length of a large house the young hawk hops and wobbles with its wings spread wide, then vanishes over an outcrop of basalt, and when I go looking, is gone.

Back on the log I sit trying to figure it all out. Surely the young bird had been hunting. It had hopped with the sun behind it, so any animal on the forest floor looking toward it might have been partially blinded. Maybe it spread its wings only to stabilize itself during its clumsy run. It had not seemed to be using its wings to keep its equilibrium.

I have never seen or read of a raptor behaving like this. It was a wonderful thing to see.

ARIZONA PINES

It's so quiet. The mixed-species flock forming a bubble of birdsong around my tent at dawn continues drifting through the little valley just below but, here on the rocky ridge near my tent, even though sunlight speckles the forest floor and wind sighs among the Arizona Pines' boughs, the solitude is nearly as intense as among Samalayuca's dunes at dusk.

In fact, ecologically, this forest strikes me as similar to a desert. The mere facts that it consists of a single species of tree and that there are few wildflowers and grasses on the forest floor indicate that the environment here is harsh. If it were more hospitable, several tree species would be competing for space, and undergrowth would be dense. But here I can walk unimpeded below the pines, as if I were in a park.

These Arizona Pines are very closely related to the Ponderosa Pines so common in the mountains of much of western North America. In fact, earlier Arizona Pines were considered to be a variety of Ponderosa Pine, a variety specializing in high-elevation canyons of Mexico's Western Sierra Madres. The variety was known scientifically as *Pinus ponderosa* var. *arizonica*. Now most specialists regard this tree as a distinct species called *Pinus arizonica*, the "Arizona Pine," despite the fact that only a small part of its distribution extends into Arizona. For my part I'd be glad to call it the Tarahumara Pine.

You can read about Arizona Pines and see a map showing their distribution along with the Ponderosa Pine [here](#).

STELLER'S JAYS

A shrill, sassy shack-shack-shack erupts from the little valley below. I go there and find three or four Steller's Jays orbiting around one another as the flock drifts among the pines'

mid-level branches. Steller's Jays are well known in western North America because they are so loud, colorful, and don't mind living near humans. In the East our Blue Jays look a little similar, and behave in the same aggressive, flamboyant manner. The favorite food of Steller's Jays is acorns, but in this oakless forest they are content to flit from one half-open pine cone to another, with their big bills probing for pine seed not yet fallen to the ground.

A jay lands on a branch, spots me, does a double-take, bounces to a more open spot on the limb, bends toward me so far he seems about to fall, looks at me with his right eye, and then, with a theatrical flourish of wings and tail, snaps his head about to look at me with his left eye. This head-turning goes on for a couple of minutes, each turn his long, black crest flopping clownishly and prettily in the crisp morning air. Then a second jay lands nearby, the gawker turns and looks at his visitor, appears to decide that this second jay should be avoided, and instantly flees deep inside a neighboring pine.

The second jay, though I am in plain view, simply ignores me. I decide that maybe it hasn't discovered me so I clap my hands just to see what its reaction will be. It pauses and for ten seconds -- without moving a feather -- stares at me as penetratingly as a bird can manage. Then it continues ignoring me. It begins probing for pine seeds making no superfluous moves at all. This bird's crest concisely expresses certain levels of interest in this and that, but by no means does it flop. I admire its economy of motion, the way it appears to think out its foraging plan beforehand, and how frequently it finds something to eat. This bird projects a regal image just opposite to the first one's.

RUNNING RARÁMURIS

Sometimes Tarahumara Indians enter the campground to accompany the two men theoretically renting canoes to visitors to the lake. When the visitors are younger than about fifteen years old they're nearly always running.

The very moment young Tarahumara children see me, they run toward me full speed, come to a fast stop just steps away, then beg for pesos. As I hiked from town to the campground, for a good fifteen minutes I watched a Tarahumara girl perhaps five to seven years old running down a trail in the valley paralleling the road. She was barefooted and kept her back erect in good jogging style. When she reached the gate at the trail's end she simply turned around and ran back. In Tarahumara villages, the favorite toy seems to be a hoop, which children run behind, keeping it rolling with a stick.

Tarahumara are famous for their running. The name they call themselves, Rarámuri, means "those with fast feet."

THE TARAHUMARA LANGUAGE

Each dawn frost coats the tent's interior and I go sit along Lake Arareko to warm in the sunlight. Tarahumara women also come, some of them stationing themselves along the highway so if tourists pass by they can offer their gaudy handiwork. Mostly they sell blouses, dresses, belts, and bags with shoulder straps. By the second day they ignore me. We are all just silently and gratefully warming in the sun.

Of the approximately 65,000 people who speak Tarahumara, about 99 percent live in this southwestern corner of the state of Chihuahua, the rest being in the neighboring state of Durango. The Tarahumara language belongs to the Nahuatl-Cuitlateco group of the Uto-Nahuan stock of the Pima-Cora family of languages. It's closely related to North America's Hopi and Comanche indigenous languages, and central Mexico's Nahuatl. Nahuatl was spoken by the Aztec civilization, whose king Montezuma was the ruler when Hernán Cortés and his Spanish conquistadors arrived and destroyed the Aztec kingdom.

I speak to a Tarahumara man along Lake Arareko who tells me in heavily accented Spanish that he understands the Tarahumara who live deep inside Copper Canyon but, to tell the truth, the way they speak sounds awfully funny to his ears, and the folks down there have some strange words.

SUN-WARMING ALONG LAKE ARAREKO

So, Tarahumara women sit with me at virtuous distances along Lake Arareko's shore, some alone and some in clusters of two or three, silently warming themselves in the sunlight. They wear calf-length, much-pleated dresses and loose blouses of the brightest colors. Most wear shawls, or rebozos, also brightly colored, looped across a shoulder, holding a small child on the back. On their heads they wear bright, store-bought bandanas highly decorated with print motifs. Because their dresses blouse out so much, one dress worn over another, as they sit along shore they look like multi-hued bubbles randomly spaced among the black elephant-rocks, and when they walk, they look like scurrying bells painted Easter colors.

A Tarahumara man sees me watching ravens across the lake. He comes and sits, looks through the binoculars, and then my field guide. I ask him if he knows anything about birds and he says that he knows nothing. I ask if any bird eats his corn. His eyebrows arch high and he says, "Ah, yes, the Pájaro Azul. I show him the Steller's Jay's picture in my field guide and he thumps it with annoyance.

Then he thumbs through other pages. He points to the Le Conte's Thrasher saying it eats his corn in May. He goes on and on identifying birds and describing what each does. He both reveals that he knows a lot about many birds, but also that his eye is not as sharp for details as a real birder's, for he misidentifies several species. The Le Conte's Thrasher, for instance, is not found in Chihuahua, and is a denizen of open deserts, not pine forests. I suppose his corn-eater is the Curve-billed thrasher we saw among the dunes.

It's good to see his wonder as he scans every page of illustrations. He says he cannot imagine any purpose great enough to make it worthwhile for someone to put so many pictures of birds in a book, for everyone knows which birds eat the people's corn.

A MIXED-SPECIES FLOCK

During most of the morning and then again in late afternoon the mixed-species flock of my first morning's awakening floats up and down the little valley below my tent, the White-breasted Nuthatch's nasal yank-yank-yank always announcing the flock's location. As I approach the yank-yank-yank other calls become apparent and a flurry of silhouettes of small, hyperactive birds appears among the pines' lower branches.

At the heart of the flock are five White-breasted Nuthatches, only one of which is calling. Also there are three or four Ruby-crowned Kinglets -- none showing a hint of a ruby crown -- and three or four Mexican Chickadees. These species are among the smallest of the forest and they all flit nervously from branch to branch, probing with their tiny, slender bills into open pine cones, clusters of pine needles, and any irregularity of bark or twig, foraging for very small insects, spiders, and other arthropods.

There's been a good bit of study on mixed-species flocks such as this one. Flocks can consist of as few as two species, or more than a dozen. Some flocks are semipermanent, others are dissolved and reformed at more or less regular intervals, and some are completely transitory. They can be very loosely organized, or tightly integrated with complicated social structures. Their abundance and complexity is greatest in the humid tropics.

It's easy to imagine that a flock of flitting birds is more likely to jar a spider from beneath its leaf, or cause a bug to run from cover, than a single bird. However, woodpeckers often join such flocks, and their prey resides unshakably beneath flakes of tree bark. Also, we saw among the Mesquite that grain-eating birds also form mixed-species flocks. More than one serious ornithologist have suggested that often birds of different species flock together just for the company.

From time to time other bird species are drawn into my present flock's general vicinity but they do not join the active nucleus, just remain loosely on the periphery. After a few minutes the wandering flock drifts on without the visitors, or else the visitors fly away, abandoning the flock altogether. Among such visitors are Northern Flickers, Williamson's Sapsucker (shown at the right), and a single Yellow-eyed Junco with its eerie, schoolbus-yellow eyes.

Mixed-species flocks of nuthatches, chickadees, and titmice often flock together during the winter in North America and Europe. I was thinking about this when it occurred to me that, if I were in Kentucky with such a mixed flock, very nearby there would almost certainly be a Brown Creeper hopping up and down tree trunks, probing bark fissures and beneath loose bark flakes for miniscule arthropods.

As soon as this thought comes to mind, perfectly timed, a familiar, very high, thin seeeeep call of a Brown Creeper filters among the big pines.

THE BROWN CREEPER

When the Arizona Pine's lowest, more or less horizontal branches die they generally remain on the tree for a few years giving it a scraggly look, and then they fall off. Often these dead lower branches are encrusted with brittle lichen with relatively humid microclimates beneath their crusts. Naturally gardens of miniscule creatures congregate there. In this Lilliputian world the little (4-3/4inches, 12 cm) Brown Creeper is the tiger, the ever bill-probing predator.

Much of the time the Brown Creeper works with its back toward the ground, seemingly impossibly hopping along the undersurfaces of lichen-covered limbs. A good deal of its prey appears to be taken at the tips of dead branches and broken-off twigs. Certainly spiderlings are drawn to these branch tips, where they eject gossamer strands into the wind. When the wind's pull on the silk reaches a certain point, the spiderlings release their hold on the stem and balloon away on air currents -- unless the Brown Creeper comes first.

VULTURES

Vultures sailed above us at our previous two stops, they're here, and surely they'll be with us at all our stops farther south. Along Lake Arareko's shore two vulture species take to the sky as soon as thermals form.

First Turkey Vultures appear, then Black Vultures. In the sky these two species are easy to distinguish, for Black Vultures bear large, white patches at the tips of their wings, while Turkey Vultures don't. Also, Black Vultures have shorter tails and longer necks than Turkey Vultures, and to my mind fly much less gracefully.

Turkey Vultures will probably appear in our bird lists more frequently than any other species, and Black Vultures may well come in second. Vultures are so abundant not only here but throughout most the US that often I wonder how the land can support so many.

Part of the answer lies in the Vultures' ability to ride air currents for incredibly long periods without flapping, thus lowering their need for "fuel." Another answer is suggested by the discovery that Turkey Vultures are among the few birds who at night lower their body temperatures, thus saving energy trying to keep warm. Their temperatures drop about 6° C (11° F).

During my early days of birding, field guides placed vultures in the falcon family, along with hawks and eagles. However, since the early 1980's, largely based on DNA analysis done by C.G. Sibley and J.E. Ahlquist, New World vultures are now considered to be most closely related to storks, not hawks or falcons.

BIRDLIST #3

Here is this stop's Official List:

October 9 latitude 27°43'N, longitude 107°38'W
MEXICO: Chihuahua; Arareko Ecotouristic Complex ±6 kms south of Creel; elev. ±2,330 m (±7600 feet); low hills mantled almost exclusively with Arizona Pine, *Pinus arizonica*, little underbrush, much basaltic outcrop

1. Black Vulture
2. Turkey Vulture
3. Cooper's Hawk
4. Northern (Red-shafted) Flicker
5. Williamson's Sapsucker
6. Steller's Jay
7. Common Raven
8. Brown Creeper
9. Pygmy Nuthatch
10. White-breasted Nuthatch
11. Mexican Chickadee
12. Ruby-crowned Kinglet
13. Yellow-rumped (Audubon's) Warbler
14. Yellow-eyed (Mexican) Junco

For North American birders, the most "exotic" species in the list may be the Yellow-eyed Junco and Mexican Chickadee. In the U.S., both of these species are restricted to the mountains of extreme southeast Arizona and southwest New Mexico, but in Mexico they follow the western highlands all the way into the deep south.

Yellow-eyed Juncos, called Mexican Juncos in older books, look just like one of the phases of the Dark-eyed Junco common farther north -- except for the eyes. Those eyes are the bright orange-yellow of U.S. school buses. They are so conspicuous that they look unnatural.

Mexican Chickadees look almost identical to Black-capped and Carolina Chickadees common farther north, but their voices are a bit lower and more buzzy than those species'.

The list's Pygmy Nuthatch may not seem so unusual to Westerners because they are found at higher elevations all through the US West. However, they're "exotic" to Easterners. In the US Southeast we have the very similar Brown-headed Nuthatch, but

that bird has a brown cap while Pygmies have gray ones, and the Brown-headededs are strictly low-elevation folks. Despite these differences, sometimes the two species have been lumped.

The field guide says that Pygmy Nuthatches forage in small flocks high in the pines. The one I saw, drawn at the right, was lower down on a trunk, and alone. Maybe it had descended just for a quick look at me, for I had only that brief sighting before it disappeared.

The list doesn't convey an important feature of Lake Arareko's birdlife. Large parts of the forest here, at least during the middles of days, are absolutely birdless. Except for wide-ranging hawks, vultures, jays, and ravens, all the other species were seen almost exclusively in the little valley below the tent.

BEAK-POUNDING

One day a Mexican Chickadee lands nearby carrying in its beak a clear-winged insect, possibly a lacewing. The bird hops to the limb's most level part, pins the insect onto the bark with its feet and, vigorously swinging its whole body up and down, chisels at the insect with its bill. Once the wings are chipped off the bird keeps beating at the body until it is limp and soggy. Then the insect is swallowed.

Pinning prey with the feet and then chiseling it with the beak seems a natural thing for a bird to do, but most birds don't do it exactly that way. This special behavior is typical mainly of members of the Chickadee-Titmice Family (the Paridae), and the Jay-Crow Family (the Corvidae).

If you look into your own field guide, most likely your book will place the Chickadee - Titmice Family right next to the Jay-Crow Family. That's because these two families are considered to be closely related. It's assumed that these families arose from a single ancient ancestor, and that the holding-with-the-feet-while-pounding-with-the-beak behavior arose with that ancestor, or perhaps somewhat earlier.

LAKE ARAREKO'S FLYCATCHERS

Though absent from our Official List, flycatchers are found at Lake Arareko. In fact, I observed several for lengthy periods. They are missing from the Official List simply because I couldn't figure out which flycatcher I had.

This won't be the last time this trip I have trouble with flycatchers. Mexico is home to over sixty members of the Tyrant-flycatcher Family, the Tyrannidae, an incredible number of which are mousy little birds with hints of eye rings, hints of crests, hints of wingbars, and

they all occasionally fly from hidden perches to snatch up flying insects. To make identification harder, at this time of year they're not calling.

In Mexico, I find the flycatchers and hummingbirds to be the hardest large bird-groups to identify -- the flycatchers because of so many look-alike species, and hummingbirds because they usually buzz by so fast that their fieldmarks are impossible to see.

After working an hour or so with Lake Arareko's flycatcher, I'm guessing that I have a Pine Flycatcher, but it might be a Dusky, or maybe something else. A Field Guide to Mexican Birds ratifies my indecision by saying that the Pine Flycatcher is "probably not distinguished with certainty in the field from [the Dusky] and other similar species except during nesting season."

THE OAK-PINE FOREST OF BAHUICHIVO

October 12, 1996

One of the most awe-inspiring railroad tracks in the world runs between Creel and Topolobampo on the Pacific Coast. With 39 bridges and 87 tunnels, and ranging from 2,417 meters(8,056 feet), to sea level, this stretch of the Chihuahua-Pacifico Railway passes through a rainbow of ecological zones, from Creel's cold, high-elevation forests of Arizona Pines to Topoloampo's tropical beaches. In Creel, when I board the train headed westward, downslope, I ask the conductor for a ticket to the first town surrounded by forest in which oaks appear among the pines. To my vast surprise, without a single comment or wry look, the enlightened man simply writes out a ticket reading: Bahuichivo.

At first the track courses through pine forest and keeps to more or less level ground and there is no hint of what the map shows as reality: That we are actually coursing along the top of a large peninsula of highland jutting out southwestward into the Pacific lowlands. Eventually we do break from the forest and it comes as quite a shock. We're gazing blankly through the windows as pine and more pine blurs by and then instantly our car rumbles onto a dizzyingly high bridge spanning a vertical-sided abyss. Then just as suddenly we're back into the somber pines.

This happens several times. Sometimes from the bridges we can see that the canyons being crossed are just arms of the much larger Copper Canyon, the northern rim of which the train's track is paralleling. The view into Copper Canyon is a panorama of enormous gray walls of exposed edges of horizontal rock strata and jagged rock chimneys with bonsai pines atop them. But distances and dimensions in these views are so otherworldly that it's impossible to sit in a train and relate to them. The views are like images flashed on walls and it's hard to believe we're right at the edge of something so immense.

A couple of hours out of Creel, the map indicates that the highland spur is about to come to an end. The track crosses a narrow ridge, careens over a canyon wall and descends, not to ascend again. Within ten minutes we've lost enough elevation for oaks to appear among the pines, and right on cue the wonderful conductor appears.

"Ya llegamos," he tells me; "We're arriving."

CHIMNEY ROCK

Bahuichivo is dinky and mud-splattered, not much more than a train station and a sawmill. Coming into town I'd noticed a fine camping spot along a pretty stream upslope so I hike back along the track. After about an hour I find the location. It's a perfect camping spot in every respect except one: Now that I think about it, probably the dozen or so local men lounging around the station as I hiked out of town could guess exactly where I was heading with a backpack. And that sets me up for being robbed. A few years ago in

Durango not far south of here a couple of fellows near a sawmill town just like this one knocked on my tent one night and when I peeped out they put a pistolo to my head and took everything...

With a twinge of regret I cross the parklike opening along the stream and head up a slope so steep that I must draw myself upward by pulling on the very dense, shrubby undergrowth. The elevation here is about 680 meters lower (± 2230 feet) than Creel, so it's warmer than I've experienced for a few days. However, it's still about 1650 meters high here ($\pm 5,400$ feet), so it's not long before I'm very sweaty, and gasping for air.

Often I must rest, usually straddling a small tree trunk to keep from sliding downslope. With sweat burning my eyes and my shoulder muscles searing from lugging the backpack, I think about my fears, about the possibility that with this white beard and balding head I should really be somewhere else this dusk, doing socially acceptable things, not slinking about in such a shape, in a nameless Mexican canyon.

After twenty more minutes of looking I still haven't found a spot level enough for a tent, or even for simply lying down in a blanket, and it's almost dark. I'm near the slope's top, at the edge of the vertical rock cliff forming the canyon's upper wall.

Then through the undergrowth I spot a chimney rock about ten meters high (thirty feet) rising next to the cliff face. I make my way to the gap between the chimney and cliff, remove my backpack and tie a rope to it, then with my back to the cliff walk my way up the crack between the cliff wall and the chimney, and when I'm atop the chimney pull the backpack up after me. I lie there wet with sweat until my breathing slows down.

The chimney's summit is just large enough to park a car on. It's occupied by one medium-size pine and a small oak, and there's a more or less level spot just big enough for the tent, right at the pine's base. The view into the valley is fantastic. I'm right even with the treetops that are bound to be filled with birds in the morning, and from here I could hold off a large band of banditos. Barely with enough light to see what I'm doing, I stake the tent, enter it and feel very lucky indeed.

UNSEEN SINGERS

At dawn, inside the tent there is no sensation that I am atop a chimney rock. I could as well be awakening in the middle of a vast grassland, on the muddy banks of the Mississippi, or back in Belgium, where I was living just a month ago. That's a lovely thing about tents: Though you may awaken in a different spot every day, inside, it's always the same, and the homey familiarity is comforting. My tent with its known splotches of mildew on the ceiling and ant-gnawed holes in the floor is someone else's homey breakfast table and kitchen-window curtains.

It's not as biting cold here as it was during dawns at Creel. Through a slit in the tent I retrieve the thermometer left leaning against the pine's trunk. Here in the middle of

October, at an elevation of about 1,650 meters (5,400 feet), some two-thirds of the way up the western slope of the Western Sierra Madres, it's 8° C (47° F). Worming my way outside, I cocoon in a blanket, lean against the pine's trunk, and look around, listening for birds.

Almost instantly the first bird-call of the day sounds, one of my favorites. From among a jumble of boulders along the cliff's base at the canyon's head arises the piercing, liquid call of the very wren to be expected here, the Canyon Wren. It's a brown and rusty-colored little bird with a pure white throat and chest.

The song, to my ears, is exactly like a whistled rendition of someone laughing so hard that their last laughs trail into gasping heaves. But what makes the song beautiful is that usually, as is the case here, rocky backdrops create an acoustical situation that amplifies and projects the song-laugh. It seems impossible that a bird only 11.5 centimeters (± 4.5 inches) can be responsible for such a resounding call.

Then another birdcall, also from the canyon's head, and this one represents an important milestone in our trip! It's the call of a Brown-backed Solitaire, and this is the first species encountered on this trip that is not also found in the United States. For the first time a species we've listed is one not illustrated in North American field guides. Here in the southwestern corner of Chihuahua we are at the northwestern extreme of its distribution. From here it ranges south through the Mexican mountains, to Guatemala, El Salvador, and Honduras.

Solitaires, along with thrushes and bluebirds, are members of the Thrush Family, the Turdidae. Except for their longer tails, they are similar to the mousy, look-alike species of flycatcher that have been giving me so many identification problems. They are exceedingly plain-looking creatures. The thing about solitaires is their song. Many would say that they are the champion singers of all Mexican birds. Well, it is often the case that the most plain-looking birds are the best singers, and this may be the best example of that. Sadly, this bird is often sold in Mexican markets, even though its song from a cage is nothing to be compared to what I hear here.

The song begins innocently enough with a soft wenk, wenk, and then metamorphoses into a chortling jumble of flutelike notes ascending the musical scale with ever increasing velocity. The older bird books say that the song suggests the cranking up of an old-time motor car.

ATTACK FROM ABOVE

For an hour the pines and rock outcrops rimming the canyon glow in sunlight and the blue sky dazzles with its clarity, but the canyon itself remains chilly, shadowy, and somber. At mid morning, still in the shadows, warm breezes begin stirring. Hot air is supposed to rise but, here, air feeling warm and dry and smelling of pine appears to be draining from the

canyon's head and flowing down the canyon, streaming around the chimney rock and me. And this strange wind is bringing me visitors...

They are stink bugs. Brown, shield-shaped hemipterids of the family Pentatomidae, hoards of them, not lazily drifting with the warm currents, but flying hard with the current, as if embarked on stink-bug kamikaze missions. They thump into the tent, against the pine, and against me, my legs, chest, and face. They roll to the ground, flounder struggling to get upright, and if their flailing legs happen to snag something they yank themselves onto their bellies and immediately fly off again. Soon the ground is littered with them and if I nudge one with a finger the finger ends up smelling like the nauseating stinkbug defense.

No sooner has the invasion subsided than another onslaught begins, this time conducted by black, plump, two-millimeter-long ($\pm 1/12$ th inch), blood-sucking black flies -- Dipterids, probably of the family Simuliidae. They swarm around ankles, arms, neck, and face, and do not diminish in numbers once sunlight arrives. They become a plague with repellent keeping them away only a few minutes. Atop my chimney, as the canyon at last receives its full share of sunlight, I sit fuming over the godly humor that sets a mind so acutely alert and informed in a body that, by virtue of its very nature, draws black flies that make elevated thought impossible.

TREETOP VISITORS

With the sunlight's arrival, birds begin stirring at eye level in the treetops around me. First a hummingbird comes out of nowhere, hovers right before my face, contemplating the tip of my nose. Before I can overcome my surprise and begin registering its features, it's off, and will not appear in the Official List.

Ten minutes later a flycatcher lands in a pine snag a mere car-length before me, in full view in bright sunlight, and silently perches in profound nondescriptness long enough for me to figure out, mostly by comparing habitat and distribution remarks of all the look-alike flycatchers, that it's probably a Buff-breasted Flycatcher. However, it might also be a Western Flycatcher. I told you about these flycatchers. Neither of these names will appear in the Official List.

Then five Gray-breasted Jays, called Mexican Jays in older books, rampage over the rim of the cliff above and settle in the treetops around me. Gray-breasted Jays are about the size of North America's Blue Jays and Steller's Jays, and they also are predominantly blue. The big difference between them is that Gray-breasted Jays are crestless.

There atop the chimney rock it's as if I were perched among them. Wrapped in my blanket more against black flies than because of the cold, I'm struck by how alert each bird seems, constantly glancing around, and how vivacious and subtle their interactions are. Silent and unmoving inside my blanket, I feel like a mud-caked turtle watching a flurry of butterflies.

Sometimes jays are described as "nature's alarm system" because they tend to be drawn to any commotion or deviation from the norm. When disturbed they cluster around the object of concern disturbing the neighborhood's peace with shrill, grating, cawlike calls. One endearing feature of Gray-breasted Jays, however, is that their voices are not nearly as harsh as their northern relatives'. Gray-breasted Jays fly about asking in fairly civil terms, Wink? Wink? Wink?.

One jay in the flock carries a small acorn onto a branch of the little oak next to me, wedges it between its feet, and with the same exaggerated seesawing motion observed at Creel with the Mexican Chickadee, chisels at the acorn with its beak.

A Painted Redstart flies out of the woods right at eye-level and exactly just a few feet before my face snaps an insect from midair. He's so close that I see very plainly how he closes his eye the moment he reaches the insect. I've never read this before but it makes sense. If he misses the insect, the eye might be damaged. What a grand observation post this chimney rock is!

So far all the birds seen here are species not observed at our previous three stops. The pine and oak sharing the chimney-rock's crest with me likewise are species not seen before, and I'm not sure what they are. Prickly-pear cactus clings to vertical rock outcrops of the canyon wall. On the canyon's drier slopes stand juniper and Madrone trees, as well as waist-high clumpgrasses. In the deepest, moistest, most shaded valleys there are very tall, dark, stately fir trees.

Not everything here is new, though. Flitting among the pines, just as they did among the mesquite in the grassland-mesquite zone, and among the pines at Lake Arareko, are Yellow-rumped Warblers.

NORTHERN FLICKERS

A couple of Northern Flickers forage for ants on the ground at the base of the rock cliff. I can't see a flicker without thinking of a classic experiment. Adult male Northern Flickers bear conspicuous "mustaches" like the one on the right in the picture at the right. The mustaches are black in the Yellow-shafted race but red in the Red-shafted race, the one we have here. Females do not have mustaches. Thus a female flicker was caught, a mustache was painted on her, and her romantic life was utterly devastated.

Here's something else I think about when I see flickers. Ornithologists distinguish between bird species that are "determinate layers," which lay a fixed number of eggs, and "indeterminate layers," who lay extra eggs if some are removed from the nest early during the incubation period. Northern Flickers are indeterminate layers. In fact, one flicker laid seventy-one eggs in seventy-three days, trying to replace eggs removed as soon as they were laid.

LOOKING INTO TREES

For two days I remain atop the chimney rock, for seldom have I ever enjoyed such a perfect perch level with treetops. It's good to be atop the chimney rock when sunlight floods into the canyon. In afternoon wind my neighboring pine's branches knock together and the dry rapping sounds travel down the limbs into the trunk, sounding like heartbeats deep beneath the coarse, black bark.

When the wind is greatest, tree tops heave and leaves quiver frantically, like children waving arms and wiggling fingers to get attention. When the sunlight is brightest, I can see through several trees at one time, everything moving, knocking, sighing, rustling, even whistling, and I am glad to be on the chimney rock right inside the tree-top feeling.

Late in the afternoon of the second day I place my ear to the pine's trunk and listen for a while to the heartbeat. Then hardly able to hear my own voice over the wind-roar all around me I whisper into the bark that soon I must descend.

THE TROGON

Next day, down next to the stream but keeping away from the perfect campground, a round boulder near the bank is perfect for clothes washing, and tree branches hanging low over the stream are perfect for drying. After the morning's scrubbing and hanging of clothes I sit on a boulder in mid-stream, staring blankly into deep shadows pooled behind a sycamore along the stream bank. A pale spot among the sun flecks twitches, and automatically my binoculars rise for a look. Silent and unmoving, an Elegant Trogon -- called Coppery-tailed Trogon in older books -- perches gazing right back at me.

Now, from a Northern birder's point of view, the five "most exotic" kinds of Mexican birds are probably the tinamous; parrots and parakeets; motmots; toucans... and; trogons. With their size, bright colors and stubby tails, Trogons look a little like parrots, but they lack the parrot's sharply downcurved beak.

The Trogon Family, the Trogonidae, is represented in the U.S. only in extreme southeastern Arizona, by the Elegant Trogon, and, very rarely, the Eared Trogon. Though some of the thirty-seven or so of the Earth's trogon species occur in Asia and Africa, trogons are mainly tropical American birds, with nine species breeding in Mexico.

The trogon before me now is behaving typically for trogons. They like to perch in fairly secluded, hidden locations, remaining very still. This lifestyle makes sense for trogons, whose main food is small fruits, with only occasional insects. Thus their diet is not nearly as energy-rich as that of a pure carnivore or nectar sipper. Trogons need time for fruits to

work their way through lengthy intestines while enzymes break down the fruits' complex carbohydrates. They grab a fruit, then sit quietly as it digests.

Trogons have their own peculiar manner of "grabbing fruit." They flutter up to a small fruit and without landing take hold of it in their stubby, thick beaks, the upper mandibles of which are equipped with serrated edges. Not letting go, and most likely "sawing" at the fruit's moorings with those serrated mandible-edges, they simultaneously let the momentum and weight of their chunky bodies help them snap the fruit from its point of attachment. It all happens very quickly. Within five seconds a trogon can leave its perch, acquire a fruit, and then be back on its perch placidly digesting.

Most birds have four toes directed forward, with one toe pointed backward. A few, the best known of which are woodpeckers and parrots, have zygodactyl feet, on which two toes are in front and two behind. On normal zygodactyl feet the first and fourth toes are directed backward. However, there is one bird family in which the first and second toes are directed backward, not the first and fourth. This is the trogon family. The special word characterizing trogon feet is heterodactyl.

When I need to identify a trogon first I note whether the belly area is red or yellow, for all Mexican trogon bellies are one or the other. Then I make a mental snapshot of the barring on the tail's undersides, for it is true that trogon tails are bar-coded. The sketch at the right shows the tails of males of several species. Female tails are usually a bit different.

Usually I hear trogons before I see them. They make very distinctive, low, nasal-sounding, far-carrying, monotonous calls like cow-cow-cow-cow...

However, the Elegant Trogon I'm seeing now deep inside the sycamore's shadows looks at me for fifteen minutes never making a peep and then in a wink of the eye silently flutters away. It's strictly by accident that I've seen this species, for I just happened to be staring at the very spot where it was. It hadn't even crossed my mind to be looking here for trogons.

DIPPERS

Just opposite to the secretive, silent manner of trogons, all day long, up and down the middle of the stream, shrilly calling with excited-sounding trills and musical runs, two American Dippers fly low over the water very often passing right by my sitting rock. Related to thrushes and wrens, only four dipper species exist in the whole world, though dippers as a group are found throughout much of the Earth's uplands. They all have the same roundish, short-tailed, long-legged shape and all live along mountain streams with cool or cold, clear, flowing water. And the ones I've seen always struck me as irrepressibly hyperactive.

Dippers eat aquatic larvae of insects, especially those of beetles and caddisflies, and moths, snails, small fish, and fish eggs. Not only do they work along the water's edge like

sandpipers, they also float atop water like ducks, and, incredibly, "fly" underwater, and walk along the stream's floor as they forage. They can fly from below the water's surface into the air, and visa versa, almost as if they simply don't recognize the boundary between water and air.

Underwater, a movable membrane over the nostrils keeps water out. When operating above water but in the spray of a waterfall, another membrane, the "nictitating membrane," slides over their eyes. Since the water in mountain streams is often very cold, the dipper's plumage is well insulated with a thick undercoat of down. Dippers have preen glands about ten times the size of any other songbird (ducks aren't songbirds), which provide the oil used for waterproofing their plumage during preening.

BIRDLIST #4

Here is this stop's Official List:

October 13 latitude 27°25'N, longitude 108°04'W
MEXICO: Chihuahua; ±5 kms east and upstream of Bahuichivo; elev. ±1,650 m
(±5,400 feet); oak-pine forest in canyon

1. Turkey Vulture
2. Red-tailed Hawk
3. Elegant Trogon
4. Northern (Red-shafted) Flicker
5. Yellow-bellied Sapsucker
6. Gray-breasted (Mexican) Jay
7. Steller's Jay
8. Common Raven
9. American Dipper
10. Canyon Wren
11. Spotted Wren
12. Brown-backed Solitaire
13. Ruby-crowned Kinglet
14. Yellow-rumped (Audubon's) Warbler
15. Painted Redstart

Of the List's two non-U.S. species, the Brown-backed Solitaire is distributed from approximately here, southern Chihuahua, south through the Mexican highlands to Honduras. The Spotted Wren is a purely Mexican bird, found only in oak-pine woods and semi-open dry country from here south through the uplands to the Isthmus of Tehuantepec. This is a large wren, some eighteen centimeters long (seven inches). It's closely related to the Cactus Wren of the U.S.'s southwestern desert.

ROCK IN A STRANGE PLACE

Deciding that after two days of not being seen it's now more or less safe to camp along the stream, in late afternoon I scout for a camping spot there. Well hidden behind a tangle of briars, eroded into a vertical rock face about five feet above the little stream's floodplain, I find a cavity almost too perfect to be true. Perfectly dry, a little longer than I am, and deep enough for my whole body to fit into, nature could not have provided a better sleeping platform.

An egg-size rock lies in the hollow's exact center. The rock is of a curious shape, color, and texture, completely different from the material forming surrounding cliffs and boulders. Clearly, someone has carried this rock from some distance away and left it here on purpose.

Has someone just wanted to see if the rock is still here the next time they drop by and look? Or might this person be generous enough to simply wish to greet me, the wandering stranger, no matter who I am, no matter what I'm doing, and no matter when I come here?

I prefer to think it's the latter. I like this concept, and as darkness comes and I feel snug and safe in my hidden hollow, I come up with this idea:

Someone has sent a greeting to me. Now I pass it along to you, and I hope that someday when you are properly sensitized and alert, in just such a subtle manner as has happened here, you will leave a special rock in a perfect place, keeping the greeting alive.

HOT & STEAMY AT TÉMORIS STATION

October 16, 1996

Between Bahuichivo and the next train stop in the direction of the Pacific lowlands the elevation drops another 650 meters (2100 feet). Even though the two stations lie only thirty straight-line kilometers apart (about eighteen miles), the drop produces enormous changes in vegetation. My ticket for the next station reads Témoris.

The diesel-powered train lumbers along slowly providing sensational views into the canyon. Since the cars are old-style I can hang over the bottom half of the two-part door at the end of the last car. Standing there I feel increasingly warmer air gush around me and when I look around the side of the train and see an interesting flower or leaf coming up it's easy enough to lean out and snatch it as it passes by. As the track plummets the vegetation changes and I know the birds are changing, too.

At around 1,200 meters (3,900 feet), pine forest abruptly yields to thorn forest in which spiny acacias dominate. After these days of solemn, blue-green pines, what a pleasure to see luxuriant thickets of elephant's-eye-high Castor Bean with broad, star-shaped, glossy, yellow-green leaves shimmering in the dazzling sunlight. Agaves and cacti crown rocky ledges along the track. Among the cacti are species of prickly pear cactus, barrel cactus, cholla cactus, columnar cactus, and a spectacular, giant organpipe species.

Eventually the train eases into a settlement. With sweat beading on my forehead my eyes drink in the passing tableau: Scarlet hibiscus blossoms explode inside dark green shadows; succulent papaya trees laden with ripening yellow fruit; crowded thickets of glossy-leafed banana trees; guava trees heavy with yellow guavas, and ;children playing along the track, dirty, healthy, happy-looking children, their white teeth and brown skin glistening in the sunlight.

Through the engine's diesel fumes I smell random odors of wet, green herbage, ripening and rotting fruit, the perfume of orange blossoms mingling with the emanations of outdoor toilets and standing pools of sewage, and, from the little open-walled restaurant across the parking lot to which I direct myself, the smell of wood smoke, hot coffee, hot tortillas, hot-sauce, and hot refried beans.

FIG-TREE CAMP

This is Estación Témoris, or Témoris Station, they tell me. The real Témoris lies over the mountain. Here there are only a few houses and a couple of little stores, nothing more, so I'll have to take a taxi to Témoris. I tell them I'd like to walk for the exercise. Of course, my real plan is to follow the river downstream and make camp.

Water in the river is so low that it can be crossed by jumping from rock to rock. However, the gravelly, bolder-strewn, unvegetated flood plain portion is broad enough to hold a baseball diamond. Obviously there are times when unimaginable amounts of water rush through here sending house-size boulders rolling and scouring away even the willows. Cliffs along both sides of the floodplain rise almost vertically to towering, round-top peaks. Two craggy volcanic necks frame the river downstream. The view downstream reminds me of Japanese watercolor scenes of an impossibly pretty landscape.

After about an hour of hiking below town, at the edge of the barren floodplain, a large fig tree has accumulated enough level soil among roots behind it for the tent to be pegged there. The fig's branches are heavy with green, spherical, marble-size, inedible figs.

The tent is erected and a poncho and some trousers are spread across its roof to break its contour lines -- to help camouflage it. It's so deeply shaded and weedy below the fig that from just a few feet away the tent becomes invisible.

It's a good site. However, as the sun dips behind the high peaks, a melancholy murkiness spreads across the valley's floor, even though dusk is still hours away. I lie in the tent cooling off, listening to mosquitoes thronging outside the tent's screen window.

WATCHFUL VIREO

In the late afternoon I sit on a boulder next to the fig's smooth, slate-gray trunk. Not three arm-lengths away, a Solitary Vireo alights on one of the tree's lower branches, assumes a comfortable-looking perching position, and cocks his head slightly. He holds his head sideways so that his left eye, highlighted with a thin eye-ring, stares exactly at me. He makes not a sound and twitches not a feather. In such a manner this bird perches for a solid hour, absolutely unmoving, always with that left eye riveted right on me.

[UPDATE: The Solitary Vireo's taxonomy is complex. Some authors separate the Solitary Vireo into the Blue-headed, Cassin's and Plumbeous Vireos. Judging from distribution maps in Howell & Webb's field guide, this could have been either the Cassin's or Plumbeous Vireo.]

Though it would be interesting to see just how long this bird can look at me, after an hour I want to move to another rock. The moment I stand up the vireo takes flight. He lands in the top of a nearby tree and for a full minute goes into a paroxysm of alternately hopping and flitting about, and ruffling his feathers -- giving a clear impression of "letting off steam" after his period of intense observation and inactivity. At the minute's end, he flies away. I have never seen a bird behave like this.

At dusk, however, he returns to another nearby perch and continues his earlier intense watchfulness until darkness enshrouds all, and I feel my way into the tent.

Awaiting sleep, I can't shake the feeling that the vireo's behavior is downright spooky. I wonder what a superstitious person would make of the visit? Here in the shadowy belly of an almost supernatural-looking canyon, I wonder what omens, what kinds of vision, what spirits or apparitions a mind could attribute to this little bird's behavior if one just allowed the mind to wander... ?

JAKAJAKAJAKAJKAKAJA... !!!

At daybreak the thermometer reads 19.5°C (67° F). Sunlight kindles the peaks, but here on the canyon floor it remains somber and quiet. Certain hesitant-sounding peeps, quickly smothered outbursts of song, and faint, drawn-out whistles break the hush from time to time, and surely these are voices of interestingly rare and exotic species. However, I can't identify them and can't get a glimpse of what's making them. An hour passes but sunlight makes hardly any progress entering the canyon. The whole canyon remains more than half asleep.

Jakajakajakajakajaka... !!!

Godzilla thrusting his scaly head above the fig tree could not be more shocking than the sudden explosion of this shrill, frenzied call sounding very much like a squealing tire on a gangster's car. There's a beating of wings and then three silhouettes materialize from the fig tree's shadows and in loose formation sail across the canyon. Big birds, these, with long tails and long necks ending in little heads. They look like archaeopteryxes, those half-bird, half-reptile bird-ancestors living 150 million years ago during the late Jurassic period.

The three primeval silhouettes come to rest in another giant fig across the river. Binoculars reveal them to be the northern form of the West Mexican Chachalaca, a mostly brown, slender, turkeylike bird with a wingspread of some eighty-five centimeters (thirty-three inches).

Mexico has three Chachalaca species and all are impressive, but this northern race of the western species is the most handsome of all. Its belly and the tip of its tail are possessed of a rusty red hue that in such a gloomy canyon as this appears to radiate warm light.

When I began birding in Mexico about thirty years ago, I was sure that chachalacas would soon disappear. They were conspicuous birds and men in the countryside often were met carrying guns in the hope of running across them, for chachalacas are favorite hunting fare. However, today in most of the country chachalacas seem as common as ever. Probably that's because they do well in weedy, overgrown areas, such as abandoned cornfields. Also, they are less persnickety than most birds with regard to their food, eating a wide variety of fruit, seeds, leaves, and insects.

What a pleasure to watch these birds walking along the big fig's massive horizontal branches, breathing through their open beaks, and their heads atop those long necks pumping like a chicken's when it walks. There's something ungainly about chachalacas,

something in the character of a lanky, loose-jointed teenage boy with big feet and a gigantic Adam's apple. Watching chachalacas, you just like them.

DEEP IN THE CANYON'S SHADOW

By the time the chachalacas glide into a thicket behind the big fig, sunlight has begun reaching mid-slope on the valley's opposite wall. Far above, birds can be heard heartily singing, and the binoculars can barely pick them up flying from rock to rock. However, down here, things remain calm, chilly, and clammy.

With the binoculars I vacantly scan the tangled wall of trees and woody vines across the boulder-strewn floodplain. This random searching discovers two Brown-backed Solitaires, the magical singers from Bahuichivo, silently and unmovingly perched side by side, simply gazing into the valley like a couple of married folk at breakfast staring from the kitchen window. Sexes are similar in this species, but I have to believe that these are male and female.

In the canyon's continuing gloom a Spotted Sandpiper -- in winter plumage immaculately spotless -- comes gliding down the stream and lands right before me. Spotted Sandpipers are plain-looking little wading birds who bob their tails as they walk, and who are common as sin wherever water occurs nearly throughout the Americas. One reason they are so common may well be that Spotted Sandpipers are polyandrous. By that I mean that female Spotted Sandpipers entertain more than one male mate.

During the breeding season the female typically lays in succession up to four sets of eggs, of four eggs each, and she supplies each nest with a compliant male who incubates the clutch. The female may incubate the season's final clutch herself. If a male loses his clutch of eggs to a predator, the female quickly replaces it with a new set. Female Spotted Sandpipers are a quarter larger than the males, and as such defend the nesting territories while the male incubates. Females also fight each other in competition for males.

SUNLIGHT REACHES THE CANYON FLOOR

Sunlight at last penetrates into the canyon's deep-seated belly but the anticipated outburst of bird activity doesn't materialize. The early flush of bird activity glimpsed on the cliffs above has already dissipated there but birdlife on the canyon floor remains as subdued as ever.

Birds do appear here and there, but they are the expected species doing the expected things. Turkey Vultures circle high above. A Great Blue Heron alights on a boulder downstream, spots me, then leaps into the air with its wings spread 175 centimeters wide (nearly six feet). American Dippers occasionally bolt up and down the stream just as at

Bahuichivo. A Black Phoebe works the river systematically, first perching conspicuously atop this rock, then that one, frequently darting out to snatch flying insects in mid air.

One species already encountered during the grassland-mesquite stop deserves special mention if only because it is so thoroughly to be expected here. Today, right on cue, it appears among thick bushes next to the river.

It's the Wilson's Warbler, shown at the right, a mostly yellow, slender little bird, incessantly working among streamside branches stretching over the water reaching for light. The bird darts beneath this leaf, then that one, flits a tiny distance, pokes its tiny, slender bill into miniscule angles between leaf petioles and the stems they arise from, habitually twitches its tail, flits a little farther or maybe does an aerial cartwheel to catch something too small to show through binoculars, suddenly hops onto side-branches to snap up spiders or mites, and it does most of this poking and bill-snapping so fleetingly that once it's over it's hard to say whether it happened at all. Frenetic activity is typical warbler foraging behavior, but the pace of the Wilson's Warbler is more lively than most.

Témoris lies a little north of the winter range the field guide describes for Wilson's Warblers. The winter range extends from central and southern Mexico all the way south through Central America to Panama. Therefore, probably the bird seen now is just resting during its continuing migration south. Moreover, since this is so late in the migrating season, it's a good bet it has come from the northern part of the species' summer range.

After some thirty years of birding in Mexico, my impression is that this species is probably the most ubiquitous, or at least the most frequently seen, wintering songbird of all of Mexico. This is curious to me since in the eastern US I seldom see it.

BUTTERFLY FLOOD

Dazzling sunlight bakes the canyon's floor through late morning and into the afternoon. In mid-afternoon the temperature reaches its maximum for the day of 29.5° C (85° F) and the wind picks up and gushes down the canyon in a hot, unremitting flow.

The remarkable thing is that this hot, too-rough wind carries with it a bounty of orange-yellow butterflies. Not Monarchs, these, but a smaller, less boldly marked species, more yellow than orange.

At first there are just a few gaily flitting above sparkling water and among hippopotamus-size boulders. As butterfly numbers increase, it becomes apparent that four out of five butterflies are heading downriver, with the rest en route the opposite direction. Most fly about waist high above the water but a few soar high, and the binoculars reveal some flying so high that the naked eye can't see them. There are thousands of them, thousands...

By four o'clock the passage of orange-yellow butterflies is general, and overwhelming. A single glance across the canyon reveals dozens at a time, and the view down the canyon

is like looking into an orange and yellow dust storm. Let the eyes drift out of focus, and the butterflies become a diffuse, apricot-colored river, and I am on the river's bed, looking up through the water.

MAGPIE JAYS

In late afternoon the canyon wall across the river darkens with its own shadow so that the still-lit butterflies flowing downstream over the river appear as thousands and thousands of bright, pulsating points of light. The mood of this strange and beautiful scene is suddenly shattered when three crow-size, long-crested, streamer-tailed, boldly blue, white, and black Black-throated Magpie Jays kite from the wall of my side of the canyon across the river to the other wall. The stately passage of these large, elegant birds above the river of yellow butterflies, all highlighted by tropical sunlight with the dark canyon wall behind them, is thrilling.

Magpie jays are related to North America's Steller's Jays and Blue Jays but, whereas Steller's Jays are only about twenty-eight centimeters long (eleven inches) and the Blue Jay a bit shorter, Black-throated Magpie Jays reach over seventy centimeters (about twenty-eight inches). About two-thirds of that length is tail.

The dark blue tail, embellished along its edges with white spots, stiffly streams behind the birds as they fly across the river. It's obvious from the birds' steady flight that the tails stabilize the flight through what must be highly unstable air.

When not flying, maybe the long tail can be problematical. I watch a jay perched on a limb inside a tree across the river try to turn in the opposite direction, but the tail catches on neighboring branches. The jay works himself along the branch to a more open spot but again it's the same thing. Later I watch a jay perching quietly on a limb minding its own business when a rogue updraft catches that tail, carries it upwards like the handle of an old water pump, and the poor jay topples over as if an invisible hand were pushing him from behind.

Why has nature equipped this species with such an impractical tail? Both males and females have them, so it's not a case like the peacock's, where the male's tail impresses the female. It's not to counteract the aerodynamic effects of the large crest, for Steller's Jays also have large crests.

After thinking about it for a while, the only conclusion I can draw is that Black-throated Magpie Jays have long tails with white spots along their edges because, having them, they are so pretty. Sometimes Mother Nature simply expresses herself with panache.

VULTURE-MIMICKING HAWK

In late afternoon, the whole canyon again in deep shadows, I sit on a rock near the fig tree. Upriver, a large, dark bird appears flying low down the middle of the valley, directly toward me. The binoculars reveal a powerfully built black hawk. As the bird approaches I focus the binoculars closer and closer, until the big hawk spreads its wings and breaks its flight directly over my head. When I twist around for a better look the bird realizes that it's not alone and flies away.

The field guide carries a whole page of illustrations of "Black Birds of Prey Overhead," pinpointing subtle differences between eleven species, but I didn't see all I needed for a solid identification. With ninety percent certainty I'll say that it was a Zone-tailed Hawk, but that's not good enough for the Official List.

One reason Zone-tailed Hawk are interesting is that they mimic Turkey Vultures. They soar with them circling in the sky holding their wings in a shallow V just like vultures. Prey on the ground familiar with the vultures' innocent circling pay less attention than they should, and sometimes pay with their lives.

BIRDLIST #5

Here is this stop's Official List:

October 16: latitude 27°16'N, longitude 108°16'W
MEXICO: Chihuahua; ±5 kms southwest and downstream of Estación Témoris;
elev. ±1,000 m (3,300 feet); tropical deciduous forest with thorn forest element in
large canyon with stream and considerable gravel and boulders

1. Turkey Vulture
2. American Kestrel
3. West Mexican Chachalaca
4. Great Blue Heron
5. Spotted Sandpiper
6. Belted Kingfisher
7. Yellow-bellied Sapsucker
8. Black Phoebe
9. Black-throated Magpie Jay
10. American Dipper
11. Canyon Wren
12. Blue Mockingbird
13. Brown-backed Solitaire
14. Solitary Vireo
15. Wilson's Warbler

ANOTHER SPOOKY VISIT

Early on the second morning I break camp and return up the canyon toward Estación Témoris. Again it's the time of somber shadows and from the deepest of those shadows, inside heaps of vines sprawling over bushes and rocks, there come once more the hesitant-sounding peeps, drawn-out whistles, and quickly smothered outbursts of song so peculiar to this canyon's somber hours.

Where my foot trail joins the gravel road leading upslope to Témoris the town, from a viney heap cascading over an embankment there arises a single note so sharp and piercing that at first I think it can be nothing but a person right beside me trying to catch my attention with a whistle. But there is no one. Once again, sheer luck carries my gaze deep into the thicket where I spot a bird's silhouette. The binoculars reveal a Blue Mockingbird, a wholly dark-blue bird, except for the black bandit's-mask across its face, and eerie, red eyes...

This species is not known as a particularly mysterious or enigmatic one. Its general haunts are woods, brush, and second growth. Yet right now this weird single note and the silent red eye staring from within deep shadows create an unearthly mood. A chill passes over me, setting my hairs on edge. My last moments on the canyon floor perfectly balance the first ones, when the Solitary Vireo so uncannily watched me upon my arrival. It's as if a spirit of this gloomy canyon wished to tell me that it was watching me, and now tells me that I have been watched. What notions might a superstitious person come up with?

ON THE ROAD TO TÉMORIS

The gravel road to Témoris begins in tropical deciduous forest next to the river. Mostly there are broadleaf trees that will lose their leaves sometime during the dry season, from approximately November to May. Soon the road climbs into thorn forest composed mostly of spiny bushes and small trees, especially common among which are various species of acacia. The binoculars clearly reveal pine forest atop the canyon's walls.

The hike up the canyon wall is a pure joy. The road snakes in and out of sunlight while calls of Brown-backed Solitaires echo continually in the background. Small, noisy flocks of Gray-breasted Jays roam along the slopes like bands of teenage boys out on the town. Two species of brilliantly yellow-and-black orioles, the Black-vented and Scott's Orioles, appear on open snags, seeming like ornaments on Christmas trees. A third oriole, probably the Streak-backed, gets away.

Occasionally thickets of a weedy Mimosa appear along the road bearing spectacular heads of red flowers. These are abuzz with hummingbirds zipping about so fast that seeing their field marks is hard. I put the backpack in some shade, sit down and lean back on it, and after about twenty minutes of catching exceedingly brief glimpses of the birds I manage to determine that the hummers possess extensive areas of emerald-green, and that dark rufous-purple appears in their wings and tail. This is enough to enable an entry in the notebook: Berylline Hummingbird.

The higher I climb, the less the black flies plague me, and the cooler and drier the air becomes, ever more agreeable. Among pines at the very top it feels like Lake Arareko again. The road winds past a few widely spaced, recently built cabins, which are rough-hewn, and spattered with mud. Women spreading washed clothing to dry on shrubs have loads of kids around their feet, and are themselves gaunt and washed-out looking. The dogs here all behave as if they expect me to throw rocks at them.

INTO TÉMORIS

Finally I round a corner and there's Témoris in a shallow valley below. It looks like any Mexican town with a population of about 1,500, and sounds that way, too. Even from a kilometer away there is a continual din of Diesel-engine noise, a sawmill's buzz, a merchant with a loudspeaker hawking bananas, papayas, and pineapples, the school bell ringing, dogs barking and roosters crowing. All this is remarkable because the binoculars show that the single gravel road leading into town from the other side is as narrow, pot-holed, and untraveled as this one. Témoris has one street paved for a short distance and on that brief paved section there's something of a traffic jam! Témoris is the best tempest in a teapot I've ever seen.

In town I'm directed to the house of Manuela Guerrero, known to fix meals for strangers. She is astonished that a man like me comes from so far away just to look at birds. It is a revelation to her and something she will be talking about, I judge from her amazement, for years to come. She says that everyone in Témoris is like everyone else, and that, typically, even people who visit Témoris are only like people already there. But, a man like me, just looking at birds...

I ask her if she knows anything about birds.

"Absolutely nothing," she replies with an exasperated shrug of the shoulders. "Except for the swallows. They come in the spring, April maybe, perch on the wires across the street and they look here and they look there and they fly around, they make nests, they raise their young, and then they fly away in the fall. They left here several weeks ago."

Manuela probably refers to Barn Swallows or Violet-green Swallows. Dozens of the latter right now line up along a wire just down the street, twittering to one another and flitting about as excitedly as if it were the middle of summer.

I ask my hostess if my plan of reaching the Pacific lowlands by taking the road on the other side of town is a good one. It's impossible, she tells me, because water is over the road now and I might get stuck for days waiting to cross the low spot. The only dependable route to the coast is by train.

Visualizing myself stranded along a flooded bank someplace inside a cloud of black flies, I decide that hiking back the way I have just come would not be unpleasant.

OAK-ELF CAMP

Not far from where the road begins descending toward the river, a narrow ridge projects a hundred meters or so from the road into the canyon, then drops precipitously. The ridge is overgrown with a single species of low-spreading, gnarled, scrubby oak. Because the ridge is so exposed to winds through the canyon, a stiff breeze streams through the oaks all the time. Since the oaks' leaves are leathery and crisp, and the twigs are hard and rigid, as the wind beats leaves and twigs together, it's noisy within the oaks. A thick carpet of dry, brittle oak leaves carpets the ground, so every step beneath the trees is accompanied by loud crunches. Here is where I camp for the night.

The wind blows all night, the noise never ceases, the moon reels above the canyon, leaves blow onto my tent and scrape as they slide down the sides, a skunk leaves its odor lingering despite the wind, and I lie suspended inside this strange universe more than once laughing into the wind and moonlight, and then laughing at my own laughing.

Awakening the next morning, an oceanic body of dry quaking, leafy rustling, woody knocking, breezy sighing, and tent flapping has insinuated itself into my soul. As if I have danced with elves all night, I am weary but fresh, and still giggling.

ON A HIGH ROCK

On a high rock with a good view into the canyon, I take position and watch as the valley awakens. Hours pass fast as I savor the simple watching of birds doing what they will. Ravens soar along the cliff's edge across the canyon. A hidden Canyon Wren someplace sings its piercing, descending, laughing-to-dry-heaves song. The glorious Brown-backed Solitaire's strain shimmers continually in the background. A House Wren claiming a shadowy heap of weeds nearby whines at my intrusion. A small flock of Gray-breasted Jays raucously drifts all over the canyon. Rufous-capped, Townsend's, and Wilson's Warblers, and a Painted Redstart, all belonging to the Wood Warbler Family, lithely forage for bugs and spiders in treetops just below me.

Nothing spectacular happens the whole morning, but each tiny event is so fascinating, so perfectly fitting, that the hours blossom into a meditation, and feel like minutes passing.

GILBERTO ALMERÓN GONZALEZ

In the afternoon a barefoot fellow on a burro enters the ridgetop cornfield above the road behind me. He dismounts, stretches, gazes into the canyon awhile, spots me on my rock,

removes his broad sombrero and waves at me with it. He spends half an hour wandering all over the cornfield, which has already been picked and now is straw-colored and dry, then mounts up and rides away. Sometime later, here he comes riding down the road, coming for a visit.

Gilberto Almerón Gonzalez is a handsome, bright-eyed, self-assured boy of about fourteen, and his burro's name is Mentiras, which in Spanish means "lies." Gilberto's little brother told his mother he wanted to eat squash, so Gilberto and Mentiras were sent to the cornfield to look for them. Planting squash among the corn is an ancient Indian practice, but Gilberto says his family doesn't belong to any Indian group. Animals seem to have eaten all the squashes except one about the size of a basketball, one with such a hard rind that Gilberto says he'll use a rock to break it open.

Gilberto holds my field guide to birds in the manner of someone utterly unfamiliar with how books should be held. He tries hard to be delicate with it but ends up scrunching and soiling the pages. I show him the picture of the most conspicuous bird in these parts, the Gray-breasted Jay, and he calls it Tchwee, which is an excellent approximation of the call it makes. He says the Tchwee eats his corn. Then Gilberto flips some pages, points to a pigeon and tells me that it's an águila, an eagle, and that it eats his family's goats.

Gilberto's error isn't as absurd as it seems. He's unfamiliar with how the scale of illustrations can change from page to page. Both pigeons and eagles are heavy-set, thick-necked birds, so strictly in terms of shape they are vaguely similar. More interesting is Gilberto's suggestion that eagles in this valley capture his family's goats.

I'll bet Gilberto's goat-eating eagle is the Golden. Immature Golden Eagles even show white areas on the undersides of their wings, and at the base of their tails, which approximates the patterning of some pigeons.

However, I suspect that if any eagle ever ate one of his family's goats it was a long time ago, maybe even generations. I think that right now Gilberto is introducing me to a tiny part of his family's spoken tradition. He is repeating something he has heard his father or grandfather say and in five or six years, if he still doesn't watch television, he will speak of goat-eating eagles to his child.

BIRDLIST FOR THE WALK TO TÉMORIS

Here is the Official List of birds seen on the walk up to Témoris:

October 17: latitude 27°16'N, longitude 108°16'W
MEXICO: Chihuahua; along gravel road between Estación Témoris, elev. ±1,000 meters (3,300 feet), and town of Témoris, at ±1,500 meters(4,900 feet); tropical deciduous forest below, pines above, weeds and pastures near town, deep canyons along most of walk

1. Turkey Vulture
2. Berylline Hummingbird
3. Black Phoebe
4. Violet-green Swallow
5. Gray-breasted (Mexican) Jay
6. Common Raven
7. Canyon Wren
8. House Wren
9. Brown-backed Solitaire
10. Rufous-capped Warbler
11. Townsend's Warbler
12. Wilson's Warbler
13. Painted Redstart
14. Black-vented (Wagler's) Oriole
15. Scott's Oriole
16. Hepatic Tanager
17. Lazuli Bunting

WAITING FOR THE TRAIN

Late in the afternoon it's warm and shadowy at Estación Témoris as about thirty local folks and myself wait for the train to Los Mochis, on the Pacific Coast. It's hard to imagine a more congenial, pleasant crowd. Children playing, mothers gossiping, men wandering around sipping beer; an old man down in the parking lot earning beers by scratching tunes out on his fiddle. Young girls are made up as if they were models. Middle-aged railroad officials are so busy flirting with the girls that it's impossible to get any information from them, even to get their attention. It is a peaceful, summery, happy afternoon to treasure.

Then the local police arrive, about half a dozen young men in street clothes, carrying shotguns, pistols, and semi-automatic guns. Activity freezes. The police walk up and down the track talking with one another on hand-held radios and yelling dramatically, discussing clearly irrelevant matters.

After fifteen minutes the chief walks up to one of the many men with a can of beer in his hands, arrests him for drinking beer in public, has his assistant handcuff him, and lectures him abusively and dramatically about being a public disgrace by drinking beer in public. It is obviously a random arrest, for at least ten others are doing the same thing, and being ignored. Finally the police leave, the arrested man lying on his side in the back of one of their pickup trucks with his hands and feet shackled.

Later, the train into the Pacific Lowlands goes slowly into the night. I sit at the window watching the world change continually, feeling ashamed about what I have just seen.

THE BEACH AT MAZATLÁN

October 18, 1996

At midnight the train arrives in Los Mochis, Sinaloa, population around 165,000. This is an agricultural boomtown surrounded by mango orchards and fields of cotton, wheat, rice, corn, tomatoes, sugarcane, and safflower, the latter grown for its seeds containing an oil used in cooking. The town lies about twenty-five kilometers (fifteen miles) inland from the important deep-sea port of Topolobampo on the Pacific coast.

The night air is hot, heavy, and murky. Five of us stuff ourselves into a taxi and head for the bus station. Within minutes I'm in an air-conditioned bus rolling down the coast toward the southeast, the destination window on the bus's front reading MAZATLÁN. Arriving in Mazatlán a little before daybreak I take a quick nap in the bus station's lobby.

Though buses come and go and half a dozen keep their diesel engines idling right beyond an open barrier, I sleep profoundly. Nonetheless, when shortly the sky grows milky pale I am awakened by unearthly whistles, crashing sounds, grating clacks, and other fabulous noises of Great-tailed Grackles cavorting in palm trees just outside the station. I strap on the backpack and in semidarkness hike three blocks to the beach, to sit on the stone wall separating the waterfront boulevard, the Malecón, from the sandy beach. The ocean with knee-high waves breaks onto the beach a good stone-throw away.

With a population of about 300,000, Mazatlán's shoreline is impressive at dawn. Along the Malecón's seventeen-kilometer length (eleven miles), streetlights twinkle as the sky flushes pink. My awakening here has been very unlike all the others experienced during this trip. I miss my habitual solitude and peace and feel profoundly out of place as traffic rumbles behind me, chubby men jog along the beach, a woman with a poodle leaves the odor of coconut-oil suntan lotion, and an aerobics class begins on the second floor of an ugly building across the street.

PELICANS

Still, it's a real pleasure to see Brown Pelicans. With wingspreads of up to 230 centimeters (7 1/2 feet) they fly by singly as well as in flocks of three to seven individuals. Usually they're flying so low that their wing tips appear to touch the higher waves' crests. As they fly up and down the beach I don't see them fishing and none lands anyplace I can see. It's tempting to think of these primitive-looking creatures as making their morning promenade, to see what the tourists are doing.

JOGGERS

I rise from the stone wall, strap on my backpack, and begin walking northward along the beach, next to the Malecón.

I'm surprised that the sandy beach is so empty of birds. Surprised, that is, until I see what happens to a large, long-legged, brown shorebird at the water's edge up the beach, a Whimbrel. It's a handsome bird that nests in the Arctic tundra, but winters along both of Mexico's coasts, and south all the way into South America. The bird runs along the sand occasionally darting to the side and stabbing with its long, decurved beak into the silvery-wet sand behind retreating waves. The problem is that the Whimbrel spends more time flying out of the way of morning joggers than foraging. Joggers, it seems, keep the beach less birded than expected.

Just beyond the harried Whimbrel there's a large, full-color, hand-painted sign with a stylized representation of a turtle with the word *Sálvame*, or "save me," lettered on its shell. Below the turtle it's written that if you see a big turtle on the beach it's a mother about to lay eggs, but if it's a small turtle, it has recently hatched. They give a telephone number to call if you see one.

For half a mile beyond the sign the beach is birdless. Finally joggers thin out and two shorebirds appear standing beside one another, just looking around. Eventually one turns into the sun and begins preening, and then the other does the same. This is interesting because, while the birds are about the same size, one is brown, with a long, decurved beak, while the other is gray, with a slightly shorter, straight beak. One bird is a Whimbrel, but the other is a Willet. Not only are these birds different species, they belong to different genera. This is like a gorilla finding companionship with a chimpanzee.

After preening awhile, they must fly away to escape another jogger. Then they return, preen a few moments, and settle into a resting posture. The Willet pulls a leg into its feathers. When a large wave comes in, the Whimbrel flutters higher onto the sand but the Willet appears unwilling to either fly or let down its second leg. It hops upslope on one leg, and I cannot decide whether this is mostly laziness, or ingenuity.

WILLETS

The Willets right now show both summer and winter plumages, and everything in between. At the right I sketch the paler winter plumage (bird on left) and the darker summer plumage (bird on right).

Willetts stand a little over a foot high, which is larger than most beach birds, such as the Sanderlings and various plovers and sandpipers. Often Willets seem like loners to me, or at least much less gregarious than most other beach birds. I see them standing around a lot, alone, gawking.

SMALL, DARK & SODDEN

Farther up the beach a small, dark, sodden creature, maybe a rat or tiny dog, is being manhandled by the waves. A wave withdraws, dragging the animal oceanward. The exhausted, half-drowned thing manages to crawl a little upslope but then another wave comes in, boots it from behind, tumbles it head-over-heels in surging foam, pounds it onto the sand, and then begins dragging it oceanward again, repeating the whole cycle. Up close I'm astonished to see that the creature isn't a rat or dog at all but rather a bird that typically is utterly at home on water. It's an American Coot.

Most of the time coots are seen floating atop the water looking like small, black ducks with white, narrow beaks, and red eyes. On land, however, it can be seen that their legs are much longer than a duck's and instead of having webbed toes like ducks their toes are "lobed," with curious flaps along their toes flaring out to push against the water as the feet are pushed backward.

But this coot is going nowhere. Just as I begin running toward it, three or four small waves in succession enable it to progressively drag itself up the sand slope. Thinking it better if the coot can save itself, I stop, and watch it finally reach dry sand where it collapses onto its breast, with its quivering wings spread wide. It lies there a long time with its head raised and wobbling, gazing toward the Malecón. Eventually it draws in its wings and laboriously assumes a normal sitting position. Just by looking you wouldn't know that anything has happened, except that the bird's feathers are matted together into clumps and spikes.

Maybe this coot was migrating south, but its guts were so infested with parasites that it simply ran out of energy and collapsed at sea. Or maybe on its last stop up around Topolobampo oil from a tanker got onto its feathers so that now they no longer repel water, and when the bird landed this morning it sank instead of floated. Who knows? It's sad and all I can do is walk away.

FAR FROM THE NESTING GROUNDS

Farther north, beach erosion has scoured the sand away leaving only dark, smoothly sculpted mud between the surf and a stone wall. A couple of shallow, house-sized ponds attract no tourists, but they are just the thing for two Semipalmated Plovers and about fifty Sanderlings, all of which stand around the ponds' edges preening, stretching wings, and doing nothing else discernible. In my sketch above, a plover is on the left, a Sanderling on the right. The plover is about 5-3/4 inches long (14.5 cm), and the Sanderling is a bit larger. Both the plovers and the Sanderlings are smallish, short-tailed shorebirds, both are mostly gray and white, and both possess medium-long bills and legs.

What's not seen here is that both of these species also nest in the Far North. Therefore, recently they have both flown long distances. Semipalmated Plovers nest from Alaska

across northern Canada to Newfoundland, and Sanderlings nest even farther north, in the tundra from Alaska to Baffin Island.

The small, gray, nondescript little birds have just accomplished epic journeys. Surely what they're "doing" is recuperating -- just being still while their bodies digest food and replace fat that was burned during their long flight.

SANDERLING BEHAVIOR

These Sanderlings are in the same family as the Spotted Sandpiper seen at Témoris. Like Spotted Sandpipers with their polyandrous nesting practices (one female nesting with two or more males at the same time), Sanderlings also have a nonstandard mating system. Both male and female Sanderlings incubate their own separate clutches, and sometimes they even enter into polyandrous relationships like Spotted Sandpipers.

In evolutionary terms, the Sanderlings' one-nest-for-each-mate system is thought of as the probable "first evolutionary step" toward polyandry. In fact, the Sanderlings' relationship is technically referred to as protopolyandry. Protopolyandry makes sense in the Arctic region where Sanderlings breed, for Arctic summers are so brief and unpredictable that if a nest is lost to a predator or a storm, renesting is impossible. Having two nests reduces the risk of total loss of young.

Sanderlings are sometimes seen doing something else that at first glance seems unlikely. Down the beach we just saw a Willet. Sometimes Willets, which are much larger than Sanderlings, will be seen tearing apart prey such as large sand crabs and a Sanderling will draw near the Willet and begin running off other Sanderlings in the Willet's vicinity. It looks as if a turncoat Sanderling is protecting a Willet from the Sanderling's brothers and sisters. What's really happening is that crabs are too large for Sanderlings to rip apart themselves, so the Willet-protecting Sanderling is actually just hoping that as the big Willet tears into its crab a few fragments will fly to the side for the Sanderling, and that Sanderling doesn't want any Sanderling competition for the scraps.

MAGNIFICENT FRIGATEBIRD

Now what should fly by but a Magnificent Frigatebird. This species has a pretty interesting trans-species behavior, too. Magnificent Frigatebirds are kleptoparasites.

When Magnificent Frigatebirds come across members of other bird species who have managed to acquire some food, the frigatebirds are likely to chase the other species down and rob it of its food. The robbing process is more than a quick exchange of a fish, though.

In the early 1990's, J.L. Osorno and others studied Magnificent Frigatebirds on Isla Isabel, or Isabel Island, off the coast of the Mexican state of Nayarit, just south of here. Isla Isabel is home to a great many Blue-footed Boobies, which are goose-size seabirds a little like gulls, but with much larger beaks and narrower wings -- and the adults really do have large, bright-blue, webbed feet, as well as bluish bills. On Isla Isabel these boobies, then, were the frigatebirds' main victims. In other places it might be gulls and terns.

Blue-footed Boobies have wingspreads of 163 centimeters (64 inches), but Magnificent Frigatebird wingspreads are even larger, spanning 229 centimeters (90 inches). Clearly, when a frigatebird attacks a booby, it's a thing to see. Typical attacks consist of the victim being caught by the wing or tail and then the frigatebird forces its victim to regurgitate whatever happens to have accumulated in its crop.

One of the most interesting observations made by Osorno and his group was that frigatebird success in actually obtaining food was very low. Of 1,553 attacks, or chases, initiated by frigatebirds on Blue-footed Boobies, in only ninety-one cases did the victims actually end up regurgitating food, and in those cases only fifty-eight times did the frigatebirds actually get the food being regurgitated. That's less than a four-percent success rate.

Because longer chases provided proportionally higher success rates for the frigatebirds, Osorno thought that possibly the frigatebirds were evaluating their targets before the attacks began. Specifically, maybe the frigatebirds could see from a distance how full their potential victims' crops were. The larger the crops appeared, the longer the frigatebirds were willing to keep up the chase.

BIRDLIST #6

Here is this stop's Official List:

October 18: latitude 23°11'N, longitude 106°25'W
MEXICO: Sinoloa; sandy beach of Pacific Ocean at Mazatlán three blocks west of the bus station at Deportes & Ejército Mexicano

1. Brown Pelican
2. Magnificent Frigatebird
3. American Coot
4. Semipalmated Plover
5. Whimbrel
6. Willet
7. Sanderling

EARLY DEPARTURE

By 11 AM the sound of traffic behind me and the onstreaming hoards of tourists have caused in me a troubling uneasiness. When yet another woman smelling of suntan lotion and being led by a poodle passes by, more or less on impulse I stand up, strap on my backpack, and hike back to the bus station.

By noon of the same day on which I arrive in Mazatlán, I am on a bus heading back into the blessed highlands, far, far from here, to where I can at least get a peaceful night's sleep.

ABOVE XOCONOSTLE ON THE SIERRA DE ALVAREZ

October 20, 1996

At Mazatlán I take the first long-haul bus I can back into the highlands, not at all sure where the next stop will end up being. That afternoon as we pull out of Mazatlán first there are orchards and fields right around town but it's not long until we're into the thornforest-covered foothills of the Western Sierra Madres. The foothills fracture into ever more profoundly broken landscape mantled with humid tropical deciduous forests and then we're passing fabulous gorges like those around Témoris far to the north, and then oak-pine as at Bahuichivo, and then chilly, high-elevation, pure pine forest as at Creel.

When we cross the state line from Sinaloa into Durango we dip onto the Interior High Plateau and cool, high-elevation desert, but this desert isn't as dry as what we've been through farther north. In the mountains above Durango City exactly at dusk I disembark the bus on a wild, windy, randomly chosen ridge far from any habitation and pitch my tent beneath an acacia gesturing hysterically in the wind.

Next morning on an easy-going second-class bus I continue across a barren landscape that's cold, windswept, and dusty with occasional hang-dog towns and isolated ramshackle shacks. The open land is speckled with widely spaced mesquites and acacias, tree-size pricklypear cacti, tree yuccas, and rolling plains spreading between low, rust-colored, raw-looking ridges cleaved promiscuously with steep-banked, dried-up arroyos.

At longitude 23°27'N, at an elevation of about 2,100 meters (6,900 feet), on Highway 45 between Durango and Zacatecas, we cross the imaginary line around Earth exactly above which the sun takes its course once a year on the Summer Solstice, the first day of summer. This spot is announced by a rust-stained, wind-jiggled, open-arm-wide white sign with black lettering reading TROPICO DE CANCER. Now we technically enter the tropics, though from my seat in the rattletrap bus it looks and feels more like the chilly side of the Moon.

Late that night at the big bus station in the city of San Luis Potosí, I decide where my next stop needs to be, remembering it from visits made years ago when I came through here scouting the area for possible hikes to be included in a backpacking book. I buy a ticket to the hamlet of Xoconostle, thirty kilometers farther east (nineteen miles). Perched just below the peak, but on the western side of the Sierra de Alvarez, Xoconostle is a good place to go to experience the backbone of the Eastern Sierra Madres. In the Nahuatl language, the tongue of the ancient Aztecs still spoken by many Mexicans, xoconostle is the name of the pricklypear cactus's edible fruit.

MARÍA'S ORANGE FINCHES

Arriving in Xoconostle on a Sunday morning an hour after dawn, frost still whitens a few grassblades and loose chicken feathers on the ground. As the bus pulls away and I strap on the backpack, diminutive María López, an old woman keeping warm with a red shawl wrapped over her head and across most of her face in Moslem style, stands not far away looking at me. She operates a tiny roadside hole-in-the-wall selling softdrinks and crackers. From her I buy a couple of days' worth of carbohydrates.

María cannot suppress her questions. At my mention of birds her dark eyes peeping through the slit in the red shawl flush with pleasure. She asks me to follow her into the tiny courtyard behind her shack.

Two small, wire birdcages hang on the unfinished boards constituting her house's walls. One cage holds three birds, the other four. On the cages' floors are split-open pricklypear fruits, xoconostles, their pulpy flesh scarlet and glistening. Also there's alpiste -- freshly cut clusters of pods of a turniplike plant, the pods gorged with B-B-size seeds, and sold in Mexican markets as the preferred food for caged birds. María tells me each bird's name and history, says that such birds are very common in the desert around Xoconostle, that they sing beautifully, and then she asks me by what name such birds are called in English.

I am confused. Instantly my credibility as a gringo bird-specialist flies out the window.

From the short, thick bill it's easy to see that this is a kind of finch, but the males are pale orange, and I can't recall having ever seen anything orange in Mexico. I explain my astonishment, and bring out my bird book to show María that it must be closely related to strawberry-red House Finches, which I know very well, but these orange birds...

María laughs like a child and says that of course everybody knows that before these birds are caught they are then strawberry red. It's just that once they're caged up, they turn orange, and nobody knows why.

I take leave of María and begin hiking upward and eastward. The low, sparse, mostly spiny, cactus-rich vegetation along the road is indeed home to innumerable strawberry-red, male House Finches who sing their pretty, twittering melodies even on this cold morning in late October. It's sad to think about these birds fading once they're taken from the wild. However, it's hard to be angry with María for caging them.

She takes the best care of them she can, even feeding them xoconostles, which I know the birds love. I know this because Sahagún, the Spanish priest who during the 1500's wrote the history of the Aztecs, relates that the Aztecs also kept House Finches in cages, calling them by the name of nochtótotl, which meant "birds of the cactus fruits."

LIMESTONE CAMP

In the Western Sierra Madres, as a general rule, outcropping rock at ridge crests and along the faces of cliffs is igneous in origin. Millions of years ago molten lava erupted from volcanoes, or else bubbled up inside the earth to near the earth's surface, and then cooled to form the rock we see today. Perhaps the most common igneous rock outcropping in the Western Sierra Madres is basalt, which is very dark and fine-grained.

Much in contrast, here in the Eastern Sierra Madres, the typical outcropping rock is sedimentary, not igneous. It's mostly white limestone, not dark basalt. The limestone was deposited during the Cretaceous period some 100 to 135 million years ago, when dinosaurs roamed the earth's land masses, and a warm, shallow sea covered that part of the Earth now occupied by the Sierra de Alvarez, and most of the Eastern Sierra Madres.

Eventually I spot a ridge crest across a valley mantled with oak forest and there's not any kind of building anyplace around. I make my way there and find a fine camping spot near the ridge's crest where white limestone rock emerges from rusty-red clay. Before pegging the tent I go sit on a ledge admiring the valley below. After a while I lie back, turn onto my side, and notice that the limestone beneath me is made up of nothing but tiny shells of marine animals that died and sank to the ocean floor over a hundred million years ago.

Returning my gaze into the valley, for a long time I reflect on how hard it is to find anything that, upon closer examination, is not absolutely astounding.

GRASSY-ODORED BREATH

Dried-out cow pads strew the ground all around camp so I'm not surprised when right at dusk my descent into sleep is interrupted by sounds of snapping twigs and heavy footsteps. I ignore my visitor until deep-breathing sounds come to right outside my tent door and hot, clammy, grassy-odored breath fogs through the door's mosquito netting into my face. Very slowly I turn over and look outside. Not an arm's length away stands a bull with a massive head and horns as wide as my whole tent.

The bull stretches his long neck around and nibbles a bush with meaty, muscular lips and a black, wet, phallic tongue. His flat-topped, green-stained teeth are the size of golfballs and his eating is accompanied by inordinate sounds of crunching, grinding, and swallowing. Sometimes he pulls up whole tufts of grass, dirt gets into nose and he snorts, shooting black gum and wet breath all over the tent. Then his left flank itches and he throws back his head, almost catching the tent on his horn, and syrupy streams of saliva splatter the tent as he grunts and groans, scratching his itchy place with his left horn, and green spume-slobber dribbles between his half-smiling lips.

He's a black bull with a white forehead and underparts and the brand seared onto his left hip is an 8 on its side, the "Lazy 8." His entire muzzle is black and his nostrils are wet and caked with filth. Though he's not a full-blood Brahma, his back rises into a hump, and dozens of inert flies ride this hump. When he chews, his lower jaw grinds crookedly and his black tongue lolls back and forth. His eyes are dull and stupid looking. A dewlap

swings below his neck making flopping sounds when he shakes his head and his heavy scrotum dangles between his back legs.

I roll onto my back, close my eyes, and just listen to the sloppy sounds, and inhale the powerful odors. In human life such displays of being alive are rare and I feel as honored to experience this one as disgusted.

BORDERLINE CLOUD FOREST

The woods around the tent contains only a single species of oak, the exact identity of which I haven't the foggiest notion. The oaks are low, only reaching as high as the roof of a one-floor house. Small, leathery leaves cluster on outer branches so that inside each tree there's little more than a network of black, gnarled limbs bifurcating outward. Two-thirds of these branches' bark is blanketed with green moss and lichens. Among the lichens are a yellow-green, foliose species, and a bright orange fruticose species.

This accumulation of mosses and lichens on tree limbs isn't surprising. At this elevation -- some 2400 meters (7,920 feet) -- this ridge is a real barrier for wind. Humid wind blowing in from the Gulf rise up the eastern slopes coming to a peak right here, and as it does it cools. Since cool air holds less moisture than warm air of equal volume, its relative humidity automatically increases. If the rising air's relative humidity reaches the saturation point, it condenses into tiny water droplets.

Thus, often this very ridge is cloaked in mists, and even when it isn't, the air passing through its oaks is fairly moist. In such a humid environment, the gardens of mosses and lichens on these oaks' limbs need no roots reaching to the ground for water. They take what they need from the air.

This oak forest atop the Sierra de Alvarez is borderline cloudforest. If it were full-blown cloud forest, the masses of mosses and lichens would be even more spectacular.

MIXED FLOCK COMPARISON

At Lake Arareko we had a mixed-species flock. Here we have another flock, this one made up of different species. One flock has about ten Bushtits, three or four Rufous-capped Warblers, four Solitary Vireos, and one or two each of Nashville Warblers, Black-and-white Warblers, and Townsend's Warblers. Two Blue-headed Vireos sing as lustily as on any spring day up north, and a certain noisy Rufous-capped Warbler seems to be the leader or cheerleader in the same way a certain White-breasted Nuthatch was the leader at Lake Arareko.

At Lake Arareko, Brown Creepers and White-breasted Nuthatches gleaned tree bark. Here Black-and-white Warblers do that job. Like Williamson's Sapsuckers and Northern Flickers at Lake Arareko, who orbited around the flock's perimeter giving the impression that they were only casually part of the flock, here Hepatic Tanagers and Eastern Towhees do the same thing.

Of course, not all the birds here are groupies. In mid-afternoon quietness a lone Nashville Warbler comes working through the oaks methodically foraging for tiny arthropods along the oaks' branches and on their leathery leaves. Any time during the day the White-eared Hummingbird at the right might zip through. Everything about this in-between time of day feels sleepy and sluggish, but the little yellow warbler works at a fast pace with mechanical efficiency, with no wasted motions, no quick rests, and no perceivable changes in rhythm.

SEWING THE INDIAN WAY

Samalayuca's scorching sand converted my shoes to brittle cardboard, then climbing canyon walls at Bahuichivo and Témoris shattered them, leaving my toes poking through the sides and the shoes' heels flapping and snagging in grass. In Mazatlán I tried to buy new shoes but in Mexico, except in the largest cities, it's simply impossible to find my large size. Since I seem to have forgotten my sewing kit, today I sew my shoes "the Indian way."

At limestone ledges where oak forest gives way to white limestone outcrops, the most striking plant is the knee-high agave shown at the right, consisting of a bristling rosette of thick, succulent, leathery, sharp-pointed leaf-blades. More than once, looking for birds more than watching were I was going, spiny agave blade-tips have punctured my legs.

I cut a narrowly triangular blade-tip into a section about as long as the picture is high. The tip's cut base, about as thick as a finger, oozes a watery mucilage. Across the sliced face, embedded in yellow-green matrix material, it's easy to see cross sections of severed, stringlike veins feeding toward the black, bone-hard spine tip.

With a blunt woodchip I scrape the amputated section so that juice and pulpy green matter discharge from the cut face and the soft skin peels away. At first it's very messy but after ten minutes of scraping I'm left with a black awl firmly secured to about a dozen tough, threadlike fibers.

The agave-awl proves to be sharp and strong enough to pierce my shoes' rubbery soul and leather uppers. When the sewing is finished I'm very pleased with the improvement.

POLLINATION OF A SALVIA FLOWER

Among the most common herbs in this semiopen, limestone outcropping is a pretty, blue-flowered salvia, or sage, also about knee-high. In the afternoon I stand watching a mixed-species flock filter through the trees when the unmistakable whirl of a hummingbird's wings materializes right below me, where the bird sips nectar at a profusely blossoming salvia. Very slowly I stoop. To my vast surprise the bird continues its work.

It's a female or immature Magnificent Hummingbird, called Rivoli's Hummingbird in some books, a species distinguished by its large size and the male's green throat and violet-blue crown. The bird before me is rather plain, but the conspicuous speckling on its pale throat and the shape and coloring of its tail assures my identification.

For a good two minutes the bird zips between blossoms, sometimes visiting flowers so low that the bird's tail practically touches the ground. When the bird is finished with all the blossoms its black bill's top is heavily daubed with white sage-pollen. Before the bird leaves it takes several stabs at gnats and other insects around us, so clearly Magnificent Hummingbirds are not strictly "nectiverous."

Once the show is over I dissect and sketch a salvia blossom so you can see the neat mechanism by which it delivers pollen to the bird's bill (the hummingbird in the drawing is a White-eared, which also is here). As I sketch, an orange-yellow butterfly arrives also taking nectar from the blossoms. From what I can see, its slender proboscis does not at all activate the pollen-daubing mechanism shown at the right. Rather its proboscis snakes past the stamen filament's knobs and fulcrum attachments enabling the butterfly to take nectar without receiving pollen.

BIRDLIST #7

Here is this stop's Official List:

October 21 latitude 22°04'N, longitude 100°31'W
MEXICO: San Luis Potosí; along Hwy 70 ±50 kms by road east city of San Luis Potosí and 15 kms west of Santa Catarina; elev. ±2,400 m (7,900 feet); disturbed oak forest just east of crest of the Sierra de Alvarez

1. Black Vulture
2. Turkey Vulture
3. Red-tailed Hawk
4. Magnificent (Rivoli's) Hummingbird
5. White-eared Hummingbird
6. Gray-breasted (Mexican) Jay

7. Common Raven
8. Bushtit
9. Ruby-crowned Kinglet
10. Gray Silky-Flycatcher
11. Solitary Vireo
12. Black-and-white Warbler
13. Nashville Warbler
14. Rufous-capped Warbler
15. Townsend's Warbler
16. Hepatic Tanager
17. Eastern Towhee
18. Yellow-eyed (Mexican) Junco

AT THE UNION OF TWO BIRD-WORLDS

Of all the birds listed at all the stops so far, not a single species has been one nesting exclusively in eastern North America. All of them have been either purely western birds or else they nested in both east and west. Today, here at the very peak of the eastern rim of the Mexican highlands we see our first mainly (not entirely) eastern North American species, the Black-and-white Warbler.

All this makes sense because Mexico's highlands are basically extensions of North America's western uplands, the Rockies. Mexico's hot, steamy Gulf lowland -- which lie at the foot of the slope beginning just a few kilometers east of here -- is an extension of eastern Texas's Coastal Plain, the same Coastal Plain that passes through Louisiana and extends northward via the Mississippi Embayment into southern Illinois and western Kentucky, and follows the US's Atlantic coast to New Jersey.

Thinking like this we can visualize two vast bird-zones fusing along the slope just the other side of this ridge on which I'm camped. If the teeming biology of Mexico's Gulf lowlands is an ocean, then the Black-and-white Warbler seen here is a smidgen of that ocean's spume splashed very high and a tiny bit onto the very shore of the highland realm of a geographic domain populated by bird species from western North American.

TO SANTA CATARINA

From the peak of Sierra Alvarez I catch a bus eastward, downslope to Santa Catarina, deeper into the domain of the Gulf Coast lowlands. Santa Catarina is a long, very narrow town of maybe a thousand, stretching along the Santa Catarina River. Here the highway's tortuous, steep descent abruptly changes to a much more easy-going one that slowly descends toward the Gulf. Though Santa Catarina lies 1,150 meters (3,800 feet) below the Sierra's peak, the elevation is still about 1,250 meters (4,100 feet), so at Santa Catarina we are only halfway into the lowlands.

On a footpath/livestock trail next to the river I follow the Santa Catarina River upstream, back into its canyon, fording the knee-deep stream again and again. At first cornfields and fenced-in pastures line the river but eventually they drop away. About an hour upstream it feels like wilderness again. I take a seat on a massive boulder rolled against the dark gray bark of an immense strangler-fig tree, and take account.

At 2 PM it's 31° C (88° F). The river here has narrowed to the point that I can pitch a stone across it. Its shallow waters scintillate in bright sunlight and breezes off the water feel fresh and playful. Though northerners would regard this as summer weather, trees along the stream are doing what their cousins up north are doing. Sycamores drop their dry, crispy, brown leaves while willows release into every breeze parachuted seeds that float in the air exploding with sunlight. On the rocky canyon walls many-armed garambula cactuses rise house-high, cholla cactus stands high as an elephant, and tree-yuccas reach high as a second-story window.

MONARCH-EATING PEWEE

Next morning, while working my way up a canyon, a metallic snapping sound causes me to turn and see a Greater Pewee, called Coue's Flycatcher in some books, with a Monarch Butterfly in its beak. For five minutes the pewee batters the butterfly against the dead snag it's perched on. Finally one of the butterfly's hindwings flutters to the ground. At this point the Pewee rears back its head and with jerking motions swallows the butterfly's remains. The Monarch's black body slides down easily but it takes about fifteen seconds for the orange and black wings to disappear. The whole episode astonishes me.

For one thing, the poor pewee is about as skinny and haggard looking as a living bird can be. Maybe it has a severe case of intestinal parasites or some other affliction. Moreover, I've never seen a bird work so hard to swallow anything. The impression is very clear that here is a starving bird eating something that normally it would avoid.

Also, Monarch Butterflies are famous for being so bitter that birds avoid eating them. Their flesh is permeated with noxious alkaloids from the milkweed plants Monarch caterpillars eat.

Once the Monarch is swallowed, the pewee wipes its bill on the snag twelve times and then preens its feathers for twenty minutes. This excessive bill wiping and feather preening suggests to me that the bird is trying to recover from an unsavory and unsettling experience.

Right now hundreds of Monarch Butterflies are sailing by. Some sail so high that they only show up in binoculars, but others pass within a meter of the disinterested pewee. The pewee's preening session ends only when a clear-winged, soft-bodied Mayfly-like insect wings by, for this is something more typical of a pewee's diet. This insect vanishes into the pewee in a fraction of a second.

In review, I first saw migrating Monarchs on September 21, in Kentucky. Then on October 6 a smaller number than this appeared at Samalayuca. The date on which I am seeing these great numbers in Santa Catarina is October 23. Many of the butterflies are faded and have tattered wings. It's easy to believe that they have come long distances.

INCA DOVES

If you're living the Mexican Dream in your little ranchito with a few orange and banana trees in the backyard and chickens scratching among the weeds, and you throw scraps to your chickens, Inca Doves will probably settle there once the chickens have gobbled the best morsels. Here Inca Doves appear along the trail paralleling the stream and on sandbars.

Bernardino de Sahagún, the Spanish priest who during the 1500's wrote the great history of central Mexico's Aztecs, reports that the Aztecs called Inca Doves cocotli, because the doves' cooing, to the Aztecs' ears, sounded like coco, coco. The Aztecs assured Sahagún that Inca Doves mate for life, and that when they make their sad cooing it's because one of the mates has died. Still, the Aztecs believed that eating the birds was therapeutic. Eating them drove away sadness and, in women, countered jealousy and caused them to forget about men.

Inca Doves don't live as far south as the land of the Inca in Peru but they do occupy an area from the southwestern U.S. to Costa Rica. They don't migrate but during recent times they've been expanding their range northward. In the U.S. they were first recorded only in southern Texas, south of San Antonio but I've seen them in southern Mississippi. The Inca Dove's feathers have dark borders, which give the bird a scaly appearance. Sometimes they are known as Scaled Doves.

In Mexico these little birds are famous for their fights. Sometimes the sound of buffeting wings can be heard two house-lengths from a battling pair. On the other hand, mated pairs of this species, as with most dove species, give the impression that they are excessively affectionate for one another because of their "billing and cooing."

BIRDLIST FOR CANYON ABOVE SANTA CATARINA

Here is this stop's Official List:

October 23: latitude 22°04'N, longitude 100°31'W
MEXICO: San Luis Potosí; along Hwy 70 ±60 kms by road east city of San Luis Potosí and 5 kms west of Santa Catarina; elev. ±1,250 m (4,100 feet); along Río Santa Catarina, sandy, weedy floodplain, stream averaging 10 m wide, some small ranches along river

1. Turkey Vulture
2. Osprey
3. Spotted Sandpiper
4. Inca Dove
5. White-winged Dove
6. Vermilion Flycatcher
7. Greater Pewee (Coue's Flycatcher)
8. Black Phoebe
9. Tufted Titmouse (Black-crested form)
10. House Wren
11. Blue-gray Gnatcatcher
12. Black-and-white Warbler
13. Wilson's Warbler
14. Yellow-rumped (Audubon's) Warbler

NEVADO DE TOLUCA VOLCANO

October 26, 1996

From Santa Catarina I had planned to continue eastward and downward into the steamy, profoundly lush, loud, odoriferous and overpopulated Gulf Lowlands. However, back at Santa Catarina I find myself dreading leaving the peaceful higher elevations. Against all plans I take a bus heading back westward, upslope and over the Sierra de Alvarez, all the way back to the city of San Luis Potosí, where at midnight I enter another bus bound south to Toluca, just to the west and across a mountain from Mexico City.

Dawn's first light finds our bus entering Toluca, population about 400,000. From the streamed-over window I can't take my eyes off the graceful cone of Nevado de Toluca Volcano gorgeously looming above town to the south, as pink and inviting in the morning sunlight as strawberry sherbet. Though Toluca lies in a broad valley, it's still in the highlands at an elevation of 2,679 meters (8,790 feet). That's more than a third higher than Denver. Exiting the bus, a raw chill cuts the air and I wonder what it's like up there on the volcano. However it is, it's surely the opposite of "steamy, profoundly lush, loud, odoriferous and overpopulated."

On Toluca's Friday market day already just an hour after dawn the streets around the market are clogged with carts of bananas, mahogany-colored heaps of Metepec pottery, kiosks selling greasy pig-cracklings... It's all a feast for the eyes, and despite my misanthropic mood it's good to shoulder-to-shoulder with such a soup of good-natured, self-absorbed humanity making the best of hard times. I'll be on the volcano in a while, so I stuff my backpack and two more shoulder-strap bags with food and cartons of milk.

A bit before noon a local bus deposits me at the head of the gravel road leading into Nevado de Toluca National Park, up through pines to the volcano. It's about eighteen kilometers to the top (eleven miles). The slope is steep and the air thin, but the fresh odor of pine, the solitude and the pleasing cadence of hiking please the soul.

In late afternoon with the cloud ceiling churning and dropping rapidly, and ominous thunder building, I reach the treeline. Now the landscape becomes one of boulders and steep, grassy slopes, all scoured by a truculent wind. Another twenty minutes puts me at a stone hut not far from a little ranger station. Exactly at this moment a vast wall of murky fog envelops the whole slope, the wind twists itself into a rage, and a torrent of rain and icy slush begins falling.

I'd planned to camp inside the crater tonight, but now I gladly pay the ranger for a bunk in the hut. By the time I make it to the hut it's more snowing than raining, the ground is white, the wind screams around the hut's corners, and the fog is so dense you can't see a house-length away. The ranger says we're at 4,050 meters (13,287 feet). The temperature lies exactly at the freezing point.

The hut, built of local rock, is provided with tiny windows barely admitting a dim western light. It contains about a dozen double-decker cots and smells of ice and mud. There is no

electricity and no other lodgers. I'm so cold and tired, and it's already so dark, that at 5 PM I prepare for sleep.

I have not mentioned that I am traveling without a sleeping bag. I wanted to travel light, and to test an alternative manner of keeping warm. As I did during the freezes at Lake Arareko, now I don seven shirts, three trousers, four pairs of socks, gloves, scarf, and a wooly cap, and wrap myself in my single light blanket.

DAWN SNOW

Nevado de Toluca Volcano, known as Xinantécatl to the Nahuatl-speakers whose homeland this once was, peaks at 4,577 meters (15,016 feet), a good bit higher than both California's Mt. Whitney and Switzerland's Matterhorn, but only fourth in height among Mexico's peaks. At dawn the temperature has risen to 3.3° C (38° F) and I have slept the night comfortably. The sky is clear. The slope above the hut is white with fresh snow. In the sunlight-gathering wind-shadow of a boulder on the eastern slope, for a long time I hunker warming as a terrific gale howls all around.

Volcanic rock cliffs soar above and dark gray talus slopes, broad essays in jumbled angularity, fan all around me. Below, slopes are mantled with ankle-high bunchgrass gesticulating wildly in the wind. The most conspicuous wildflowers are the widely spaced and extremely tough, spiny, thistlelike plants called Eryngium in Latin. Black basaltic rocks of all sizes, splotched with yellow-green moss, emerge from the ground everywhere. The glaring, high-elevation sunlight stings my face and warms the eastern side of my body, but my shadowed western part remains icy. The binoculars show, down below the tree line, perfectly black silhouettes of widely spaced pines in pea-green meadows.

AMERICAN PIPITS

As soon as I'm warm enough to move I'm upslope and across the crater's rim into the grassland inside the crater. It's hard birdwatching here with the binoculars jiggling in the wind and the lenses steaming up, everything optically compressed into a flat jumble of gray, green and black forms. I do spot a retiring flicker of paleness vanishing behind a boulder in a field of knee-high boulders, but it could have as well been a mammal as a bird. Eventually I make out a few roundish forms in the grass and gradually some of the pale smears coalesce into brownish streaked breasts camouflaged as frost-killed grass and finally I make out legs and beaks and eyes. Now I behold about thirty American Pipits, their long tails weathervaned downwind. Once they're convinced I'm harmless they begin walking low and fast against the wind -- walking, not hopping -- as pipits do. They don't trust me completely, though. There's always one or two atop boulders near the flock and if I creep too close they give a one-note call and the flock flurries farther away.

American Pipits nest in the Arctic tundra and high mountains, so being here right now they are indulging their passion for cold, windy, wet places, and it pleases me to find them so fulfilled. The last pipit I saw was on a January afternoon, next to a sleepy pond on the University of Florida campus at Gainesville, and I felt sorry for it. Not all pipits can find high, grassy volcano craters in which to overwinter.

STRIPED SPARROWS

Conspicuously perching atop boulders along the trail leading from the crater on the northern slope there's a species even more exquisitely wedded to these high-elevation cold winds, low grass and rocks, for they spend their entire year here, not migrating north or south. They are endemic to the Mexican mountains from Chihuahua south to Oaxaca and my field guide says that they occur only in grassy openings, meadows and pine forests between 1500 and 4200 meters (5000-14,000 feet). Here we're a bit higher than 4200 meters. It's the Striped Sparrow.

It's always a special pleasure to meet organisms whose adaptations are so refined that their species' distribution and habitat requirements are very narrowly defined. It's like finding a geode with perfectly formed and preserved crystals inside: One senses the enormity of time needed for the step-by-step unfolding of such an exquisitely particular thing.

If one wishes to hear the landscape speaking, then surely nothing articulates more eloquently and beautifully than a lifeform evolved to exist exactly there and no place else.

PLAYING WITH THE WIND

In the afternoon three black bird-forms come to play in the wind surging through breaks in the volcano's high rim. They don't seem to be searching for food. They just spend an hour zooming toward cliff faces, banking at the last moment, and stalling with cupped wings where mighty blasts of upward streaming wind rises beneath them. What could these Common Ravens be doing but playing with the wind?

I know they're ravens and not some kind of crow because of their size and their silhouettes. In the sketch, notice how the tail of the larger raven on the left is "wedge shaped," not squared or broadly rounded like a crow's. Ravens "croak" while crows "caw," though sometimes immature crows also "croak." At this distance, the tail is the thing.

Opposite to the Striped Sparrow, few birds are more widespread and flexible in behavior than ravens. Found throughout the New World and the Old, in both hemispheres, they eat an amazing variety of things but seem to prefer insects. They also eat small mammals, birds, eggs, scorpions, amphibians, and lizards, as well as many kinds of plant material.

SHATTERING BUBBLE

In a boulder field with wind forming fast-moving waves through the clumpgrass a sharp chirp pierces the air. Several Striped Sparrows until now invisible explode from the grass like a shattering bubble and scatter in all directions, flying low and hard. Half a second later, its wings held straight out like a model airplane, a Sharp-shinned Hawk comes flying low and very fast, a blurred image stabbing through empty space where the bubble had been. The little hawk, its wingspread only 53 centimeters (21 inches), zigzags so violently that the eye can't follow it, and if there's been a kill it was invisible to my eyes. Then the hawk arches over the slope and all is silent.

The whole thing ends before it's understood what's going on.

What an elegant manner of killing, and of dying.

MELANISTIC HAWK

Hawks are thick up here. Tunnels and earthen mounds among the boulder fields and along talus-slope edges show that many mammals live here. It's surprising how many lizards and grasshoppers loll on sunlit rocks. There are no trees or bushes to hide under, so all these creatures must make attractive targets for sky-high predators.

One hawk dives at something but misses, and this hawk is unlike any portrayed in the field guides. With broad, rounded wings and a stocky body, it's obviously one of that group of hawks birders call *buteos*, but it's completely black.

Cold, wet wind hisses through the boulders, thundering in the ears, burning cheeks, numbing the hands and stiffening the binoculars' focusing wheel. The sky is evenly dark blue and the high-elevation sun fairly screams its bright glare. Wind lashing all around causes the black bird's binocular image to jiggle and then suddenly the black-hawk mystery is solved when the bird draws near the sun: With sunlight filtering through it, the black silhouette's tail glows a rusty red.

Of course, it's just an old friend in a different guise, a black form of the Red-tailed Hawk.

Nature is doing something interesting here. It's playing with the facts that black objects and black organisms absorb more sunlight energy than lighter colored ones, and that organisms at high elevations need all the help they can get staying warm. It's "melanism" - an instance of an animal being black or nearly black, when most of the members of its species are otherwise. Except for their rusty tails, most Red-tailed Hawks are brown and

white. This high-elevation "melanistic" form, however, was born black, and its offspring will be black.

BIRDLIST #8

Here is the Official List for above the tree line:

October 26, latitude 19°06'N, longitude 99°46'W
MEXICO: Mexico State; Nevado de Toluca Volcano ±16 air-kms south of Toluca;
elev. ±4,250 m (±13,900 ft); above treeline

1. Cooper's Hawk
2. Sharp-shinned Hawk
3. Red-tailed Hawk
4. Common Raven
5. American Pipit
6. Yellow-eyed (Mexican) Junco
7. Striped Sparrow

HORACIO'S CLOUD

In the afternoon storm clouds boil over the western ridge threatening to wash back and upward to engulf my slope so I hike back toward the hut. Arriving there with sleet bouncing off my shoulders and certain gusts of wind almost knocking me to the ground I open the hut's heavy wooden door to find a companion for the night, a young man named Horacio. He's ridden here on his mountain bike along off-road trails from Toluca. Handsome and muscular, he sits at the hut's wobbly wooden table writing a children's story by candlelight. Instantly we're friends, and we talk into the night.

Next morning I take off for the crater again but see nothing I hadn't seen the day before. This time I spend more time sightseeing. From Nevado's northern slope the view into the broad valley below is majestic. Through binoculars nearly every major building and street in Toluca can be recognized. At midday I return to the hut to find Horacio gazing into the valley. He draws my attention to the fact that from horizon to horizon the sky is clear, except exactly over Toluca.

There, floating like an enormous mushroom with a bulbous cap, a dazzlingly white, billowing cumulus cloud casts its shadow onto the city below. Horacio says he's been watching the cloud grow from a single wisp, and that during other visits he's seen something curious many times: Hot air from Toluca's pavement and buildings rise into the sky, cools, and as the moisture in this air condenses, substantial clouds like this one form.

"For the rest of the day, keep an eye on this cloud," Horacio suggests. "Sometimes the very same cloud stays visible until dusk."

A couple of hours later the cloud has drifted toward the northwest and it's developed a rounded thunderhead towering so high that it spreads into a broad anvil shape. Above Toluca, a second cloud has formed just like the first.

By dusk the sky all around has grown moody with dark-bottomed clouds, but we can still pick out our midday cloud, now grown into a massive purple bank, an immense thunderhead looming over smaller storms all around it. It's too far away to guess at its distance. Between this first cloud and Toluca now there rise four big clouds just like the first, all in a row and all formed over Toluca.

At nightfall an impressive display of lightning takes place beneath our distant cloud, though it's too far away to hear the thunder. Surely by now this storm is in the next state, in Querétaro or Guanajuato.

I have never seen such a plain example of humanity altering the weather.

BELOW THE TREELINE

After a couple of days above the treeline and after Horacio leaves I pack up and head below the tree line. The transition between windswept grassland and forest takes place in less than the length of a house. On Nevado's sun-bathed southern slope the treeline resides at about 4,020 meters (13,200 feet) but on the northern slope it dips to about 3,850 meters (12,600 feet).

Inside the forest the sunlight filtering among widely spaced pines yellows and softens. The always-buffeting wind calms, and instead of screaming or roaring now it sighs among the pines' boughs. There's the gladdening odor of pine resin warmed by sunlight and the air is perceptibly moister, feeling good on chapped lips and skin. A surprising community of flies and other insects lazily buzz around, and spiderling gossamers streak the air. In a matter of just a few feet I have simply walked from one world into another.

Earlier something inside me needed the wild, lonely crags above. Now I've had enough of that, and dipping below the treeline is just what I need.

MONTEZUMA'S PINES

The tent is pegged on an ankle-deep mat of cushiony, greenish-straw-colored clumpgrass among pines at an elevation of about 3,800 meters (12,500 feet). The pines are Pinus

hartwegii, sometimes known as Timberline Montezuma Pines. They are so widely spaced that about two-thirds of the ground at any one time remains bathed in sunlight.

The trees rise to about fifteen meters (fifty feet), and have a unique look to them. Two-thirds to five-sixths of a trunk's total length, the part below the crown, is either limbless or else bristles with old, broken-off tree limbs. Needles appear only in dense clumps at the ends of branches.

The clumps of needles at the trees' tops are so compact and hard to penetrate that birds tend to use them as high-perched thickets in which to take shelter. Hawks are unlikely to attack them there. As I'm approaching one tree a bird inside its high-perched thicket grows nervous and tries to fly away. However, the close-packed needles and branchlets hem in the bird so closely that its wings tangle, the bird loses its cool and starts flapping uselessly, causing dislodged tree-bark and patches of lichen to tumble from the platform. This goes on for ten seconds before finally the bird works its way to the pine-needle-thicket's perimeter. First its head pokes out and then its wings. Then, as if the Devil were after it, it flies to another tree-top thicket farther away.

The bird is an American Robin. There's a whole, nervous-acting flock of them dispersed among the pine crowns around me, looking at me with the greatest distrust showing in their body language. These wild, very nervous creatures certainly seem to have no connection to the easy-going earthworm-pullers in suburban lawns up north during summers. American Robins breed in Mexico's highlands so I just don't know whether these birds are permanent residents on this volcano or if they're wintering from farther north.

At night the pines continue expressing themselves. These nights there's a full moon all night so being in the tent is like being inside a glowing Chinese lantern. Black shadows of gnarly branches and tufts of needles move across the tent's roof from dusk to dawn. I awaken many times, each time the shadows a little farther along. Sometimes breezes sigh among the pines. Sometimes the breezes dislodge dried-up clusters of pine needles and they fall onto the tent's stretched-tight roof making friendly plunks that don't even frighten the mouse rustling in the grass outside my door.

MORE MIXED-SPECIES FLOCK

We have mixed-species flocks here, too. Here they seem to comprise fewer species than the ones we've noted elsewhere, but their flurries of activity are just as striking.

One flock is composed of a fussy nucleus of eight to ten Mexican Chickadees, with five to eight American Robins more loosely gathered around. When the bubble drifts over a car-size bush a single Orange-crowned Warbler flits atop the bush, forages while other birds orbit around it, but when the flock wanders too far away, the warbler withdraws back into its bush.

Another flock has at its nucleus five Mexican Chickadees, one White-breasted Nuthatch and one Olive Warbler. More loosely associated are one Brown Creeper and one Hairy Woodpecker.

BALLOONING

At the stroke of dawn, right beyond the tent's flap, there's a brown, cold-killed thistle hoary with frost. The sun rising above the ridge behind the plant casts its blazing light in extended, slanting rays past pine trunks, onto the ground, the tent, and my face. The frosty thistle makes a satiny silhouette outlined in fiery fleece, and because the wind begins to stir, now the thistle dances.

Though the air temperature lies at the freezing point, a spiderling at the tip of one of the thistle's top spiny leaves, at the very moment I look from the tent, releases a spray of silk into the air, and this spray of silk absolutely detonates with radiant sunlight.

Then, in an instant, my elbow slips or my mind does something queer or a pine someplace leans into the sunlight, shadowing the spectacle, and the whole magical vision vanishes. When I go look atop the thistle there's no spiderling to see.

On sunny October afternoons in the north, the blue sky is often streaked with sunlight-catching gossamers. Gossamers are lengths of spider silk carried by the wind, and attached to the gossamers' bottoms are tiny spiderlings. This manner of young spiders traveling on the wind with gossamers is called ballooning.

BIRDLIST FOR BELOW THE TREELINE

Here is the Official List for below the tree line:

October 28, latitude 19°06'N, longitude 99°46'W
MEXICO: Mexico State; Nevado de Toluca Volcano ±16 air-kms south of Toluca;
elev. ±3,800 m (±12,500 feet); not far below the treeline

1. Sharp-shinned Hawk
2. Hairy Woodpecker
3. Common Raven
4. Mexican Chickadee
5. Brown Creeper
6. Pygmy Nuthatch
7. White-breasted Nuthatch
8. American Robin
9. Ruby-crowned Kinglet
10. Olive Warbler
11. Orange-crowned Warbler

12. Red Warbler
13. Yellow-eyed (Mexican) Junco

RED WARBLER

The above list's Red Warbler deserves a remark. Northern birders know that warblers are simply not red. American warblers are typically combinations of yellow, black and white, but the Red Warbler's entire body is very red, except for white cheek-patches, which only accentuate the red. This bird is red red. The species is even more special because it's endemic only to the pine forests of Mexico's high mountains, not even making it across the Isthmus of Tehuantepec into Chiapas.

MEXICO CITY

November 7, 1996

The day I backpacked with so much food up the 18-kilometer (11-mile) gravel road to Nevado de Toluca Volcano's crater I manage to give myself a bad case of hemorrhoids. I try to ignore it. Those days camping just below the tree line are mostly spent lying in the tent hoping the problem would resolve itself but it hasn't. I am profoundly grateful when friends in Toluca suggest that I stay in their unrentable, unfurnished apartment across the mountains in Mexico City. I go there planning to stay until I feel able to strap on a backpack again.

It has been said that Mexico City is the world's largest, most polluted metropolitan area. Though it lies at an elevation of 2,240 meters (7,347 feet) it spreads across the floor of a valley, so nearby mountains keep winds from blowing its air pollution away. Upon my arrival the city has declared one of its many air-pollution alerts, the air smells like ashes, and my throat and chest immediately begin burning. I have read that breathing air here is like smoking three packs of cigarettes a day.

The new camp is a fifteen-minute walk east of the Nativitas subway station, three stories up, with windows overlooking an horizon-to-horizon clutter of flat rooftops sprouting crooked TV antennas. The rumble of heavy traffic seeps unimpeded through the building's thin walls.

Across the street a neurotic Doberman Pinscher penned in an obscenely small rooftop enclosure barks approximately once each second. This barking will continue in cycles of fifteen minutes on, then fifteen minutes off, day and night during all my waking hours, for the entire stay. Three years ago I used this same apartment briefly when I was gathering material for my Traditional Mexican Markets Website, and I am amazed and appalled to think that this has continued all that time.

Blessedly, behind the building lies a grassy space about large enough for two cars to park in. Hemmed in by high concrete-block walls crowned with broken glass embedded in cement, the miniature lawn is dominated by a single small pine tree. Onto the pine's lowest branch a lady downstairs has hung a red, plastic hummingbird feeder.

A FRIENDLY, GENTLE COO-COOING

At dawn on my first morning in town I awaken to a friendly, gentle coo-cooing, sung like a sweetly monotonous lullaby in a storm of traffic rumble. Perched on a metal bar outside my window is an Inca Dove, not seen since the Río Santa Catarina camp.

With my nose against the window glass I can see every barb of every feather. Each feather is dark-margined, bestowing the sleek-looking little bird with a scaly appearance.

Her thin eyelids twitter, maybe because of the chilly breeze streaming around the building's corner, or maybe because she's nervous at seeing me through the glass. Remembering that Mexico City now occupies the site of the ancient Aztec capital of Tenochtitlan, I speak to the little dove using what Sahagún reported as her Aztec name:

"Hello Cocotli," I say. "Thank you for welcoming me to my new camp."

FIVE HUMMINGBIRDS CAVORTING

Five hummingbirds cavort around the feeder on the pine below exactly as they do in so many North American suburban backyards -- the frantic zipping back and forth, the comical confrontations at sipping holes, the occasional zooming off to other favorite places, far out of sight...

At first they are hard to identify to species. In the early morning light the males look entirely black and the paler females are similarly unidentifiable. As the sun continues to rise, however, both sexes turn out to have red bills with black tips. Eventually the male's blue throat and greenish belly show up and when sunlight fully bathes the area the male's deep blue and metallic green colors shimmer iridescently. When a male flies to my window and for a moment pecks at tiny specks of dried paint even his scarlet bill appears to radiate light.

Mexico is home to about fifty hummingbird species, and the field guide mentions about a dozen with ranges extending into the Mexico City area. Of the dozen possible species, the males of only one species has a red beak, blue throat, and green chest: the Broad-billed Hummingbird. This species ranges from southeast Arizona and the Big Bend area of Texas as far south through Mexico's high, arid regions as the state of Oaxaca. It doesn't make it across the Isthmus of Tehuantepec into the highlands beyond.

How pretty when the Broad-billed Hummingbird with its scintillating blue throat, green belly and red bill lands on the downstairs-lady's caesalpinia, now ablaze with large, friendly spikes of yellow-orange blossoms.

CRUMBLED TORTILLAS

I'm leaning from my window when the lady downstairs opens her squeaky window and tosses a handful of crumbled tortillas onto the ground below the pine. Almost instantly five House Sparrows, which have been perching unnoticed inside the tree, fly onto the ground and begin pecking. In half a minute my Inca Dove lands nearby, but merely stands bobbing its head back and forth and shuffling on its feet as the House Sparrows gorge themselves. Once the House Sparrows leave, the dove goes to where the scraps had been, and daintily pecks at what's left among the grassblades.

Of course the ancient Aztecs didn't know about House Sparrows for House Sparrows are natives of the Old World -- originally from Eurasia and northern Africa. At least one introduction of them occurred in the US in 1850, when people were hoping the birds would help control an outbreak of cankerworms. Of course, anyone looking at a House Sparrow's stubby, thick beak can see that this species is a seed eater, only rarely dining on animals.

From the U.S. East Coast the species spread into the rest of North America like a weed, literally, appearing wherever the land was disturbed or destroyed by mankind. Mexico's great naturalist Miguel Alvarez del Toro recorded their first appearance in Mexico's southernmost state of Chiapas in January of 1950, when twelve appeared in the state capital, Tuxtla Gutiérrez.

COWBIRD COURTSHIP

The next morning from the window I see a bird perching on a crooked TV antenna across the street. It's the Bronzed Cowbird.

Bronzed Cowbirds are black, thick-billed birds with red eyes. Though females are dull, the males' blackness shines with iridescent greenish and bronze shades on the body, and blue and purple on the wings, tail, and rump. This morning the male I see must have a female in sight, for he is puffing out his neck feathers, his "ruff," so magnificently that he looks as if he has two golf balls, side by side, lodged in his throat.

This is only one attention-getting feature of the Bronzed Cowbird's courtship behavior. Male Bronzed Cowbirds are famous for their bizarre strutting and hovering "helicopter" flights. I wonder why, here in early November with mating season presumably so far away, this male is puffing out his ruff?

Like the similar Brown-headed Cowbirds so abundant throughout most of North America, Bronzed Cowbirds neither raise their own families, nor do individual males and females pair off during the mating season. Bronzed Cowbirds, like their North American cousins, are "brood parasites."

In other words, two Bronzed Cowbirds casually mate after a great deal of male exhibitionism, the female becomes pregnant, and when her time comes to lay an egg she slips off, finds a nest of another bird species, typically a passerine (songbird, not a hawk, duck or the like), and when the other bird flies off her nest for one reason or another, the cowbird sneaks into the nest and deposits her egg. Sometimes the returning nest-owner recognizes that an alien egg has been deposited and that egg is destroyed or removed. American Robins and Northern Catbirds often do this. Sometimes vireos and certain warbler species cover all the eggs with a new nest floor and start egg-laying all over again.

But very often the subterfuge succeeds and the foster parents take care of the cowbird along with their legitimate offspring. Cowbird nestlings beg for food so aggressively that their nestmates may go hungry. When the young cowbird is fledged it joins others of its kind and the parasitic cycle continues.

PIGEONS IN THE ZÓCALO

The day finally comes when I'm healed enough to take the subway downtown to the Zócalo. The huge Zócalo is the main plaza downtown, Mexico's "Red Square." On its western side rises the National Palace and on the northern the Metropolitan Cathedral. The ruins of an Aztec temple occupy the northeastern corner. Government offices and upscale stores, especially jewelry shops, line the square elsewhere.

On the Zócalo's acres of pavement today there are gawking knots of tourists, small groups of Indians, unionists and taxi drivers with banners and bullhorns protesting this and that, and of course the whole open area is populated with pigeons, known in field guides as Rock Doves. Here people feed them and little kids run after them, exactly as is done the world over.

In the countryside I've noticed that usually if one bird in a flock suddenly flies up, all the others apparently think that something must have frightened it, and they fly with it. However, here I see that regularly one bird flies up but others just ignore it.

I'm probably noticing this only because I know about Michael Davis's paper published in 1975 in which he described the flight-intention movement of a bird preparing to fly up, and wishing to inform its neighbors that nothing is really amiss. From what I can see, the movement consists mainly of a very fleeting, subtle crouch and opening the wings a split second before flying up. If launching into the air isn't preceded by this movement, other pigeons fly up with it.

Then I see a piebald pigeon ruffle its neck feathers almost like the Bronzed Cowbird, lower its head and trot in several full circles. This is more pigeon-communication, a gesture known as bowing. It means different things, depending on its context. If it's done near its nest the display is a defensive gesture. However, here the bird is just showing off in front of that white female with brown speckles standing near him. And then a pigeon flies about with much-louder-than-usual wing-flaps. Wing-clapping flight is also an early form of courtship.

I could just watch pigeons all day, but here it's hard to find a good place to sit down, and I need to do exactly that.

THE SONORA MARKET

A few minutes of walking brings me the Sonora Market, famous for its sales of medicinal herbs, animals, and articles of black magic. The huge warehouse could not be more colorful, congested, ill lit, noisy and, in the animal area, stinking and depressing. Among the birds for sale are mostly newly hatched chicks, but also there are thousands of caged birds such as yellow Canaries, Budgies, and Zebra Finches. Also there are many native Mexican species. Judging from their wretched appearance and the numbers of dead ones thrown into the gutters outside the main doors, their rate of survival when caught is not high.

A Brown-backed Solitaire's ethereal, echoic call cuts through the stinking pandemonium reminding me of the first time it was heard this trip, up the canyon at Bahuichivo. There are House Finches not yet turned orange like María López's caged birds at Santa Catarina, and bright red Northern Cardinals, gray Northern Mockingbirds, bright yellow-and-black Scott's Orioles and orange-and-black Northern Orioles. From the humid lowlands' tropical forests there are Red-lored Parrots. Just because their bills are so different, brought down from pine forests of higher mountains, there are Red Crossbills with crossed bills perfectly adapted for the cracking of pine-cone seeds, though here they're being fed cactus fruits.

The Sonora's animal section merges with the zone specializing in black magic. Here most stalls are equipped with rattlesnake skins, dried stiff and ruler-straight, stuck like big pencils in clay jars. Desiccated hummingbirds with eyes sunken into black pits and their feathers dark and dull hang like keys on a ring, the metal ring piercing the tiny birds' necks, and suspended from a rattlesnake skin stuck in a pot. I'm told that these snake and hummingbird skins are just advertisements for the rattlesnake blood and hummingbird blood on sale there, for occult ceremonies.

PRINCES DZUL & LOR

On the subway back home a man with thick, horn-rimmed glasses, Indian features, a bad complexion, and slicked-downed hair sits next to me, asks if I speak Spanish, and in a friendly manner inquires what I'm doing in Mexico. Hearing about my project, he smiles.

"All I know about birds is a story my mother told me when I was a boy in the Yucatan," he says. I bend close to hear through the subway's rumble, and this is the story the man tells:

"Long ago there was a king in our part of the world, and he had two boys, Prince Dzul, and Prince Lor. Dzul was the firstborn, so he was the first in line to become king. He was a happy, friendly boy whom everyone in the kingdom loved. Lor was very different. He was so jealous of Dzul that he decided to kill him. But when the night arrived when Lor was planning to do this, suddenly some gnomes appeared and put a magic spell on him. His feet turned pigeon-toed and he grew a huge beak."

"Nonetheless, Lor managed to club Dzul to death. Just then the bushes parted, and out stepped the Spirit of the Forest, who said, 'What my gnomes started, I will finish. Since you want to fly as high as to be king, I will give you wings. So that you will learn to love nature, I will give you green feathers. To punish you for the blood you have spilled, I will enable you to talk, but only in a way that no one understands.'"

"And so, Lor was turned into a parrot. Lor returned to the palace, but people treated him as a parrot. In disgrace, he flew into the forest."

"Today the soul of Prince Lor is purifying as his calls mingle with the songs of other birds. In fact, today his descendants have earned the respect of our people, and they call the green bird that speaks in a way that no one understands by the name of loro, in honor of Prince Lor."

In Spanish, the word for parrot is loro.

The story ends exactly as the man is rising to leave. The timing is so perfect that I half suspect him of exiting where he doesn't want to, just for the dramatic timing effect. The man smiles and disappears out the door.

THE LITTLE PARK

One morning, just a block from the apartment-camp, I'm astonished to discover a little park with wonderful trees, the most impressive of which are large Royal Palms, with thick, columnar trunks and broadly flourishing crowns. Graceful, almost black Baldcypresses rise like pagodas above garden plots planted with red-blossomed Cannas, now in full bloom. Also there are purple-blossomed Irises and pink-flowered Rose-of-Sharons, and ash trees with naked branches just now issuing new leaves as if it were April, not early November.

Two one-way, four-lane thoroughfares intersect at the park's southwestern corner, so traffic is always stopped in the red light's direction, perpetually fogging the park with diesel fumes. The constant rumble is overwhelming. Nonetheless, this morning, there must be thirty joggers running circles in this little park, and several people are doing calisthenics.

Not even hoping to see interesting birds in such an harassed little park I nonetheless take a bench, pull the binoculars from my day pack, and for three or four hours watch for birds.

OFFICIAL BIRDLIST #9

November 7: latitude 19°23'N, longitude 99°07'W
MEXICO: Federal District, Mexico City; half-block wide park at NW corner of
junction of Eje 5 Sur and Andrés Molina; elev. ±2,240 m (±7,350 feet)

1. Rock Dove (Pigeon)
2. Inca Dove
3. Berylline Hummingbird
4. Broad-billed Hummingbird
5. Bewick's Wren
6. Rufous-backed Robin
7. Blue-gray Gnatcatcher
8. Ruby-crowned Kinglet
9. European Starling
10. Wilson's Warbler
11. Yellow-rumped (Audubon's) Warbler
12. American Redstart
13. House Sparrow
14. Bronzed (Red-eyed) Cowbird
15. Great-tailed Grackle
16. House Finch
17. Song Sparrow

THE CACTUS DESERT AT ZAPOTITLÁN

November 11, 1996

On Monday, November 11, with profound relief, I take a bus from Mexico City toward the southeast, to Tehuacán in Puebla State. I choose a window seat on the bus's right side so during the first part of the trip I can gaze at the gorgeous 5452-meter high (17,887 ft) volcano Popocatepetl issuing its steady plume of steam. Crossing the range from which Popocatepetl rises, at Río Frio, frost whitens the landscape. Doting fields along the road are picturesque teepees of machete-cut corn plants. It's a frost-killed, early winter scene, all gray and brown, and what a spectacle a lone Vermilion Flycatcher presents perching on an electrical line.

In Tehuacán I take a bus southwest to a place I've often visited but never was able to stay for long. Of all the spots on Earth I know, this has the greatest variety of succulents, particularly cacti, and I'm hoping the birds there will be spectacular, too. After climbing a good distance into a very rugged, arid and pretty landscape, late in the day I disembark at Zapotitlán Salinas, usually just called Zapotitlán, near a roadside booth selling local onyx. The elevation here is about 1550 meters (5115 feet).

As the sun approaches the horizon, for about an hour I hike into the windswept desert not only looking for a good camping spot but also simply rejoicing in being back on the land. The cactus-filled landscape is a pure wonderland. A Phainopepla, a slender, crested, black bird, flashes white wing-patches as it darts about catching flying insects. How alert-looking this bird is, gracefully cocking its head this way and that.

It's that unsettled time of the evening when the desert's boulders reradiate heat stored up all day, but the wind itself is getting chilly, and that wind is a stiff one. All around me rises a vast community of unbranched, columnar, Saguaro-like cacti rising as high as the rooftops of one-story houses, as shown on the previous page. Locally called Órganos, botanists know them as *Cephalocereus hoppenstedtii*. And here's something majestic: With the deep-shadowed, dark landscape behind them, these tall cacti appear as pale, greenish-gray, vertical streaks rising all around, and in the stiff wind they are all swaying together, as in a ghostly, rhythmic dance.

Finally I reach a small canyon with a silvery strand of water flowing through it. The canyon's walls rise only five or six stories high. A good arm could throw a rock from one canyon rim to the other. The stream averages only about a meter across (yard) but in this desert it's obviously a major presence, affecting life all around it. There's another Vermilion Flycatcher atop a rock at water's edge. Several Rough-winged Swallows perform acrobatics above the stream. Turkey Vultures land to roost among the naked branches of a small tree at the canyon wall's summit. When they land they look very unsteady and for five to ten seconds keep their wings open as if balancing, and they close their wings circumspectly, as if expecting to tip over.

I want to camp next to the stream. However, the walls are steep and where the walls meet the stream's floodplain thorny mesquite and other bushes form impenetrable tangles. I

follow several wildlife trails, but each peters out inside spiny brush where going with a backpack is impossible. Several times I retrace my steps and try again.

With barely enough light to see, one wildlife trail finally leads onto the canyon floor. Wind streams down the canyon, cold wind now, and when finally I get the tent pegged beneath a mesquite the small tree's feathery leaves rustle pleasantly, the stream trickles softly just a few steps away, crickets chirp from leaf litter all around the tree, and frogs croak from a nearby pool of water. There is no traffic rumble, and no neurotic Doberman Pinscher barking.

"Escaped once again, " I whisper into the wind.

AN ECOLOGICAL ISLAND

The Zapotitlán desert is an ecological island in the sense that it is completely surrounded by non-desert biological communities. It occupies only a small section of the southeastern corner of Puebla State, and the northwestern corner of Oaxaca State. It owes its presence to the fact that right across the Tehuacán Valley to the east, the Eastern Sierra Madres rise high enough to block prevailing winds carrying moisture off the Gulf.

Similar to many oceanic islands, its inhabitants are often strange and unique. One of the most eye-catching is the Mexican Poneytail, *Beaucarnea gracilis*, shown at the right. Poneytails are sold as succulents in many North American garden shops, but the one sketched here has a trunk big as a full-sized refrigerator.

Botanist C.E. Smith Jr. writes that some 29 percent of the plant species found here are endemic -- found nowhere else on Earth. In fact, there are several endemic genera here. Some of those genus names look and sound wonderfully exotic: *Oaxacania*, *Pringleochloa*, *Setchellanthus*, *Solisia*...

I can't find literature about the birds. Who knows what I'll find here?

ENSNARED

At dawn it's 8° C (47° F), and wind keeps streaming down the canyon. Soon the wind picks up even more and a strange rattling fills the air. It's yucca leaves knocking against one another.

As sunlight creeps down the canyon's slopes I wander in the chilly, blue twilight pooled along the stream bed. The meager stream is "braided," splitting and coalescing repeatedly, and sometimes on the downstream side of boulders there are tadpole-filled pools. The canyon's floor is an unvegetated bed of rounded boulders and cobblestones

interspersed with long, flat-surfaced sandbars on which grow elephants'-eye-high willows and mesquite. It's hard to walk on the cobblestones, so as I hike along the stream I hopscotch from one sandbar to the other.

On one sandbar, suddenly I find myself ensnared by several sticky threads or filaments stretched across the trail. Because the strands are as strong as cheap sewing thread the idea that I've walked into a spider web is slow to form, yet, what else could they be?

Trying to back out of the mess, a dark blob the diameter of a doorknob and seemingly suspended in mid air draws before my face, and then a second blob descends from the opposite side. It takes a moment to focus on them, but, indeed, they are very large spiders, gorgeous things with legs banded yellow and black, and their bodies mostly black, with yellow and white spotting. They are similar to North America's Garden Spiders, of the genus *Argiope*.

But no Garden Spiders ever made webs like these. About thirty typical sheet webs the size of window fans, with spiders in the middle of them and suspended at various levels, are all spread against the wind streaming down the canyon. The open area in which the webs are strung is about 4.5 meters wide (fifteen feet), and the topmost web reaches some three meters high (ten feet). Passing vertically through the center of each web is a slender collection of sucked-dry husks of insect victims, now strung together with silk, like beads.

Some webs connect to one another but others stand apart. All, however, are interconnected through a sticky maze of tough threads of the type I wandered into. It's easy to visualize small birds becoming entrapped in this system, but there's no indication that this has happened.

Some spiders are smaller and more slender than others, so they are probably males. When a web is approached too closely, its spider so violently slings its body back and forth perpendicularly to the plane of the web that the web pulsates. A vagrant breeze bursts into the opening, the entire community of upset spiders begins bobbing, and the resulting multi-dimensional system of oscillating webs is psychedelic, disorienting, maybe even a bit threatening, and that's probably the object of the whole display.

BIRDLIST #10

Here is this stop's Official List:

November 12: latitude 18°20'N, longitude 97°27'W
MEXICO: Puebla; ±5 kms SE of Zapotitlán, ±2-0 kms SW of Tehuacán; elev. ±1550 meters (±5,100 feet); small canyon with shallow stream about 2 m across, floodplain about 50 m wide, surrounded by desert with many cactus species

1. Black Vulture

2. Turkey Vulture
3. Red-tailed Hawk
4. White-winged Dove
5. Common Ground-dove
6. Gray-breasted Woodpecker
7. Western Kingbird
8. Vermilion Flycatcher
9. Brown-crested (Wied's) Flycatcher
10. Black Phoebe
11. Northern Rough-winged Swallow
12. Scrub Jay
13. Boucard's Wren
14. Northern Mockingbird
15. Blue-gray Gnatcatcher
16. White-lored Gnatcatcher
17. Phainopepla
18. Loggerhead Shrike
19. Yellow Grosbeak
20. Towhee
21. Bridled Sparrow

THREE ENDEMIC BIRDS

Unlike the situation with plants, here I find no bird species endemic just to the Zapotitlán Desert. However, three species on the list are more broadly endemic to the highlands of southern Mexico north of the Isthmus of Tehuantepec. They are

- * Gray-breasted Woodpecker
- * Boucard's Wren
- * Bridled Sparrow

The Gray-breasted Woodpecker is part of cluster of "zebra-backed" species very similar to eastern North America's common Red-bellied Woodpecker. Some ornithologists have lumped two or more of the species in the cluster together, but others insist that they are all separate. In other words, here evolution is at an in-between stage, where races are very well delimited, but it's debatable whether the races are species yet.

A similar case exists with the Boucard's Wren, which is an 18-cms-long bird (seven inches) very closely related to, and sometimes lumped with, the more widely distributed and more northern Spotted Wren, which we saw in the canyon at Bahuichivo. Both of these wrens are part of a cluster of species closely related to the Cactus Wren so common in the northern desert. In fact, some authors refer to the two wrens as the Boucard Cactus-wren and the Spotted Cactus-wren.

Of the three endemics, only the Bridled Sparrow is recognized even by the lumpers as a clearly distinct species. Still, it's obviously related to the Five-striped Sparrow of the

Western Sierra Madres, and the Black-chested Sparrow of southwestern Mexico. These are all handsome, dark sparrows with heads boldly streaked with white.

YELLOW GROSBEAK

In the above list one of the prettiest species is the Yellow Grosbeak sketched at the right, just as I saw him perched next to a bromeliad. This bird extends from western Mexico into Guatemala, and similar species (or maybe just subspecies...) are found as far south as Peru. Yellow Grosbeaks are found along forest borders, cut-over breaks, brushy woods and wooded canyons exactly like this in mountains and foothills. It's a little similar to North America's Evening Grosbeak, but that species has a much darker head and the white on its wing is much more extensive.

SALT

In dazzling afternoon sunlight, during a hike downstream I come to a bend in the canyon where a clay cliff has been undercut by the stream so that it has collapsed. The resulting landslide has created a steep ramp leading from the stream bed, past the spiny mesquite belt along the stream, into the barren upland. I clamber up the incline and find a high spot for looking around.

Not far away, at the mouth of a small side-canyon, I'm astonished to see a cluster of about twenty interconnected, square, shallow ponds, each pond about five meters along the side (fifteen feet). Next to the ponds stand roofless, mostly collapsed ruins of several buildings.

The binoculars show that behind the ruins someone has cut into the steep slope creating a small vertical wall. A trail leads up to the wall where a regular wooden door is mounted on wooden beams. A room has been excavated inside the hill, and the door is its entrance. As I continue scanning the ponds, a jolting image floats into view --an old man wearing only white shorts and rubber boots, his shiny skin baked almost black by the sun. He's standing in the middle of a pond, looking exactly at me.

As soon as it's clear I've been seen, I step more clearly into view, wave, and begin walking deliberately toward the man. Up closer I read in the old man's face the fact that during the course of many years he has reached a state of equilibrium with his monotonous, difficult work. Patience and ability to endure hardship are plainly visible in his wrinkled face, as well as in his gazing-into-long-distance wrinkles. His tight-lipped mouth shows no hint of either a smile or a frown. His body is small, compact, and sinewy. I tell him I'm a gringo studying birds, and ask what the ponds are all about.

"Salt," he replies, with the expected economy of words. "We have saltwater springs up the canyon. We fill these ponds with their water, the water evaporates, and we get salt to sell."

Then he asks me how old I am, something many Mexican country-folk wonder about. Because it's such a frequent question, I've learned to make a game of it: I ask the old fellow to guess. Today, because I'm feeling supple and fit, I expect him to guess around thirty-five, though I'm almost fifty. He guesses sixty-five. Then I remember that in lands where people typically have such fine hair my balding head and graying beard throw people off. Then he asks me to guess his age.

"Sixty-five," is my honest opinion.

"Seventy-six," he smiles, and the smile shows that he knows he looks much younger.

"Hard work all my life," he explains, "never stopping. Never having much, just working... "

I can see he wants to get back to work, so we shake hands and I depart.

FOSSILS

I had known that saline springs were in the area, but I didn't know where, and I didn't know they were still being used. In Zapotitlán's full name, "Zapotitlán de las Salinas," the word salinas means saltworks.

One of my books says that above us right now there's a mountain called Cuth, or Cerro de la Máscara (Hill of the Mask). At its peak rise pyramids built of rock and earth, and with ramps, stairs and roads connecting them. Ceramic pieces found there belong to Oaxaca's Monte Albán civilization, which peaked approximately 1,100 to 1,400 years ago.

During the hike back upstream, I rest next to a pool of water behind a boulder. In the gravel at my feet I notice a white cobblestone displaying an internal honeycomb structure. It's fossilized coelenterate coral. This reminds me that we are indeed in a limestone area, and that limestone often harbors fossils. I scoot closer to the limestone boulder next to me and look at it closely. Sure enough, embedded in its white matrix are dozens of spiraling outlines of snail-like gastropods about the size of a large toenail. The limestone in this area is Cretaceous in age, so these fossils lived maybe a hundred million years ago. Back then, South America was still joined with Africa, North America was hardly separated from Europe and Asia, and the part of the world these rocks come from was a shallow, warmwater sea.

Now the saltwater spring makes sense, too. It's easy to visualize a shallow coastal basin toward the end of the Cretaceous, as the Mexican landmass was rising from the sea. Over an enormous period of time saltwater flooded into the shallow basin, evaporated and left huge salt deposits which eventually were uplifted with the rest of the coast. Today rainwater falls onto the hills, seeps along subterranean fissures through the salt deposits, and issues from springs as saltwater with which the old man now fills his ponds.

CACTUS DRINKING

On a hike through the hills above the canyon I walk through the forest of Órganos. Next to a trail leading to the salt ponds a young cactus about my height has had its top half sliced off with a single powerful machete swipe. At first I assume that the damage is the usual mindless hacking of a bored traveler but farther down the trail I spot a couple of small wads of tough, fibrous material.

Somebody's been sucking water from cactus pith, and these wads are spit-out pith..

Back at the decapitated cactus, sure enough, at the edge of the clean machete cut someone has gouged out mouth-size chunks of white pith. With my knife, I do the same. The pith is tough. It's like carving Styrofoam.

But what a surprising amount of water the pith discharges as it's being chewed. It's cool, clean-tasting water, only slightly bitter. It's easy to see how, by chewing several such chunks, a big thirst could be quenched. The only inconvenience is that the pith is grainy and once the wad is spit out the mouth is left feeling gritty.

SWALLOWS DAWN TO DUSK

In the canyon's bottom, around the campsite and along the stream, no bird is more conspicuous for most of every day than the Northern Rough-winged Swallow. Especially during the hours before dusk, six to eight wing up and down the stream, again and again, always softly calling their burry brrrrt brrrrt brrrrts.

These are plain little creatures, gray-brown on top and pale below. As often is the case with plain-looking beings, however, they enjoy a compensatory elegance: Their streamlined bodies could not more gracefully cut through the air. It is simply a delight to watch them.

In 1934, John A. Gillespie caught a male Rough-winged Swallow at its nest near Glenolden, Pennsylvania and took it by automobile to Milford, Delaware, 52 kilometers away (32.5 miles). Driving back immediately after releasing the bird, he arrived at the bird's Glenolden nesting place to find the bird already returned and helping its mate feed five young birds.

Some swallow species nest in such large colonies that when the young birds return home sometimes they wander into the wrong burrows. Adults of such communal species frequently reject strayed younglings and the young birds may die of starvation. In contrast, Northern Rough-winged Swallows are solitary nesters, and they don't discriminate between their own offspring and those of others placed in their nests.

RANDOM PLEASURES

Soon after morning's sunlight breaks onto the canyon floor, a Red-tailed Hawk comes silently flying downstream at rooftop level. Right before reaching the campsite it veers to its right, lands atop a giant Órgano cactus, and perches there for a long time.

This is amazing, for the spines beneath the Red-tail poke straight up and are needle sharp. Apparently the hawk is like an Indian fakir on his bed of nails, benefiting from distributing his weight over a large number of spines. On the other hand, the hawk seems too heavy for the bed-of-nails phenomenon to work, especially because the spine tips themselves rise to irregular heights. To top it all off, the hawk could easily have chosen a dozen other nearby perches as well positioned as this one, and he seems to be showing absolutely no discomfort at all.

Later in the morning two Turkey Vultures land next to a pool of water a little downstream, clumsily hop and waddle across a few cobblestones to the pool's edge, and begin drinking in the manner of hens. They lower their heads to the water, level their heads somewhat so that water runs into their beaks, then raise their heads and point their beaks skyward, letting the water trickle down their throats. This is how most birds drink, but the vultures with their long, snaky necks look funnier doing it. Only a few bird species can pump or suck water with their throats -- mainly pigeons and doves.

Late in the afternoon a shadow silently slinks about inside an impenetrable fortress of waist-high agaves overgrown with vines. After failing to gain a view, and realizing that the bird is definitely evading me, I make the shhh-shhh-shhh "spishing" sound known to birders. The spishing does its job and what pops into view on an old agave flower stem rising above the bramble is a kind of bird uncommonly vulnerable to spishing, a wren. It's the endemic Boucard's Wren..

A Red-tailed Hawk atop an Órgano, vultures drinking like chickens, and an endemic wren who can't resist spishing... These are not Earth-shattering observations, but they are the kind that come along one after another during each day making my visit to Zapotitlán simply delicious.

SIERRA MAZATECA

November 15, 1996

From the Zapotitlán Desert I return downslope and eastward to the bustling city of Tehuacán and take a second-class bus on the old road toward Oaxaca City. Always running southeast, we keep on the floor of the Tehuacán Valley, a magnificent geological rift with the northern Oaxaca highlands to the right and west and, like a wall extending into the clouds, the imposing Eastern Sierra Madres on the left.

Forty kilometers (25 miles) southeast of Tehuacán we pull into the little town of Coxcatlán for a tamale snack. Coxcatlán is world famous for a cave just outside town where the oldest remains of corn, or maize, were found -- primitive nubbins no larger than the last joint of your thumb. Another 23 kilometers (14 miles) and we reach Teotitlán.

At Teotitlán a narrow secondary road breaks off the main highway and snakes with difficulty up the broken Eastern Sierra Madre wall, into the clouds. Buses avoid this road so I buy passage in a car and sit next to a small Indian woman doing the same. She tells me that this part of the Eastern Sierra Madres is called the Sierra Mazateca. People who live here are mostly Mazatec, she says, and they speak Mazatec in their homes, though they are trying to learn Spanish to be less backward. I say it would be a shame if the children of this land forgot the language of their ancestors. She turns to the driver and says that people just don't understand what it's like being an Indian, and she ignores me for the rest of the trip. The land of the Mazatec occupies not much more than a mountain valley or two, completely surrounded by the much more populous Mixtecs.

UP THE WALL TO SQUAT

Around Teotitlán the valley floor is surrounded by little ranchos and irrigated sugarcane is the main crop. Irrigation gives the valley floor a lush, rich feeling, but not five minutes out of Teotitlán we hit the wall, and the natural vegetation abruptly changes to scrubby thorn forest, presided over by órgano cactus.

Toward the top, scrub gives way to oak and pine forest with Spanish moss dangling from trees. Entering the clouds, suddenly it's cold and wet, and now that the land is level enough for people, desperate-looking villages appear with barefooted Indians walking along the road traveling between them. Chilly air gushing through the car window smells fresh, muddy, infused with various manures, and woodsmoke. Steep slopes all around are mantled with weedy cornfields. Vegetation is dark and glistening after a rain that's just ended.

There's no place to put a tent here. Everything is steep-sloped, and what little level land there is, is occupied by buildings.

Service ends at the mud-mired, congested, odoriferous town of Huautla de Jiménez claustrophobically wedged into a steep-walled valley. I find a pickup truck heading farther east and for about 15 kilometers (nine miles) stand crammed in the truck's back with about 15 other travelers. With all the stops, loading and unloading, and running out of gas, the trip takes a couple of hours.

San Juan is as far as the truck goes. I'm told that now the deteriorating road stays level for a few kilometers, then starts its descent toward the Gulf lowlands. It's getting late so in San Juan I look for a room, or even a level spot to rent for the tent, but people are wary of me and nobody wants to have anything to do with me. I begin walking along the road hoping a tent site turns up, but there's nothing.

After a few kilometers the road comes to a valley-size gap between two mountains. Dark, dense, wind-driven cloud-billows gush upward through the gap from the other side, from the Gulf lowland side, then immediately dissipate, like steam from a teakettle, as they rush through the gap. At the gap the road dips steeply and disappears into heavy cloud-fog. The wind is wet and cold, but sometimes for a second or two warm currents wash around me and I think I can smell in them tropical odors from down below, the odors of rank herbage, moldy forest litter, ripe fruit... This is the highland rim of the Gulf Lowlands exactly...

Through the cloud fog I can barely see that to the right a narrow peninsula of level land extends a bit into the gap. However, all the level spots on this peninsula are occupied by rough log cabins strewn among pines.

With darkness growing all I can do is to enter the raw-looking settlement and hope that I can place the tent next to their cabin. It takes a while to find someone who speaks Spanish, not just Mazatec. Finally a Spanish-speaking man comes to a hut's door holding a Bible, assuming I'm a missionary. He hears my story, laughs with relief, and says I can spend the night in the settlement's open-walled meeting hut. He says the settlement is called Loma de la Plaza and he refuses to accept money, explaining that they're all squatters, so technically the land is as much mine as theirs.

OVER THE RIM

Just before dawn I'm awakened by crowing roosters and the pat-pat-pat of women forming tortillas by hand. Soon comes the odor of woodsmoke, then of baking tortillas, and of steeping coffee. The wind has died and clouds no longer sweep through the gap. But it's cold and wet so in dawn's semidarkness I thank my hosts through a closed door, then go onto the road. For a few minutes I stand at the exact spot where the road begins its descent toward the Gulf.

There's no traffic at this early hour but several very humble looking farmers silently trudge past carrying machetes and a few bound-up tortillas. They are on their ways to distant cornfields for a day of chopping weeds. They do not look up to see the clear blue sky, nor

do they look down the valley opening toward the east where distant fog in the lowlands pools like quicksilver. They just look at the few feet of ground right before them, and maybe I would, too, if I were in their place. I hope they at least hear the Brown-backed Solitaire filling the valley with its effervescent tones.

As I descend, the narrow, broken-up road keeps the mountain slope on its left and the deep, V-shaped valley on the right. The road follows the mountain's folds, deep into hollows, then out to make sharp bends around razorback ridges. Landslides are frequent, sometimes avalanching onto the road, sometimes part of the road itself sliding into the valley.

The road is mud and gravel, and one and a half lanes wide. Waterfalls cascade right onto the road's surface, flow across it and gush into the valley below. In some places the road sags into quagmires of liquefied mud where epic battles between people and mired vehicles clearly have taken place. Often the roadside is cluttered with shattered, uprooted trees bulldozed just far enough to be out of the way and I smell their splintered wood and the mud.

BIRDS OF THE UPPER SLOPE

All morning the birds remain quiet, maybe waiting for midday sunlight from between the peaks, though for a few seconds some Ravens appear mobbing a Red-tailed Hawk. For a long time I only hear Brown-backed Solitaires, one in each valley, and no valley here would be a valley without its solitaire.

Late in the morning I spot movement in shadows beneath bushes below the road and it's a Blue Mockingbird bathing in rainwater pooled on a flat limestone rock. The bird's tail is so broad and scalloped that at first I think it's an ani. A little later a Common Bush-tanager comes nervously gleaning the undersides of bush leaves, as if it were a warbler.

After three hours of fast-descending easterly walking, high-elevation Sweetgum trees drop away leaving a scrubby woods in which umbrella-shaped Cecropia trees appear, one of the main indicators of humid, tropical forests. Soon afterwards appear tiny villages alongside small banana plantations, and Brown Jays, real "weed birds," come complaining with their loud, grating jay-calls.

By noon I'm disappointed because I'm getting into the humid lowlands so fast. I'd wanted a good hike through the high Sweetgums, but now they're gone for good... Needing food I walk into a village hanging on the slope to buy food and find only one man willing or able to speak Spanish.

SLASH AND BURN

There's not a single spot of original forest here and the destruction increases rapidly as I descend. Generations of slash-and-burn corn growing has converted the slope forest into a patchwork, each patch corresponding to a farmer's cornfield in various stages of converting from field to forest.

This is slash-and-burn technology: The farmer "slashes" the forest and burns it, then plants his crop. The first couple of years, because of nutrients released by the burning of trees, the crop is bountiful, but then weed and insect populations build up and after perhaps four or five years the plot must be abandoned. Then another section of forest is cut and the cycle is repeated, each cycle eroding away more soil and depleting what's left.

As population density soars the cycles grow shorter so that eventually the soil can't renew itself. The patchwork becomes nothing but fields alternating with weeds and bushes, and finally so little soil remains among the outcrops of bedrock that everything must be abandoned, and no forest will return there.

In mid afternoon, though the temperature is only 29.5° C (85° F), the humidity is overwhelming. I pitch the tent on a hint of hardly level ground below the road, beneath fifteen-foot high tree ferns with dark, knobby trunks thick as my leg. Mosquitoes raise a high whine outside my netted door as I lie panting, wondering if rain tonight will wash through the tent.

BIRDLIST #11-a

Here's the Official List for this day of slowly walking along the highway, dropping in elevation from around 1,600 meters (5,250 feet) to around 1,400 meters (4,600 feet)

November 16: latitude 18°04'N, longitude 96°47'W
MEXICO: Oaxaca; 5 to 10 kms east of San Juan, ±16 kms east of Huautla de Jiménez, on road between Teotitlán and Tuxtepec, some 20 air-kms east of Teotitlán; elev. 1400-1600 meters (4600-5200 feet) in the Sierra Mazateca; borderline cloudforest, with Sweetgums and weedy cornfields

1. Turkey Vulture
2. Red-tailed Hawk
3. RUFOUS-TAILED HUMMINGBIRD
4. White-eared Hummingbird
5. Common Raven
6. Blue Mockingbird
7. BLACK ROBIN (GLOSSY-BLACK THRUSH)
8. Brown-backed Solitaire
9. Rufous-capped Warbler
10. Townsend's Warbler
11. Wilson's Warbler

- 12. Ovenbird
- 13. YELLOW-WINGED TANAGER
- 14. Common Bush-tanager

GULF-SLOPE SPECIALTIES

The hot, humid lowland between the Eastern Sierra Madres and the Gulf of Mexico, which includes northern Chiapas, harbors the greatest diversity of bird species among all of Mexico's biological regions. Until now we've not seen a single species that in Mexico is restricted to the Gulf lowlands.

But in this list we have three "Gulf-Coast specialist" species -- the Rufous-tailed Hummingbird, Black Robin and Yellow-winged Tanager -- which amounts to 21% of the list. As we drop lower the percentage should increase. Often species restricted to Mexico's Gulf coast extend southward through the Caribbean lowlands of Central America into northern South America. Now we're getting into country that's famous not only for its quantity of birds but also its exotic variety, and the more we descend the better it'll get.

NEARING THE LOWLANDS

Continuing to descend the next day, the vegetation grows more and more hacked up. So much of what appears to be forest is actually coffee plantations. Though I can always turn around and see the blue peaks behind me, now the air is hot and humid. Sometimes the slope on which the road runs bulges into little valleys with some flat land occupied by pastures and occasional small villages.

Sometimes, to rest from the heat, I step into a coffee plantation's deep shade. The coffee bushes, ten feet high, bear dark green leaves opposite one another in neat ranks, and their beans are green, turning red. Coffee is a pretty plant, but it's of little use to birds. However, coffee does best in the shade, so interspersed among the coffee plants are taller "mother trees," and these sometimes keep coffee plantations from being ecological deserts.

By midday the much disturbed vegetation is strongly tropical; there's Cecropia, coffee, banana, avocado, Monstera vines with their huge, glossy, deep-fingered leaves, giant bamboo, and even Mamey and Chicozapote trees, the producers of the tropic's sweetest fruits. However, I'm still descending, and mountain slopes tower on every side. The slopes are smoky with haze and more patched than ever. Only occasionally do large trees appear, often Strangler Figs, and their great, horizontal branches bear nothing less than luxuriant gardens of epiphytic ferns, orchids, translucent Peperomias, mosses, lichens, bromeliads, Night-blooming Cereus cactus and other tree-living cacti. Often birds are

spotted foraging in these arboreal gardens. Along the road, red-flowered mimosas draw hummingbirds moving so fast I can't identify them. Yellow-flowered Crotalarias stand eight feet high. Yesterday's world of blue-lighted Sweetgums and chill feel a hundred years away.

Seven Montezuma's Oropendulas sail with wide, rusty wings and yellow-tail-tips showing nicely against the green slopes. Their strangely echoic chortles are like silvery bubbles floating up through the thick haze. Deep within the shadows of a twenty-foot heap of weeds, vines, and bushes, there's a Crimson-collared Tanager, a black-satin bird with a blood-red cape, as exotically colored as possible, yet a lover of weeds.

From all directions come sounds of machete chops, a sort of stereophonic chewing of the landscape. On the road I'm constantly passing people loaded as heavily as possible with firewood. This firewood comes from isolated spots far away, for all trees within sight don't burn well, being wet inside. Oak and pine burns, but not Cecropia or madrone. Oak and pine surely once dominated here but generations of firewood gatherers have now pushed those species into the remotest corners. And even those remote corners are not safe, for people made of corn and beans must have fire. This fractured habitat must be perfect for Wilson's Warblers, though. My impression is that every fifth bird is one of them.

The Indians here fear me. As I pass roadside villages mothers grab their children from the roadside and run away, not looking behind them. In the town of San Bartolomé, cocooned in ghostly woodsmoke, I try to buy a meal at a roadside kiosk but the woman doesn't react to my Spanish at all, just stares and shakes her head. Finally, at the door of an old church with a shiny new tin roof I buy boiled chayote, a kind of green, spiny squash, from a little girl with a towel-draped basket of them. Around her are old women selling bright plastic dishpans, cups, and buckets. Inside the church it's dark, but down at the end candles are burning.

Though the men usually dress in ragged "street clothes," the women wear two-layered dresses. Outside there's a white smock-like piece reaching the knees, trimmed in multicolors between the waist and the knees. Beneath this there's a flowing "gown" reaching the feet, with a white background adorned with broad, horizontal bands of bright colors.

The walls of houses here are made of slender, vertical poles, and have tin roofs. Though bean-cooking fires are often burning inside there's never a chimney. Woodsmoke drifts from beneath the roof leaving the ceiling glossy black with soot. It's coffee-bean-drying season. Wherever there's enough level ground, a concrete court has been built, and here coffee beans are spread and dried. Beside many huts, beans are strewn on straw mats.

At dusk I steal into an abandoned coffee plantation, with security very much on my mind. I am intensely focused on watching for someone following me, on not being seen, of choosing a random spot and camouflaging the tent as best I can. As darkness falls I hear parrots in the "mother tree" above me and stick my head from the tent's door. Two White-crowned Parrots are fighting, one dangling from a Peperomia-covered limb by a single toe while the other attaches itself by the beak to its adversary's wing, and what they're saying is clearly parrot-cussing...

BIRDLIST #11-b

Here's the Official List for the second day of hiking downslope:

November 17: latitude 18°04'N, longitude 96°47'W
MEXICO: Oaxaca; 10 to 20 kms east of San Juan, ±25 kms east of Huautla de Jiménez, on road between Teotitlán and Tuxtepec, some 30 air-kms east of Teotitlán; elev. 1000-1200 meters (3300-3900 feet) in the Sierra Mazateca; tropical deciduous forest, coffee plantations, pastures, with Cecropia and viney aroids

GULF COAST SPECIAL

1. Black Vulture
2. Turkey Vulture
3. Sharp-shinned Hawk
4. Roadside Hawk
5. PLAIN CHACHALACA
6. Golden-fronted Woodpecker
7. RUFOUS-TAILED HUMMINGBIRD
8. WHITE-CROWNED PARROT
9. VIOLACEOUS TROGON
10. Keel-billed Toucan
11. Squirrel Cuckoo
12. Groove-billed Ani
13. Boat-billed Flycatcher
14. BROWN JAY
15. BAND-BACKED WREN
16. Blue-gray Gnatcatcher
17. Nashville Warbler
18. Townsend's Warbler
19. Wilson's Warbler
20. American Redstart
21. MELODIOUS BLACKBIRD
22. Great-tailed Grackle
23. MONTEZUMA OROPENDOLA
24. CRIMSON-COLLARED TANAGER

Yesterday, just beginning the descent into the Gulf Lowlands, we celebrated 21% of our species being Gulf-Slope specialties. In this second list, taken hundreds of feet lower down the slope in habitats with much more of a tropical element, 38% of the species are Gulf-Slope birds. Northern migrants overwintering here account for 21% of the species. With all the habitat destruction so obvious around me, it's clear to see why the populations of so many neotropical migrants are diminishing.

TROPICAL WEED BIRDS

Despite the landscape being so hacked-over, the list holds several species that would thrill any Northern birder. Foremost among these exotics is the Keel-billed Toucan, sketched at the right. Add to that the Violaceous Trogon, the Groove-billed Ani, the White-crowned Parrot and the Montezuma Oropendola, and the Northern birder feels in another world.

Still, most of the species in the list are "weed birds" -- species appearing mainly in ecologically disturbed areas. The toucan, croaking like a frog, appeared in a large avocado tree in a pasture. The parrot was in a coffee plantation and the trogon perched in a young roadside tree.

The list's Roadside Hawk lives up to its name. I've never seen it far from a road. It's an unassuming-looking, upright-perching, squat, brownish bird not as skittish as other hawks.

GROOVE-BILLED ANIS

Groove-billed Anis are frequently seen in pastures along the road where they fly low above the ground presenting a somewhat "flattish" silhouette, a bit like a stocky model airplane. Anis are members of the Cuckoo Family. Since that family is famous for having members who slip their eggs into the nests of other species -- they're nest parasites -- you might suspect that anis have non-traditional nesting practices. Anis aren't nest parasites but they do manage to be a bit kinky, for the birds join into social units consisting of one to four monogamous pairs. The unit's eggs are all laid in a single nest and each individual in the unit helps incubate and feed the communal brood. Moreover, it's much more complex than that.

The thing is that the various females lay more eggs than the single communal nest can hold, so they throw one another's eggs out to make room for their own. Young, low-ranked females start laying first and then the older, higher ranked females toss out some of these eggs to make room for their own, which make up most of the clutch. The young females counter by laying more eggs, by prolonging the interval between eggs laid, and by producing a "late egg" as the clutch size nears completion. Since last-laid eggs hatch last, there are natural limits to the lower-ranked females' attempts because the last-born nestling is the smallest and most vulnerable member of the brood.

The main advantage of this communal nesting is thought to be that, since the various females compete among themselves to ensure the success of their own eggs, they increase the overall attention the nest receives, and this reduces risks to the nest, especially that of nocturnal predation.

"PURO CACAHUATE"

The road levels, its maintenance improves, more and more villages and large plantations appear, the vegetation grows ever more ragged and weedy, and the heat and humidity increase. Now I'm definitely in the Gulf Lowlands.

A few miles into the plantation zone it's clear that my walk from the highlands into the lowlands has ended. There's a house with a swing-up window where beer and crackers are sold when the window is up, and the window is up. I arrange with the man behind the opening to have his wife fix me a meal of scrambled eggs, beans, and tortillas. As I'm waiting, just to be sure, I ask what it's like down the road.

"Puro cacahuate," he says disdainfully. Literally it means "Pure peanut," but I understand the message to be, "nothing but ramshackle little houses and poor-looking little villages with weedy little gardens and fields around them, and more of the same farther on... "

LAGUNA CATEMACO

November 20, 1996

Pickup trucks provide taxi service through the Sierra Mazateca foothills. If you want a ride, you hold out your arm, ask the price to the next town, and hop into the back. Sometimes you stand with others, holding onto the sideboards, and sometimes there are board seats and a tarp cover. Some pickups run on schedule but others run just when the driver is in the mood. Some drivers are friendly and businesslike, others are surly, giving the impression that they're offended having to stop. I'm deposited in Tuxtepec where regular bus service begins for the lowlands.

I leave the state of Oaxaca and enter the state of Veracruz. Now the flat land between villages and cities is occupied by banana and sugarcane plantations, and weedy pastures with Zebu cattle attended by lots of Cattle Egrets. Every inch of the landscape is occupied by settlements, intensively cultivated plantations, pasture, or rampant weediness. People are everywhere, some working, some lazing, many walking where there seems no place to go. I cross the Veracruz lowland in a fugitive mood, hoping that by nightfall I can be someplace where I can peg a tent.

Bus connections aren't so good so I take a series of slow local buses from Tuxtepec to Cosamaloapan, then Tlacotalpan, then briefly quite near the Gulf of Mexico to San Andrés Tuxtla, and, finally, late in the afternoon on a bus so broken down and slow that it's really fun to lean back and gawk from the open windows, to Catemaco, population 45,000. Catemaco is a tourist town on the edge of Laguna Catemaco; "Laguna" means "Lake."

Especially in golden, late-afternoon sunlight it's a pretty region with steep-sided, raggedly vegetated mountains, the Tuxtlas, rising beside the large lake, which is roughly circular, and about 15 kms across (nine miles). I remember twenty years ago having taken a gravel road along the lake's northern shore and now I want to revisit that road, for I recall how wild it was, and I need to escape the tourist zone. On the outskirts of town a cooperative of pickup-truck operators provides fairly regular service along that road now. I hop into the back of a truck and ask the driver to drop me someplace near the lake where I can camp.

At dusk I'm deposited in the village of Coyame, built at the crossroad of the gravel road and a dirt road in pretty bad repair. The lake is a five minute walk below town. Coconut Palms grace the shore and there are dry sand rises perfect for a tent, with fantastic views across the lake. Among the populace standing around looking at me I choose the most friendly looking, a woman shopkeeper closing up her store. I ask if there's someplace where I might pitch a tent. She suggests the very spot I've eyed. Since a dozen or so onlookers surround us all agree that it's a good spot and that there's no problem with my staying there, I thank everyone and go down to the palms, with maybe fifteen kids trailing and asking questions. Now the community considers itself something of my guardian. Sometimes the opposite of secretness is the best security, even when camping.

Approaching the lakeside I see the picture below, a Guiana Chestnut out in the water near my tent site, with herons preparing to spend the night there.

In dusk's final glow I'm barely able to see where the tent goes. The children leave when their mothers call. I enter the tent and zip up the door, leaving a cloud of mosquitoes outside. Inside, I lie feeling the day's heat in the sand beneath the tent's floor, listening to waves lap at the water's edge, still intoxicated by the view of the heron-filled Guiana Chestnut, hardly able to wait until I awaken the next morning, maybe with wild ducks right beside me.

BIRDS ALONG SHORE

At dawn it's not ducks but duck-like American Coots, thousands of them fairly evenly spaced over the big lake's surface. Coots are "duck-like" and not actually ducks, even though they float on the water and almost look like ducks, because they're not in the Duck Family, the Anatidae. Coots, being members of the Rallidae, are more closely related to cranes and rails. Coots have lobed, not webbed toes, and their beaks are narrow, not flat, like a duck's.

A floating mat of non-flowering Water Hyacinth carpets about thirty feet of water next to shore and a unique but absolutely-to-be-expected bird walks upon the hyacinth mat, pecking here and there, looking for snails, aquatic insects and larvae, and an occasional small fish. It's the Northern Jacana, the only Mexican member of its family, sometimes appearing as far north as extreme southern Texas.

The special thing about the jacana is its feet, as you can see at the right. These toes make sense, of course, because they distribute the bird's weight evenly over a large surface area so as the bird forages atop floating vegetation, such as waterlily pads, it's less likely to sink. Sometimes jacanas are called "lily-trotters," or "lotus-birds." Here, despite their wonderful toes, as they move across the water-hyacinth mat, as soon as they step on a plant the plant begins sinking, so the bird is obliged to keep moving from one sinking plant to the next.

The jacanas aren't alone. A small flock of glossy-black Great-tailed Grackles also treads atop the Water Hyacinths but, since they're far lighter, they're not sinking. Neither are they as graceful as the jacanas. On level ground grackles walk, not hop, but the water-hyacinth platforms are too irregular for walking so the grackles clamber, jabbing their black, chisel-like beaks at snails wedged between bulbous Water Hyacinth stems. The plants don't sink beneath the grackles' weight but they do twist in the water, throwing the grackles off balance and causing them to continually and ingloriously hold their wings and ample tails at the oddest angles.

Along shore a Green Heron catches a slender, silvery fish, then flies with it in its beak to a pole emerging from the water. The heron jerks its head to manipulate the writhing fish into swallowing position, then the fish simply slides down the heron's throat. The heron is left

looking somewhat smug and the fish, just an instant ago full of life and silvery brightness, is simply gone.

Men also are fishing at this break of dawn, their small, shallow boats like the coots evenly spaced over the lake's surface, all at respectful distances from one another, though from time to time they call across the water saying that the fishing is no good today. The men stand in their boats casting large, circular nets. The nets bear weights at their sides so they rapidly sink, then when the man pulls on the line attached to the net's center the net closes like a hand.

One boat enters the lake late and makes its way along shore beside me. A great mass of coots escape from the Water Hyacinths into deeper water. As they take off, while flapping furiously they run for a distance atop the water, suggesting that their bodies are too heavy for such pudgy wings to lift them into the air. The birds land a long stone-throw's out, forming a dark, diffuse cloud of birds there. When the boat passes, the birds make their way back into the hyacinths.

PIED-BILLED GREBES

For every 20 coots out there maybe there's one Pied-billed Grebe. Though these two species share the lake's surface they're clearly foraging for different foods, and thus their niches are not overlapping. In fact, coots mainly eat aquatic vegetation, while grebes are almost entirely carnivorous, mainly eating crustaceans such as crayfish, as well as small fish, mollusks, and aquatic insects.

When coots dive they soon bob back to the surface near where they disappeared but grebes remain submerged for 45 seconds and longer, usually resurfacing surprisingly far from where they dove.

Though the coot's food obviously has much less nutritional value than the grebe's high-energy carnivorous diet, my impression is that the coots spend less time feeding than do the grebes. As I scan Lake Catemaco's surface, every Pied-billed Grebe seems hard at work alternating long dives with brief periods of catching breath, while a large percentage of the coots are bathing, standing on Water Hyacinth rafts sunning themselves, or just idly floating, looking around.

A Pied-billed Grebe pops to the surface and as it catches its breath a Green Heron comes flying very low over the water with its legs stretched forward, giving the appearance of being about to land atop the grebe. Neither I nor the grebe can imagine what's on the heron's mind. The grebe submerges just long enough for the heron to pass, then surfaces again, looks over its back, and I swear there's an expression in its face, saying, "You fool!"

And how exquisitely grebes are adapted for their life in water. As with coots, their toes are "lobed" with a series of flaps, so as they push their feet backward against the water the flaps open up like oars, propelling the bird forward. Then when the feet are drawn forward

the flaps collapse and the water offers little resistance. Grebe's toenails are even flattened, like little paddles, something very rare among birds.

Moreover, a grebe's legs arise far back along its body. This makes it hard for grebes to move on land but, in accordance with the laws of physics, it enables the birds to harness a powerful forward thrust when diving. Like many birds highly adapted to diving, grebes have difficulty lifting themselves from the water's surface. With rapidly beating wings they taxi across the surface with their running legs frantically providing extra propulsion below them, before becoming airborne.

LESSER SCAUPS

I'm surprised to find so few ducks here -- just a few Lesser Scaups. My field guide's distribution maps indicated that several species are to be expected here. Maybe other species arrived but saw all the coots and just kept going.

One reason I've been wanting to see ducks is that before my trip I was reading Paul A. Johnsgard's Handbook of Waterfowl Behavior. Therefore, now the Lesser Scaup before me throws back its head in a curious way and I recall that Johnsgard dignifies this blur of action with the name of "head-throw display." He says that it lasts approximately 1/20th to 1/30th of a second, and that the bill is thrown back less than 45 degrees, even though it appears to reach almost the vertical. Head-throws are displayed by males to focus the female's attention and convey the message that he's interested in her. Since it's such a brief event it's always preceded by special "head shakes" conveying the message "Pay attention, now, for I'm about to head-throw..."

Head-throws very similar to the Lesser Scaup's and with the same message attached also appear among Greater Scaups, Canvasbacks, Redheads, and Ring-necked Ducks -- all species so closely related to our Lesser Scaup that on occasion they hybridize with them in the wild. Johnsgard makes the point that head-throws in Greater Scaups are slower than in Lesser Scaups -- about 1/6th of a second instead of the Lesser Scaup's 1/20th to 1/30th of a second.

COOT TUSSLE

Toward noon the lake becomes a broad, shallow saucer of placid, shining quicksilver. The thousands of coots that earlier were dispersed across the lake's surface have gradually coagulated into groups closer to shore and as time passes the gatherings condense until finally they form tight knots keeping in sheltered bays. Having them closer at hand I'm astonished at how much they eat -- swallowing entire sprigs of an aquatic plant similar to the Elodea grown in home aquaria.

One coot latches onto a six-inch sprig too large to swallow and, although all the coots in that group float in a morass of the plant, a neighboring coot covets the large prize and rushes to rob it from the owner. A small contest erupts, drawing attention of other coots, who rush to join the fray. In the end the sprig breaks into several segments and no coot gets more than a modest snack.

BIRDLIST #12-a

Here's the Official List for birds seen on the lake, including atop rafts of vegetation floating along its margins.

November 20: latitude 18°26'N, longitude 95°01'W
MEXICO: Veracruz; Laguna Catemaco, freshwater lake and shore in vicinity of Coyame about 10 kms east of town of Catemaco, on north shore; elevation about sea level and about 25 kms inland

1. Pied-billed Grebe
2. Lesser Scaup
3. Osprey
4. Great Egret
5. Snowy Egret
6. Great Blue Heron
7. Green Heron
8. Little Blue Heron
9. Tricolored Heron
10. American Coot
11. Northern Jacana
12. Laughing Gull
13. Common Tern
14. Belted Kingfisher
15. Green Kingfisher
16. Northern Waterthrush
17. Great-tailed Grackle

In this list there's not a single bird not also appearing in the US.

GUIANA-CHESTNUT GARDEN

Now I pack my tent into my backpack and begin working farther along shore. In the afternoon I come to another Guiana Chestnut at the water's edge. About 35 feet high, the tree's trunk is equipped with buttresses jutting from its base like foot-thick, seven-foot-high rocket fins. The buttresses give the tree better footing in soft mud.

This tree, like the one sketched in the lake where Great Blue Herons and Great Egrets gathered, is nothing less than an airborne garden. Up close I can see how the big herons and egrets can stand atop the trees' canopies as if they were on solid platforms: Outermost twigs are thick and strong enough to make solid perches for big birds.

Inside the tree these coarse twigs are encrusted with the following:

- * thick mats and dangling festoons of succulent, yellow-green peperomias with cream-colored spikes dusted with pollen, with succulent
- * viney anthuriums with arrow-shaped, waxy leaves two and a half feet long
- * Night-blooming Cereus cactus with red, radish-like fruits along their flat, tongue-like blades
- * Rhipsalis cactus with round stems thinner than pencils dangling in clusters like upside-down candelabras, some of their stems ending in white, succulent, pea-size fruits'
- * a fern with fronds over three feet long
- * gray bromeliads no larger than the nest of a warbler, other bromeliads with coarse, strap-shaped blades bigger than a bushel basket
- * gray lichens and moss
- * small orchids with green leaves, white roots, some of them with leaves like blades of grass, other species with broad, leathery leaves, some with bulbous pseudobulbs at their leaf bases, but not a single one in the whole tree blossoming at this time...

Deep within the Guiana Chestnut's shadowy interior I spot White-eyed Vireos and Black-and-white Warblers. I'm accustomed to seeing the warblers in northern forests where they glean tiny arthropods from the bark of tree trunks and branches rather like nuthatches. Here they do the same thing, but inside the big tree they glean aroid stems, and the stipes of long, cascading ferns.

The tree bears abundant chestnut-brown, spherical fruits nearly the size of basketballs. I wonder what caused these fruits to evolve to be spherical and so large. Here the fruits fall into the mud, the thin brown rind splits and several lemon-size seeds are released. At first the seeds are encased in whitish, cellophane-like membranes. These tear away leaving the seeds looking like bright green gobs of partially melted plastic with deep furrows in the shape of stars with four slender arms.

More often than not the seeds pile up at the water's edge, germinating in soggy, wind-heaped-up piles of decaying Water Hyacinth and other aquatic vegetation. All or nearly all of the seedlings must die, for I find no saplings in the area.

Much impressed by this tree, though the place strikes me as being particularly snaky, I peg my tent inside an angle formed by two of the tree's flaring buttresses.

At dusk, behind the netting of my tent door and thus safe from the hoards of mosquitoes, it's a cozy nest with a view of the setting sun. Two Northern Waterthrushes come sauntering along the water's edge, flipping wet leaves, bobbing their tails, and teetering together as two waterthrushes should. A little later a pair of Plain Chachalacas glides into the dense tangle of branches not twenty feet above me. As they move toward one another after landing I hear them purring like big cats, and see their archaeopteryx-like silhouettes stealthily coming together.

All night I sleep with waves breaking so nearby that they splatter my tent.

BIRDLIST #12-b

Here's the Official List for the next day's birds seen as I hike the gravel road skirting the lake and headed eastward.

November 22: latitude 18°26'N, longitude 95°01'W

MEXICO: Veracruz; Laguna Catemaco, along 10 kms of gravel road east of Coyame, which is about 10 kms east of the town of Catemaco; this is the northern shore; roadside, woods and pastures; elevation about sea level and about 25 kms inland

1. Black Vulture
2. Turkey Vulture
3. Roadside Hawk
4. Plain Chachalaca
5. Cattle Egret
6. Plain-breasted Ground-dove
7. White-fronted Parrot
8. Blue-crowned Motmot
9. Keel-billed Toucan
10. Golden-fronted Woodpecker
11. Great Kiskadee
12. Rose-throated Becard
13. Brown Jay
14. Band-backed Wren
15. Blue-gray Gnatcatcher
16. White-eyed Vireo
17. Black-and-white Warbler
18. Hooded Warbler
19. Magnolia Warbler
20. Wilson's Warbler
21. Yellow-throated Warbler
22. Yellow Warbler
23. American Redstart
24. Northern Parula
25. Eastern Meadowlark
26. Melodious Blackbird
27. Montezuma Oropendola

- 28. Great-tailed Grackle
- 29. Yellow-throated Euphonia
- 30. Blue-gray Tanager

One of the most exotic birds in the above list is the Blue-crowned Motmot, pictured above. Notice how the long tails are missing barbs along part of their lower lengths. This is typical of most motmot species. Blue-crowned Motmots are fairly common in Mexico's humid Gulf lowlands, sometimes not very shy of humans. They might appear in one's garden, or even at an overgrown trellis at a porch's corner.

For me, the list's most striking feature is that nearly a third of the species are warblers and vireos from the north, spending their winter here.

Still, even in this weedy, much disturbed environment there are wonderful things northern birders never see, such as the Yellow-throated Euphonia on the previous page. Euphonias are closely related to tanagers. This species occurs in wet tropical forests and their borders, plantations and gardens from Mexico's northern Gulf lowlands to Panama. It's a common species, but always nice to see.

GULF-COAST BEACH AT MONTEPIO

November 23, 1996

On my third morning beside the lake I hop into the back of another pickup-truck taxi, ride back into town and buy provisions. In the marketplace an old woman from whom I'm buying three tamales asks me to go with her to a place where others can't hear. Nervously combing her hair she tells me she recognizes me as a brujo, a "witchdoctor." But I'm a good one, she says, one who's "clean inside." She wants me to go with her to meet another brujo.

I don't know what this is all about, don't like the feeling of it, and tell her I'm not interested. I fill my backpack with food and water, hike to the edge of town, and climb into the back of another pickup truck heading for the seaside settlement of Montepio.

After 15 or 20 kilometers the rough gravel road ends at a small but handsome church with the blue Gulf of Mexico as its backdrop. In mid afternoon the heat is staggering so I walk directly onto the sandy beach where a light breeze stirs and foot-tall waves curl and collapse at the water's edge.

To the right the beach soon ends at a nearly vertical, black, basalt-rock cliff partly overgrown with cacti, aroids, and other big-leafed tropical plants. To the left the beach is bisected by a stream maybe forty feet across. My first impulse is that there's no place here for a tent, that I'll have to walk through the heat and glaring sunlight inland and find a campsite in an abandoned plantation or among the weeds -- not a pleasant thought.

But then on the left a boy on a horse approaches a certain spot at the river's edge, the horse plunges in, and walks across, the horse's belly getting only slightly wet. I go there and cross, too, though the current is strong and I must raise the backpack with my arms to keep it from getting wet.

Across the river and around the bend I can see that the beach continues to the north until an upland juts into the sea seven or so kilometers to the northwest. Just inland from the sand something like a high levee, some kind of sand dune, rises up like a wall paralleling the beach.

Two or three kilometers northwest of Montepio along the beach I feel alone, just me, the sea, the sand, and the dune-levee. In one place at the base of the levee there's a dense thicket of small trees so I work into their shadows and peg the tent there. From the sun-bathed beach it looks so dark among the trees that the tent simply can't be seen, but from the tent I can see everything on the beach. It's about as good as you get in terms of security-minded beach-camping.

PLOVER MEDITATION

I love beachwalking, especially with binoculars so I can identify the birds. Nearly any sandy beach has its little or big clusters of small or large birds most of the day working along the water's edge. Inland birds typically are very active just after dawn and then again a bit less active just before dusk, but during most of the day they are relatively quiet. Beach birds are always doing something worth looking at, from dawn to dusk. Also, always there's the knowledge that this very water beside you connects directly to the farthestmost points of the Earth, so always there's a chance of meeting something completely unexpected, possibly a real treasure. This kind of beach-discovering is a meditation for me.

On my first beach walk I spot a medium-size, moderately long-legged bird with a slender but relatively short beak, probably some kind of plover. However its plumage is splotchy and unlike anything illustrated in my field guides.

This little mystery is exactly the kind of bird-puzzle that pleases me. From a distance with my binoculars I absorb as much as I can of its size, shape, color and behavior, then thumb through the field guide seeing what the possibilities are for this part of Mexico during this time of year, and there are several. I suspect it's a Black-bellied Plover with a plumage changing from its striking summer costume to its duller winter one. However, this bird isn't showing the fieldmarks needed for a solid identification.

Once my mind is clear on which identities are possible, and which fieldmarks characterize each species, with my binoculars raised ready to be looked through in an instant, I purposefully walk toward the mystery bird. It flies up, the binoculars are in place, and I see very clearly a white rump and black patches beneath the wing. It is indeed the Black-bellied Plover, a bird I seldom see.

One reason I seldom see it is that it nests only in the arctic tundra, and winters only along the coasts, and I just miss it during migrations.

I'd like to see this bird in its full summer plumage. Most multi-hued birds are dark above and pale below -- a scheme known as countershading. Countershading helps camouflage a bird. During the summer, Black-bellied Plovers are black below and much paler above -- examples of "reverse countershading," which makes them more visible. Black-bellied Plovers and Bobolinks are among the best examples of reverse countershading, and I just wonder what adaptive pressure encouraged these species to evolve in a direction opposite to most other birds.

SEVEN VULTURES AND AN EEL

Right in front of my tent, just this side of the breaking waves, there's a dead eel or eel-like fish. A Black Vulture comes winging down beach, spots the feast, and lands. The bird

tugs at the fish's head causing the dead animal's silvery tail to flip as if it's alive. This obviously surprises the vulture, who jumps straight up like a cartoon character.

Before the bird's nerves can be calmed a second vulture drops from the sky and tries to join in the eating. However, the first vulture seems in no mood for sharing, for it makes a tentative lunge at its visitor, and that's enough to keep the meal to itself. The visitor continues to lounge five feet away looking hungry.

A third Black Vulture arrives, but it also meets resistance, and ends up lolling on the sand with the second bird.

But then a fourth Black Vulture lands, and instantly I see that the first bird loses its confidence. Obviously Number Four is higher ranked, for after half a second of half-hearted pecking, Number One moves away, leaving the eel to its new owner. Now Number One joins Numbers Two and Three standing on the sand.

Then Numbers Five and Six arrive, but Number Four holds its own, and they join One, Two, and Three, watching Four eat.

Five minutes pass and then Number Seven arrives and without hesitation attacks Number Four. Seven and Four must be mortal enemies, for it's not enough for Seven to chase Four from its prize; Seven's attack is so brisk that Four begins hopping down the beach, flapping frantically, struggling to get into the sky, and Seven goes hopping and flapping after him. They manage to lift off at about the same time and in the sky their chase continues, leaving a new squabble among the five vultures left behind.

Now all the birds divide their pecks among their neighbors and the eel. The eel gets covered with sand and almost lost in the confusion. But then one of the two vultures who just left returns, presumably Number Seven, and order is restored when all the other birds give way and resume standing awkwardly on the sand.

Finally all the onlookers give up and fly away, leaving only one onlooker and the eater. A few pecks are exchanged in what must represent an hierarchical challenge but the challenger doesn't have the mettle to dislodge the eater from its meal, and then it also flies away.

Now there's one vulture and one dead eel, and after a very great deal of commotion at last this one bird eats in peace.

SANDERLING/ CRAB MYSTERY

About two hours after the above vulture-and-eel drama, up the beach come seven Sanderlings. A wave withdraws and the Sanderlings chase it, stabbing into the sand with their slender, medium-length, black beaks, and then the next wave chases them back

onto higher sand, sometimes causing one to flash a wing-flap or two to get out of the water's way. Then the Sanderlings chase the next wave out; this, again and again.

When the little flock reaches the exact spot where the vulture-and-eel drama took place, though by now waves have obliterated all traces I can see of the event, all seven Sanderlings begin walking about, probing the wet sand with their beaks. The probing is so intense and methodical that the bills remind me of sewing-machine needles stabbing in and out of fabric.

After the vulture-and-eel spot has been thoroughly roughed up by all the beak-probing, across the hot, dry sand upslope of the action comes a large, grayish-brown crab with conspicuously black, stalked eyes. The crab goes right into the center of the Sanderling flock and while it makes no effort to snap at the birds with its claw it does stop them from foraging. As the Sanderlings stand around looking at the big crab parked exactly where they want to be, along comes another small crab, and then a very small crab, and at this point the Sanderlings give up their efforts and begin drifting on up the beach, leaving the three crabs in possession of the spot where, to my eyes, all vestiges of food disappeared hours ago.

SUDDEN UNEXPECTED

The hours pass with little sense of there ever being anything other than "now." An immature Laughing Gull drifts by just offshore and it hardly registers more than one's turning in bed during a sound sleep.

But then like a flash of lightning from over the dune-levee behind me a Crested Caracara bolts across the sky right above me and for an instant I see the moment exactly as I sketched at the left.

There is no kill, not even a certain touching of the two birds, and within seconds the caracara is back across the dune-levee and the gull is on down the beach.

I hadn't expected to see a caracara here, and, once I think about it, this is the first gull I've seen since I've been here. What an amazing, unforeseen moment!

And then, the rest of the day, it's more sweet monotony.

TWO FISHING STYLES

Brown Pelicans fish not far offshore and I've been noticing what a lot of work it is for them. They'll be sailing along five to ten feet above the water's surface, then in an instant they go into a dive and simply crash headfirst into the water. Surely such a splash severely jars

the bird's body. The body remains atop the water with wings akimbo as if the whole frame were shattered. When the head and neck become visible often the neck is bent into what would seem a very uncomfortable position. Most dives don't seem to come up with any food. I never see the pouch rounded as in cartoons, but I do see loose skin below the long beak. Sometimes when a fish is swallowed the pouch balloons a little.

Magnificent Frigatebirds often dive from 20-30 feet up, but always at the last moment they perform a broad U, at the bottom of which their beaks briefly touch the water. I don't see any catches accomplished like this, but once in this manner a frigatebird does snatch a twig from the water, chew on it for about five seconds, and then drop it with body language that said to me that he was disgusted to have fished up a twig.

PLAYA HERMOSA

With the binoculars I see a cluster of buildings a few kilometers up the beach so I head there, hoping to buy some food and not have to cross the stream again between my tent and Montepio. After camouflaging the tent as best I can I head up the beach. At 10 AM its 85° F (29.4°C) and the sky is lovely with a few scattered white cumulus clouds over the Gulf.

Two hours of sauntering brings me to the community of Playa Hermosa, or "Beautiful Beach," a town of maybe a hundred folks but with no place selling anything to drink other than beer, soft drinks, and water that's surely polluted. Next to a little stream entering the Gulf perch three rustic restaurants, none of them doing any business during the day's middle. Basically they sell beer and crackers, but the cook in one says she's willing to provide a plate of beans with some tortillas from her own table, and if I can find anyone selling something else, she'll be glad to cook it for me. After a great deal of asking around I find someone able to sell me some eggs, onions and jalapeños, so now I can have a pretty good meal.

While waiting for the eggs to be fixed I watch a Little Blue Heron fish in the three-inch-deep stream running next to the restaurant. The stream contains a lot of small, shiny fish, and the stream's bottom is made of rounded cobblestones that must be slippery for the heron to walk on. As the heron walks forward watching for fish, it spreads its wings and I can't decide whether this wing-spreading is intentional to scare fish into view or perhaps to blot out the sky's bright reflection on the water. It almost looks like the bird is conscious of accomplishing all three goals by holding out its wings -- balancing, scaring fish, and shielding the surface from the sky.

I pay special attention to this because not long ago in Madagascar I got to see a fantastic performance of "canopy feeding" performed by the Black Heron. That bird would bring both wings forward above its head so that the forward edges met, forming an umbrella over the heron's head and neck, which completely removed the sky's reflection from the water's surface, enabling the bird to see into the water better.

The meal is wonderful, the heron fishing was fun to see, but I am low on water, and my visit to Playa Hermosa has not solved that problem at all. I consider buying beer or sodas, but suffering from hypoglycemia, a blood-sugar disease, that's not a good idea.

TWO GRACKLES AND A SNAIL

Here and there rocky areas cut across the sand and extend to the water's edge. While visiting such a place I see two Great-tailed Grackles land on the sand near the rocks. Then one grackle flies into the rocks and for about five seconds hovers over a pool of water caught there and returns to the sand. The same maneuver is repeated about a dozen times, with the one grackle in the sand simply watching the other.

Finally the pool-visiting grackle does something different. It snatches a snail from the pool, carries it to a boulder and deposits it atop the rock, but the snail rolls off the rock and the grackle flies away, and the bird on the sand just watches the whole thing.

Then the pool-visiting grackle returns, takes another snail, lands atop the same rock, but this time holds the snail with a foot as it pounds the snail with its beak, and the sand-percher just watches.

And then the two birds fly off, leaving me with the very strong impression that a class has just been given on how to look for snails in rocky pools, and then smash the snails and eat them. To my eyes the student didn't show much promise, but I suspect that during the next class things may go a little better.

BIRDLIST #13

Here is this stop's Official List:

November 24: latitude 18°38'N, longitude 95°06'W
MEXICO: Veracruz; Gulf Coast beach at Montepio about 30 air-kms north of town of Catemaco; sandy beach, small bay and rocky outcrops

1. Brown Pelican
2. Magnificent Frigatebird
3. Red-breasted Merganser
4. Black Vulture
5. Great Black Hawk
6. Crested Caracara
7. Snowy Egret
8. Little Blue Heron
9. Black-necked Stilt
10. Black-bellied Plover

11. Semipalmated Plover
12. Spotted Sandpiper
13. Willet
14. Sanderling
15. Laughing Gull
16. Inca Dove
17. Belted Kingfisher
18. Ringed Kingfisher
19. Northern Rough-winged Swallow
20. Great-tailed Grackle

AROUND THE RUINS OF PALENQUE

November 25, 1996

For at least the 20th time in my life now I take a series of buses across the Gulf lowlands to the ancient Maya ruin of Palenque in the northeast corner of Mexico's southernmost state of Chiapas. On my very first trip into Mexico, when I hitchhiked through the entire country back around 1968, I came here riding in the back of a pickup truck, for at that time no bus service was available and the ruin was not well known. Back then the landscape here struck me as "deep jungle." At the ruin I rented a kerosene lantern and all by myself descend into the Temple of Inscriptions, and for as long as I wanted viewed the famous stone sarcophagus lid with its fantastic, otherworldly carvings and hieroglyphics. Now the ruin's stairway is electrically lit and I'm told you don't get more than a few seconds of viewing.

I like Palenque because there are cheap camping sites near the ruins and the ruins themselves lie next to bird-filled tropical evergreen forest about as good as you can find in Mexico.

After buying several days of food and cartons of milk in the town of Palenque, I take a microbus toward the ruins and get off at my usual campground, Maya Bell, which during most of my visiting years has been about as laid-back and mellow a place as you can find anywhere, always with a few guitar-strumming hippies from the north less interested in the ruins than the hallucinogenic "magic mushrooms," genus *Psilocibe*, growing so commonly in the pastures across the road. Today as I walk in, probably beginning my last stay here in my life, my feeling of nostalgia is profound, and I'm saddened to see how the place has "cleaned up," with fewer hippies now, and more white-haired gringos in air-conditioned campers. Still, good tropical evergreen forest stands nearby, and the cost for a tent site isn't high.

Not long before sunset, as soon as I get my tent pegged beneath a huge Strangler Fig tree at the campground edge, right next to the forest, I sit down on one of the fig's rambling roots and look around. Some American Redstarts seem immune to the late afternoon heat as they nervously forage through the lower forest canopy gleaning leaves and stems with their small, slender beaks. From inside a dense heap of vines and bushes comes the familiar wahhh call of the Gray Catbird. Hopping along the rusty barbwire fence between the campground and the forest, right above a line of leafcutter ants, is a Magnolia Warbler. The vegetation is unmistakably tropical, but these first birds are all "old friends from home."

RUIN BIRDS

While the great bus-brought masses stream into and out of the Temple of Inscriptions' front entrance, it's possible to sit on the pyramid's back side in fair solitude, gazing at ease

into the extremely lush, dense forest just behind the temple. Since the cutting of trees is not allowed around the ruins, the vegetation here is about as mature as you can find in these parts. Also, a little footpath leads back behind the Temple, up the hill and along a valley, to an Indian village on the hill's other side. This footpath is wonderful for birding. Here are the species noted on the day I visit the ruins:

BIRDLIST #14-a

November 26: latitude 17°30'N, longitude 92°02'W
MEXICO: Chiapas; forest and forest edges around ruins of Palenque

1. Keel-billed Toucan
2. White-crowned Parrot
3. Citreoline Trogon
4. Chestnut-colored Woodpecker
5. Boat-billed Flycatcher
6. Northern Royal Flycatcher
7. Masked Tityra
8. Brown Jay
9. Gray Catbird
10. Yellow-throated Vireo
11. Black-and-white Warbler
12. Black-throated Green Warbler
13. Blue-winged Warbler
14. Hooded Warbler
15. Magnolia Warbler
16. Wilson's Warbler
17. American Redstart
18. Montezuma Oropendola
19. Red-throated Ant-tanager

All the species seen are either familiar migrants from North America, or birds not found at all north of the US/Mexico border.

FIREBIRD

In the middle of the morning, very hot, getting tired, on a steep slope inside dense vegetation, about to give up birding for the day, I lean against a tree, raise my head, and see exactly what I sketch on page 161. In a sunbeam, a Northern Royal-flycatcher spreads its crest, fans its tail and opens its wings, causing an explosion of living light, a transcendent moment.

In a split second, the crest disappears, the wings and tail jerk into their usual configuration, and in the next second the bird is gone.

If I were a Maya shaman in another time and age, what kind of sign might this be?

I have never experienced such an exquisite instant of being with a bird.

RAIN BIRDS

This is supposed to be the beginning of the dry season here but the day after my ruin visit heavy rains come and go all day and all the following night. It's a warm rain but everything I have gets wet or at least moist, and already mildew is setting in.

Between downpours I walk around seeing what I can see. The American Redstarts continue being particularly active and easy to see.

Down next to the office red-flowered hibiscuses and cannas are in full blossom and how pretty to see these gaudy flowers visited by the green-backed Long-tailed Hermit hummingbirds, with their two very elongated, white, central tail feathers and very long-curved bills. Despite these birds' being much larger than any hummer we have in North America, and shaped much different, this is a common species in lowland forests and humid second growth from southern Mexico to the Amazon drainage.

Down among the gringo RVs, brownish Clay-colored Robins hop about on the mowed grass just like American Robins farther north. But the day's prettiest bird is surely the Masked Tanager, slinking through the dense, wet herbage at the campground's edge, almost invisible among the shadows, its body mostly black, but with a sky-blue rump and wing patch, and a "hood" over its head of a rich golden hue. With its Rembrandt colors it seems to have been designed to harmonize with the luxuriant forest-edge wet-glossiness it sticks to. It's found from here into South America.

On a massive Strangler-fig limb I watch a male and female Yellow-throated Euphonia, also members of the Tanager Family. The male orbits the female moving its body on its legs exactly as might a teenage boy exhibiting how to thrust the pelvis back and forth during sex, but in an exaggerated, humorous-looking manner.

FENCE-JUMPER

With the rains making the forest hard to get through and with my shoes falling apart anyway, the road between town and the ruin is a fair place to bird from, and even here you see amazing things.

I hear a quick weezit, look to my right and there's a little thick-billed bird so dark blue that it might as well be black, the Blue-black Grassquit. The crazy thing is that this bird is perching on a barbed-wire fence and each time it makes its weezit call it jumps into the air a good foot and a half, then instantly returns to its former spot. It does this every five to ten seconds so it's an amazing display.

Moreover, to me it sounds as if this bird's voice is ventriloquial -- as if the song originates a couple of feet behind the bird. However, my books say nothing about this, so maybe I'm just having hearing problems. Maybe the rains are stopping up an ear.

CAR-USING KISKADEE

A car crashes into a dragonfly, leaving the shattered insect on the road. A stocky, yellow-bellied, dark-rusty-backed flycatcher, a Great Kiskadee, shoots from the roadside thicket, snatches up the meal, returns to a shadowy perch and eats.

Through the binoculars I admire the bird's colors and fine features. It's a very common bird, a "weed bird" distributed in disturbed sites from southern Texas to Argentina. Hearing another car coming, the kiskadee's body language shows that the bird is paying attention. He holds his head so that his right eye faces the road. The car passes, no insect is left on the road, and the kiskadee "loosens up," changes position, looks around -- until the next car, and then the same routine is repeated, with his right eye fixed hard on the road.

After three cars pass he very vigorously, almost brusquely, wipes his bill and looks around. Anyone not ashamed of interpreting bird behavior anthropomorphically would say that this bird is frustrated because not every car leaves behind a shattered dragonfly.

MIGUEL'S ROADRUNNER

Some days the rain comes so hard that even walking along the road is pointless. Many of the campers, including myself, are so wet and mildewed that the experience is losing its charm. To distract himself from the mess, one day Miguel Antillón Carreón from the Mexican state of Jalisco drops by my sagging tent for a chat. He's noticed that I'm watching birds and he has a bird story.

One day between Jalapa and Presa Teotitlán he was visiting a campesino, a farmer, and saw a Greater Roadrunner eating with the chickens, and behaving in every way like a chicken. The campesino explained that he had stumbled upon a roadrunner's nest, stolen an egg, put it in the nest of a brooding hen, and now the roadrunner thought it was a chicken. Miguel says that he always looked for that roadrunner when he passed by that place, and that it stayed there for eight months, then disappeared.

THE SQUIRREL CUCKOO'S LONG TAIL

At Témoris we saw that the Black-throated Magpie-jay's long tail sometimes gave it problems when the wind was stiff. The Squirrel Cuckoo, a large, rusty-red bird common in a variety of habitats from northern Mexico to Argentina, also has a substantial tail, not as long as the Magpie-jay's, but thicker, and pretty long as well. One day I see one example of how the 18-inch-long (46 cm) cuckoo deals with its ample tail.

The bird perches at the very top of a medium-size, compact tree. The tree's topmost branches form a fairly regular surface and the cuckoo simply rests its tail flat upon that surface as he looks around.

BIRDLIST #14-b

On the US's Thanksgiving Day, the rain holds off long enough for me to walk along the road between town and the ruins, making the following list:

November 28: latitude 17°30'N, longitude 92°02'W
MEXICO: Chiapas; along road, around ranchos and trees of Maya Bell
Campground, and just below ruins of Palenque

1. Black Vulture
2. Turkey Vulture
3. Gray Hawk
4. Roadside Hawk
5. Short-tailed Hawk
6. Plain Chachalaca
7. Cattle Egret
8. Squirrel Cuckoo
9. Groove-billed Ani
10. Long-tailed Hermit
11. Rufous-tailed Hummingbird
12. Aztec Parakeet
13. White-fronted Parrot
14. Golden-fronted Woodpecker
15. Golden-olive Woodpecker
16. Great Kiskadee
17. Masked Tityra
18. Montezuma Oropendola
19. Brown Jay
20. Blue-gray Gnatcatcher
21. Clay-colored Robin
22. Bananaquit
23. Black-and-white Warbler
24. Kentucky Warbler
25. Magnolia Warbler
26. Orange-crowned Warbler

27. Yellow Warbler
28. Common Yellowthroat
29. Gray-crowned Yellowthroat
30. Northern Parula
31. American Redstart
32. Melodious Blackbird
33. Montezuma Oropendola
34. Great-tailed Grackle
35. Orchard Oriole
36. Yellow-tailed Oriole
37. Blue-gray Tanager
38. Masked Tanager
39. Scarlet-rumped Tanager
40. Yellow-throated Euphonia
41. Blue-black Grassquit
42. White-collared Seedeater
43. Black-headed Saltator

Noteworthy is the real abundance of Wilson's Warblers, with American Redstarts and Magnolia Warblers being very common as well. Even when it's raining these species busily forage among the bushes and trees. What a treat to see the redstart so busy debugging a big, deeply palmately lobed cecropia leaf, a kind of leaf very unlike anything the bird sees during the nesting phase of its life up North.

One of the most spectacular birds in the list is also one of the most "jungly sounding" ones, a fairly large bird (the male being about 20 inches long -- 50 cm), the Montezuma Oropendola shown at the right. My Peterson field guide describes its bubbly, haunting song as being "like water pouring out of a bottle: 5-7 liquid glub's or gloob's, getting higher and faster." The one in my drawing is hanging on its nest, so you might guess that oropendolas are closely related to orioles who build similar pendulous nests. Sometimes you see large, isolated trees in pastures in which several such large nests are hanging, and it's quite a sight. Despite the bird being so spectacular, it's somewhat commonly encountered.

One Magnolia Warbler becomes famous in the campground for attacking its reflection again and again in the side mirror of a pickup truck from Maryland. This goes on the whole morning except for a five-minute period when a Great Kiskadee comes driving the warbler away so he can attack his own image in the same mirror. Several mirrors are available in this campground so one wonders what is so special about this one.

BANANAQUIT & BEYOND

Species in the above lists thrill me the way looking into a big bag of multicolored jellybeans might thrill a small kid. Up north you get so accustomed to seeing the same species again and again, and then here, there are amazing things everywhere, every day.

The Bananaquit at the left is just one of them, a denizen of humid forest borders, plantations, clearings, towns and parks from southeast Mexico down to Paraguay and Argentina. It's almost like a hybrid between a wren and warbler, but of course it isn't. It's its own thing. What a pleasure to see this.

And the rains just come and come, the mildew consumes all, and I have to get out of here much sooner than I wanted.

BORDERLINE CLOUD-FOREST AT YERBA BUENA CLINIC

December 6, 1996

From Palenque I take buses to the state capital Tuxtla Gutiérrez, then, hoping to escape the rain, I head into the uplands, to the tourist town of San Cristóbal de Las Casas. There I spend two or three days, but the rain is heavy there, too, so I leave with little to report but mud.

The circumstance is that during the course of this birding trip I have decided to abandon my life based for the last couple of years in the little French-speaking town of Nivelles, Belgium. I am trying to get permission to become a hermit living in an isolated part of the extensive forest of a friend's large plantation in southwestern Mississippi, but so far nothing is sure about that. At this moment really I have no place fixed to go and am simply tired of traveling.

The new destination is Yerba Buena Clinic just a kilometer or so north of the highland Indian town of Pueblo Nuevo Solistahuacan. I have a long history with Yerba Buena, having published a book about it. The clinic provides free or inexpensive service to the area's impoverished Tzotzil-speaking Indians and is operated by Seventh Day Adventist missionaries. I had no interest in supporting missionary work but I wanted to support the clinic with income from the book.

The narrow, paved road to Yerba Buena is so twisty that I always get motion-sick going there, and this time is no exception. I arrive late one afternoon sick as a dog and with a storm threatening. Though I'm received with the usual courtesy shown any stranger, no one here remembers me from the months I spent writing the book. I'm allowed to throw my tent beneath a shed's tin roof, and this is quite an upgrade from recent weeks.

The next day members of the missionary family arrive and they know me very well. They make me feel very welcome indeed. They say I can have a room in the compound and stay as long as I wish. I offer to work in the garden and do odd jobs. I couldn't have hoped for anything more perfect. I end up happily staying until the last week in January, 1997, when I move to Mississippi and become a hermit.

"BORDERLINE CLOUD-FOREST"

Many years ago I came into these parts looking for interesting habitats with new species of plants and animals. The forest here is mainly oak and pine, but the elevation is around 1800 meters (5940 feet) and the nearby peaks are so often shrouded in clouds that "borderline cloud-forest" exists. At the peaks, trees are small and very gnarly, and their limbs as well as the ground around them are carpeted with thick, spongy, wet communities of moss, lichen, fungus, orchids, bromeliads, peperomias and more.

The clinic owns the land above them, all the way to the peak, and attempts are made to keep the forest intact to protect the water supply. Lately much of the forest has been destroyed by "invaders," local militant Indians who clear the land for themselves and grow corn there. Still, this is some of the most intact vegetation for many kilometers around.

During the last Ice Age, northern biological communities shifted far to the south. When the ice retreated, some plants and animals migrated back north, but others migrated upslope, always staying within the cool zone they preferred. Therefore today you can find isolated mountaintop islands of plant communities in which there are species typical of forests far to the north. Some of these species have evolved into different subspecies and even new species, but others appear to be identical, or almost identical, to their northern ancestors.

For example, in Yerba Buena's oak-pine forest, in which the oaks and pines are southern Mexican species, there are such Eastern North American trees as Sweetgum (*Liquidambar styraciflua*), Blackgum (*Nyssa sylvatica*), Eastern Hophornbeam (*Ostrya virginiana* var. *guatamalensis*) and a dogwood (*Cornus disciflora*), that's become a different species, but is very clearly closely related to a North American Dogwood. For more information on the plants and animals of the Yerba Buena area you can consult the publication called University of East Anglia Mexico Expedition 1987. East Anglia is in the UK. I don't think the paper was published, but a number of copies were bound and distributed.

MIXED-UP SEASONS

On my first day back at Yerba Buena I walk around trying to get a fix on what the season is. By early December the dry season should have begun but the herbage is still lush and green, and roadside weeds, blackberry canes and grapevines are still issuing robust, green sprouts as if it were early summer up north. It doesn't feel like early summer, though, because the high-elevation sunlight is crystalline-sharp. The morning smells like early summer -- crushed herbage, the faint scent of mud and old sweat -- but some of the Sweetgums' leaves are bright red, curling up and falling as if it were the droughty end of fall. Other Sweetgums are as green as a gringo Sweetgum in July. The peach trees express the season all by themselves: At the ends of their black limbs, red-spotted, green leaves cluster in late-summer mode, but along their limbs pale pink blossoms announce the arrival of spring.

The birds don't seem to notice any out-of-whack feeling, though. A Black-headed Siskin lights on a Sweetgum ball and pulls out seeds just as if it were a Goldfinch farther north. A Wilson's Warbler eats a tiny butterfly, first the body disappearing down the gullet, then the folded wings following.

THE LAST BIRDLIST

While at Yerba Buena I make many walks and compile several lists. Only on one day though, my second day there do I make a somewhat serious effort to get a good list, and that's the one given below.

December 7: latitude 17°10'N, longitude 92°55'W
MEXICO: Chiapas; Secondary oak/pine forest, borderline cloud forest, roadside, weedy areas, in and around Yerba Buena Clinic 1 km north of Pueblo Nuevo Solistahuacan, elevation ±1800 m (5,900 feet).

1. Black Vulture
2. Turkey Vulture
3. Squirrel Cuckoo
4. Black-crested Coquette
5. White-eared Hummingbird
6. Mountain Trogon
7. Acorn Woodpecker
8. Hairy Woodpecker
9. Northern Flicker
10. Yellow-bellied Sapsucker
11. Spot-crowned Woodcreeper
12. Barred Antshrike
13. Greater Pewee
14. Tufted Flycatcher
15. Green Jay
16. Band-backed Wren
17. House Wren
18. Plain Wren
19. Gray Catbird
20. Rufous-collared Robin
21. Brown-backed Solitaire
22. Eastern Bluebird
23. Cinnamon Flower-piercer
24. Solitary Vireo
25. Black-and-white Warbler
26. Black-throated Green Warbler
27. Hermit Warbler
28. MacGillivray's Warbler
29. Nashville Warbler
30. Red-faced Warbler
31. Rufous-capped Warbler
32. Townsend's Warbler
33. Wilson's Warbler
34. Painted Redstart
35. Great-tailed Grackle
36. Blue-hooded Euphonia
37. Hepatic Tanager
38. White-naped Brush-finch
39. Black-headed Siskin
40. Rufous-collared Sparrow
41. Rusty Sparrow

42. Song Sparrow

BROWN-BACKED SOLITAIRE AT DAWN

From daybreak until around 8 AM while making the above list, the Brown-backed Solitaire produced a nearly continuous outpouring of its bubbling, echoic, glorious call. My Peterson Field Guide describes the call as suggesting the "cranking up of an old-time motor car; it starts off with wenk, wenk, then catches and takes off at a fast pace with flutelike notes, etc." When the singing finally ends, the landscape suddenly feels empty and less dramatic and meaningful than just moments before. The Brown-backed Solitaire defines this land.

CIOAC

The seasons are out of whack and life in these mountains also is out of whack. One morning I walk into Pueblo Nuevo for a hot meal of beans and scrambled eggs a la mejicana. I take a seat at the only table in a hut with a ceiling so low I must bend. The structure is open on the street side and the street is a pure quagmire of mud. While I eat, a couple arrive, the man riding a burro and his wife dressed in Indian style, barefoot, walking and carrying goods to sell on her head. They enter the restaurant and sit across from me. The man orders a meal for himself. The wife sits next to him facing him, thus holding her body at a right angle to me, never once looking at me, and she eats nothing, simply watches him eat, belch, and pick his teeth as he stares at me. She looks very embarrassed, and also very tense and scared. Her face is as intelligent as his is aggressive and impudent. He knows I speak Spanish and that I'm interested in talking, but he just stares at me, saying nothing.

The highway crosses Yerba Buena's property. On the upslope side which the clinic is trying to preserve forested for the water supply, there's an old sign in Spanish asking people to not pick the flowers or cut firewood. This has been painted over with the letters CIOAC, the name of the local group of poor people organizing to seize properties by force. On the cistern upslope someone has scrawled "Tomado por CIOAC" -- "Taken by CIOAC."

On Christmas Eve there's a great deal of drinking among the men in town and late in the day a large, angry group comes to the entrance road, but are talked out of entering the compound. People in these parts believe that there's a law that if someone finds unused land or an empty house they have a right to take possession of it, so I spend Christmas Eve sleeping in one of the clinic's isolated houses, hoping to not be "invaded." Happily, on Christmas Day, things are quiet and nothing has happened.

Population density in this land is simply too high for the resources available, so even in a community that for decades has received free or very inexpensive medical service, large numbers of people are turning against those who earlier helped them. Nothing is sacred when population density outstrips the ability of a habitat to sustain life.

ACORN WOODPECKERS

One of the most characteristic birds of the oak-pine forest here is the Acorn Woodpecker, a fairly common species along much of the US West Coast, the US's Desert Southwest, Mexico's western mountains, and in the highlands on down to Colombia. It's a pretty bird, boldly marked black and white, with a red cap and white eyes on a black background.

Here Acorn Woodpeckers constantly fly around making high-pitched fussing notes. There is no way you can see this bird without thinking about its social structure.

Acorn Woodpeckers are cooperative breeders. They live in flocks composed of up to six "cobreeder males," three "joint-nesting females," and several "nonbreeding helpers" of both sexes. Cobreeder males are brothers and/or fathers and their sons, and they compete to mate with the joint-nesting females, who are sisters or a mother and her daughters. The females lay their eggs in the same nest cavity. Offspring produced from this communal nest may remain in their home flock several years as nonbreeding helpers, during which time they help feed younger siblings.

This kind of mating system is known as polygynandry. All individuals within the group are close relatives except that cobreeder males are not related to joint-nesting females. Incest is avoided because helpers only become cobreeders when breeders of the opposite sex die and are replaced by unrelated birds from elsewhere. Reproductive vacancies are often filled by a unisexual set of siblings who compete against other sibling groups in spectacular power struggles. Winners of power struggles become cobreeders in the new group, while losers return home and resume nonbreeding helper status.

But, I don't see any of that here -- not that I know of. It took naturalists a while to figure all that out.

INTO THE CLOUD FOREST

On December 28 I hike all the way upslope, across cornfields cleared by "invaders," through woods echoing with the chopping sounds of locals taking firewood from the clinic's property. At the top I'm appalled to see how things have changed since I was last there maybe ten years ago. The forest itself is much hacked over with the spongy carpet of moss and lichen now much less dense, and seriously invaded by rank weeds, such as Bracken Fern, Plantago, Galinsoga and Prunella.

Worse, from here I can see across several mountain ranges, probably into Guatemala, and what used to be mountain forest patched with a few cornfields now is nothing but weeds, eroding soil and exposed bedrock. The ecology of this land already is destroyed, with only weeds holding a little soil in place. Yet every day there are more and more babies. I'm told that now communities of invaders are even invading the land of other invader communities.

Among the stunted remaining trees at the top, now mostly just species whose wood doesn't burn well, is a Tufted Flycatcher, a denizen of pine-oak and cloud forest, but I find no other species typical of this unique habitat. A Red-tailed Hawk circles above, the same species I grew up with in Kentucky and, like there, a species of fairly open land, not of cloud forest.

TO BECOME A HERMIT

Through January I just take short walks and make no serious effort to find birds. I am filled with the sense that the destruction and manner of living I see here will gradually spread throughout the whole Earth, and already it is too late to stop it. During the last decade I have seen this in most Latin American countries, in Madagascar, and India, so this is not something new with me. What's new is seeing how fast it has come into this part of the world where I have spent so much of my life, and which I love so much.

Sometime in 1996, on a BBC program on my shortwave, I heard a philosopher suggest that the dawn of the Internet eventually may be regarded as at least as important, if not more so, than the invention of the book. Yet as 1997 dawns, I don't even know what the phrase "browse the Internet" means.

At last my invitation to move into the forest of southwestern Mississippi to live as a hermit arrives, and among my reasons to go there are that I plan to focus with few distractions on mastering the Internet. Perhaps via the Internet I may be able to somehow ameliorate the coming ecological disaster. I don't know how I'll do this, but I do know that I must try.

The picture at the left shows me at Yerba Buena, surprised at the typewriter as I pull together the notes you have just read. For more information on what happens to me now, you can visit my updated biography.

*** THE END ***