Sent to Duncan 1/4/99

1338 words of text

Datus Proper
1085 Hamilton Road
Belgrade, MT 59714
(406) 388-3345

QUAIL IN THE BORDER COUNTRY

1. OLD COUNTRY (the region and its quail)	171 words
2. GRASSLAND (hunting scaled quail)	297 words
3. ISLAND IN THE SKY (hunting Mearns' quail)	236 words
4. TREASURE OF THE SIERRA MADRE (Mearns' as trophy)	131 words
5. PANACHE (Gambel's)	349 words
6. TROPHIES ON THE TABLE	154 words
total text	1340 words

[I have avoided the term "desert quail," which does not well describe even the Gambel's.]

1. Top of Scaled Quail Picture

OLD COUNTRY (171 words)

The arid Southwest looks unfinished, to us newcomers -- a land in need of landscaping -- but these prairies, mountains, and deserts are the oldest ecosystems in America. They were old already when my European ancestors were painting themselves blue and throwing spears at hairy elephants, old when much of the New World was covered by glaciers. Life down here has had forty million years to specialize, with some curious results.

The scaled quail, for example, does best in a particular kind of grass. Mearns' quail -- experts in eccentricity -- dig bulbs and tubers from soft black soil under evergreen oaks. Only the Gambel's quail comes close to being a generalist, and then only in an area smaller than that of, say the ringnecked pheasant, which has adapted to cooler and wetter places around the world.

So forget the snowy north, Yank, when you hunt the border country. What you and I know, we did not learn here. We are strangers, swinging south with the sun, hunting old birds that are new to us.

2. Right of Scaled Quail Picture

GRASSLAND (299 words)

"You find scaled quail where you find tabosa grass," said Web Parton, who was in the stuff up to his boot-tops. Web -- an Arizona guide -- had brought two hunters and a pride of pointing dogs to Arizona's Chihuahuan Desert. We were near the Mexican border, but there was no saguaro cactus, no bare sand, nothing like a John Wayne movie -- just grassy fields with prickly pears, occasional windmills, and one longhorn bull ambling past us on his way from nowhere in particular to somewhere else in a ranch measured by square miles.

Mal país, the Spanish explorers called it: Bad land for horses stumbling on lava rocks under that fluffy grass. But good for scaled quail. They used the rocks as a racecourse, then rippled into the air far ahead of us -- thirty, forty, maybe fifty birds -- and where they landed, Web's setter half-pointed, then moved on.

A quirk in the flock's behavior let us catch up. Quail peeled off in singles and small bunches and our dogs pointed the secessionists and we flushed them, one, two, three at a time, gray shadows skimming tan grass, and the dogs pointed again and we hunters tried to do our part, but it was hard to swing a gun fluently with each foot on a rock the shape of a football.

The return trip worked better. We were pushing singles and

pairs away from their flock now, and they held well except for a little sprint before flushing where I was not looking. The trick was to get my feet turned in the right direction. I knew how to do it. Sometimes the rocks let me do it. And three quail were enough for dinner anyhow.

3. Top of Mearns' Quail Picture

ISLAND IN THE SKY (236 words)

Far up a shady canyon we found water-carved stone and then, in sand beside a clear pool, the curious, long-toed tracks of Mearns' quail. Our dogs jumped in and drank deep. First to climb out was a gray-muzzled shorthair who shook water all over us, then nosed around and followed old scent up the canyon's steep side.

Not us humans. We polished a granite boulder with our jeans, pondered the gravity of the human condition, and half-hoped that Old Dog would not find hot scent. But he did.

"Your turn," Web said.

So I plodded uphill, skirting thorny ocotillo, pushing through dense manzanita and, in a few hundred yards -- vertical yards -- stepped into a grassy highland shaded by live oaks. Above the prickly part of the world was this island in the sky.

Old Dog's beeper sounded from the shady side of an oak. I walked in from its sunny side, heard a fluster of wings, passed up a little brown Mearns' hen, tried for a gorgeous black-and-white cock, and brought down nothing but glossy green leaves. But I saw where the quail landed and Old Dog had enough sense to follow me, for a change, till he hit scent in tall nut-grass.

With open shots over points like that, I usually aim very carefully and miss. But this time I got my trophy bird.

4. Right of Mearns' Picture

TREASURE OF THE SIERRA MADRE (131 words)

Mearns' quail have a collection of traits that seem borrowed from every other game bird. The males are big and colorful, the females small and drab -- a pattern more like that of pheasants than other North American quails. And the Mearns' staple food lives underground, like that of the woodcock. But this quail digs for its dinner, which requires long claws, which prevent perching in trees, though the Mearns' highland habitat is almost as wooded as that of ruffed grouse.

And finally, not even bobwhites will hold in peach-fuzz cover and wait you out like the Mearns'. If you have a dog that will cold-trail and stand a long time on point, you will love this bird.

If you don't, try Gambel's quail.

5. Top of Gambel's Picture

PANACHE (349 words)

In the last act of the play, Cyrano de Bergerac loses everything but his panache, which is the feather in his helmet -- and the attitude you would expect from a guy like that.

Gambel's quail share Cyrano's plume and presence. Other birds know their place, but this one ventures into the mountains with Mearns' quail, competes with scaled quail in the grasslands, and occupies both Sonoran and Chihuahuan deserts. Core Gambel's habitat is desert scrub -- mesquite and other brush mixed with grass -- but the little quail with a topknot leaves tracks throughout the region, from Utah's red-rock country into Borderland sand.

I followed those tracks on my first visit. I had no bird-dog to help, so I drove to the Rio Grande, scouted its banks, and hunted up a dry wash with a riddle of tracks on a smooth sandy bed.

There was no energy connected to the footprints, nothing but hope to keep me going, and finding any form of life seemed unlikely in that transparent barren. But in a mile, or maybe two, the desert grew feathers and rolled along forty yards out front, chaos on legs. I used maybe a pound of shells and came back with six ounces of bird.

On dry sand like that, the little plumed quail are

democratic, meaning that they are equally nasty to a wide range of humans and dogs. But Gambel's are adapted to a boom-and-bust cycle. The desert blooms after good winter rains, and birds lay more eggs, and quail with panache appear everywhere.

There is a catch. If the ground-cover is so thin that you can see the quail, they will see you too, and start running. You can chase them, as I did on that first try. And maybe you are a better shot.

The alternative is to hunt where you and the birds cannot see each other. It may take some scouting to find desert scrub in its original condition, but where there is good grass under the brush, Gambel's (some of them, anyhow) will hold tight for a dog. You might even come back with your vest heavier than when you left.

6. Right of Gambel's picture, space permitting

TROPHIES ON THE TABLE (154 words)

Gambel's and scaled quail are a treat when grilled at home or in the field. But please do not skin them and dunk them in a marinade; you don't want your beautiful bird to taste like Mystery Meat. Pluck the feathers, then open the quail along its spine with game shears, remove the innards, and broil over mesquite coals. Salt to taste and brush with melted butter or olive oil.

Something in the exotic diet of Mearns quail makes them culinary trophies -- truffles of the bird world. Hunt them with a wide-open pattern of #9 shot, which brings them down undamaged (aside from being defunct), then bring them home in your airplane luggage. Age for a week, pluck, dress the quail like little Thanksgiving turkeys, brown all sides in butter over medium heat, and roast until juices in the body cavity run almost clear. Then wipe the dust off your best bottle of red wine.

Sent

January 4, 1998

Mr. Duncan Barnes
Field & Stream
2 Park Avenue
New York, NY 10016

Dear Duncan:

Here's the text to accompany Eldridge Hardie's paintings. I tried to catch the three quails' different habitats and personalities.

Web Parton donated his services, but I picked up the bill for his room and board at the Price Canyon Ranch -- $217. My cost was the same.

Yours,

Enclosed:
Quail in the Border Country
Diskette
Web Parton's bill for room and board.

- Thanks Web for pictures
- Start on story?
- View slide + see if work.

Eldridge Hardie

SPORTING ART

Spring 1998 Newsletter

❖

After closing out the season with a quail hunting and research trip to the Thomasville, Georgia area, I've been putting all the experiences and impressions of a varied and exceptionally satisfying past year to good use in the studio. Trout fishing out here in the West will be on hold for a few months for the spring runoff, so Ann and I will take a break in the Bahamas in early May - more flats fishing inspiration to take to the easel! I hope you have something *great* planned in the outdoors this spring too.

PUBLICATIONS ~ Since my last newsletter, my artwork has been featured in the March/April *Pointing Dog Journal* and the Winter issue of *Double Gun Journal*. My work also appeared on the covers of the sporting catalogs of Bob Allen Sportswear and Boyt Harness Company. I continue to paint pieces for Charlie Waterman's regular column in *Fly Fishing in Saltwaters*. I've recently done pencil drawings for the dust jackets of two Tom Kelly books, *Tenth Legion* and *Dealer's Choice*, published this spring by Lyons Press. (The original drawings are for sale.) *The Angler's Journal* profiled my work in their Winter magazine. Look for an article about me in the July/August issue of *Sporting Classics* written by Tom Davis.

SHOWS ~ This winter I participated in an auction at the new Las Vegas Fine Arts Museum and in Settlers West's annual February show. Later this year, I've been invited again to the *Western Visions Show* at the National Museum of Wildlife Art in Jackson, Wyoming, the *Fall Classics Show* in Elko, Minnesota, and the *Great American Artists Exhibition* in Cincinnati.

OTHER ~ It's been several years since I've published a print, but this fall I'll be offering a very limited signed and numbered fine art edition of a recent watercolor titled *Chance for a Double ~ Ruffed Grouse*. I will be mailing an announcement in plenty of time for holiday shopping.

And finally, for those of you who have told me you are looking for a particular subject, I will let you know about new work that might fit your need, or if you would like to discuss scheduling a painting, let me know.

Dear Debus - Now that I have your mailing address, here is a slide of the scaled quail watercolor which was the first piece I did. Also, Web wanted me to send these slides of [illegible] with them. I've just finished an oil [illegible] hairs + will still have to do a Gambel's painting + [illegible]

I hope you had a good trip to [illegible] Tx - by Chris. It gives me some perspe[illegible]

Ed

2382 South Fillmore Street / Denver, Colorado 80210 / (303)756-5662

Scaled Quail's nice feature: flitting off in ones & twos (or 3s & 4s), so that
|| you are following a covey but hearing singles.

Do you have any kids? (Love me anyhow story)
No.
Yeah, you do.

millions of ~~years~~ ancient lives paying no attention to you.
Eons of wind-scoured strata. ~~paying~~
Strata fine as rings in a [illegible]
Swirling lines fine as {Navajo / Indian} pottery

Love me anyhow? (Val & the folded note.)

Bad Lands, Good ~~Bears~~ Birds. (Malpai & scaled quail)

Bad Leg, Good Dog, (3-legged Emma.)

Country = pastoral/agriculture

Wide open ~~lands~~ spaces = sublime.

Badlands. Good birds.

Plains love-grass
Side-oats Grama
threeawn
Beard cane grass
Tabosa
sprangle-top.
Lava rocks with grass between
like a lawn that's gone wild

Cholla
Filaree
prickly pear
false mesquite
Whitethorn acacia
Soap-tree yucca
(Sopa pilla)

Shorthair w/ pore ~~fur~~ - Sage in the grass
despite heat 40 lbs. slim, long-legs
2 years old

Longhorn Bull walking by grandly

Emma — 3-leg ~~on them~~ bloody tail. Continue.

"Good work by the dog" (after a double miss)

Mal pais with good grass, - hence scalies.

Covey running, pooling off. Like singles before the covey rise.

(Scale Quad) Grassland

A2 trip

Stories Emma

Bad leg. Good heart.

(Life) Bad lands. Good kinds.

Warner Mtns

~~Tonto~~ Tabosa grass

Side-oats grama

Cane mesquite

Patota - spring creek - good for grass

Low foreground, big leaf.

Mature almost as valued

Would need 400 mother/calf pairs

to support a family -

Would need 40 sections in this country.

~~Here~~ Big Bing 6-8" rain per year.) in

8-10" better.) Valley

4000' elevation at ranch.

Means live in Ohio Country

but need moist soil to

their diet.

dark soil with holes

show birds have been

digging.

Does nothing like bird

in the real world.

most beautiful of our

native upland birds.

A vertical species.

W. SS & dogs. (all W. SS)

He gentle. Mum.

Save 3-legged Emma.

I am writing ~~this~~ after the (Or 2
bird.

This is emotion
recollected in tranquillity.
You can't write
Birds you are hearing —
can't see you + [illegible] at
the same time. But
under the
~~the emotion~~ emotion makes the
tranquil grow ~~better~~.
You have to calm down, but
your heart-beat also.

(in a good year,)

"There are too many

Hamlets. A hunter is

supposed to hunt,

not just stumble in

to a bugging conversation

& miss with a bow & arrow.

~~There~~ Who is charge

around here? Let's

have a little respect.

I want ~~to come up~~

Javelin: Odd that the Irrigated part of America produces more game birds than any other.
Javelin in some valleys were so abundant, once, that (Quote expert). But water is still the key — rivers, ~~spring~~ rains to grow verdure, cover.

Good eating, tender as { ocotillo / cactus } is tough.

Desert (Badlands)

Gambels – vignette
of gour

in groun.

Pencil drawings of
English & other birds
& select general bird.

// Starvation on canyon –

The desert may be
manmade (ask Web), but
Gambels can use it
anyhow.

~~Dog~~s

1) Scable: pointer for the head & distance.

Little prairie chicken.

2) Meaux: Cito the cross-pointer

3) Tambel: dance & it & know. Nothing works, & Everything

The 3 grains,

Crumbs are also ~~[illegible]~~

one you can hunt with

any reasonable dog or none

at all. NB that the

grain handles well: they

don't hold at all, most

of the time. And you can

find them w/o dp.

Retrieve is the puppy main

duty.

FIELD & STREAM®

DATES
Added B&W SPOTS
of WEBB & Windmill.

DB

Times Mirror Magazines Two Park Avenue, New York, NY 10016 (212) 779-5000

FIELD & STREAM®

11/11/98

Dales,

Here's the rough design for Desert Quail.

You got 1000 to 1500 words to play with.

Call if you need to discuss.

Thanx

D Barnes

Call Duncan

Times Mirror Magazines Two Park Avenue, New York, NY 10016 (212) 779-5000

Handler gave me no confidence in my shooting but taught me something about dogs. They did not "come on strong" with all the ~~running~~ running + shooting and no points.

Pointers do have a habitat, but it is broader.

Adventurous + unspecialized. Start here + maybe end here. Ready to help any good dog.

~~Badlands, goldfinch.~~
(Desert)

Gambels: the desert quail that likes water.

Rem - + jump a little too far.

Hunt winter bottoms, after dry winters, all over after wet winter.

~~Gambel's~~. The ~~topknot~~ plume

Sleek-feathered; look small in air
Sonoran Desert
mesquite to

Mesquite is the plant. And Cacti:
+ Catclaw acacia, prickly pear, cholla,

Lives in ~~that tough~~ saguaro the desert you expect in AZ – tho' it may be manmade.

But see tracks ~~of~~ even in mountains. Everywhere in southern + western AZ

" Easy to see where they have been.
Hard to find where they are, because they run like antelope.

" Hard to walk a quarter-mile in AZ w/o seeing ~~quail~~ tracks of quail – Gambel's, quail, coveys. But you can walk miles w/o seeing the quail themselves. Look for lots of tracks. Look for beady-eyed bugs wondering which way to turn.

Versatile, adaptable. Even nest in trees. Thrive in backyards where folks use desert vegetation.

Need succulent greens – but not water itself

Gambels are ~~generation~~ generalists.

Webb likes strategy involved

always darting, weaving,

Hold tight when they stop.

(Sage - shorthair pug.) (Emma - 3 legs.)

Dog must know when to be cautious + when bold.

(w/Gambels, patches by dog much shorter than with Scalies.)

Hunt Gambels in good ^bunch grass / pigeon grass cover. Not snakeweed, ^or burroweed, - (Pick the right cover.) indicators of range damage.

Look w/ ~~th~~ bindweed ^stars w/ good yellow grass.

Webb has seen ~~al~~ very few flushing dogs used on ~~quail~~ Gambels. And don't handle heat well. Pointers handle heat + lack of water best.

Most ~~arizonans~~ serious { AZ bird hunters use pointers - for climate + water.

Gambel need heavy winter rains from October through March. Grows (non-native) plants: filaree + short green grass called (erodium?)

See David Brown book, p. 170.

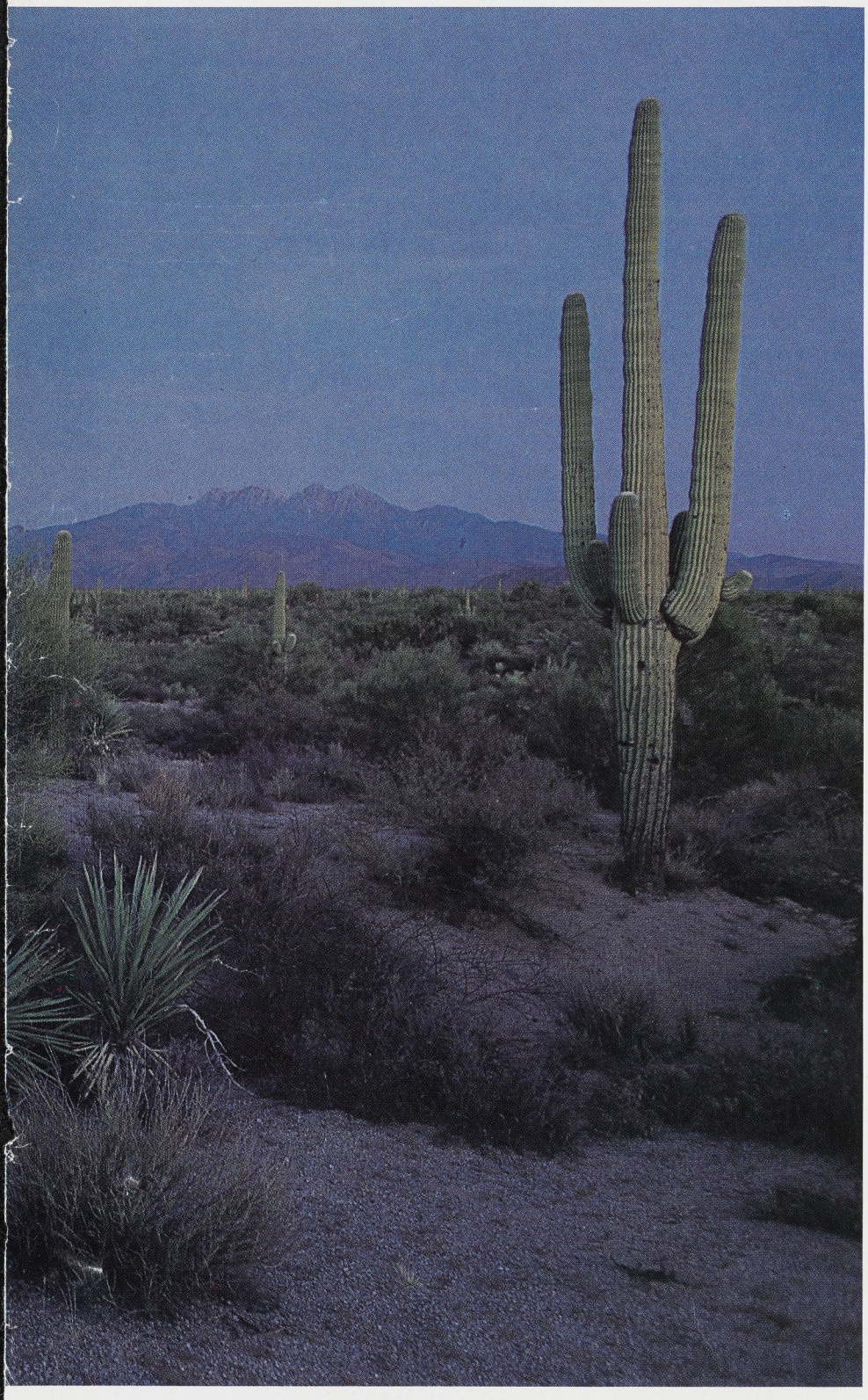
Broadleaf filaree (erodium)

Rains grow a kind of filaree (weed) + chi zmuth grass

{Call next year to West for good Gambel hunting. By June / July!

Desert Vista, Arizona

by Robert H. Mohlenbrock

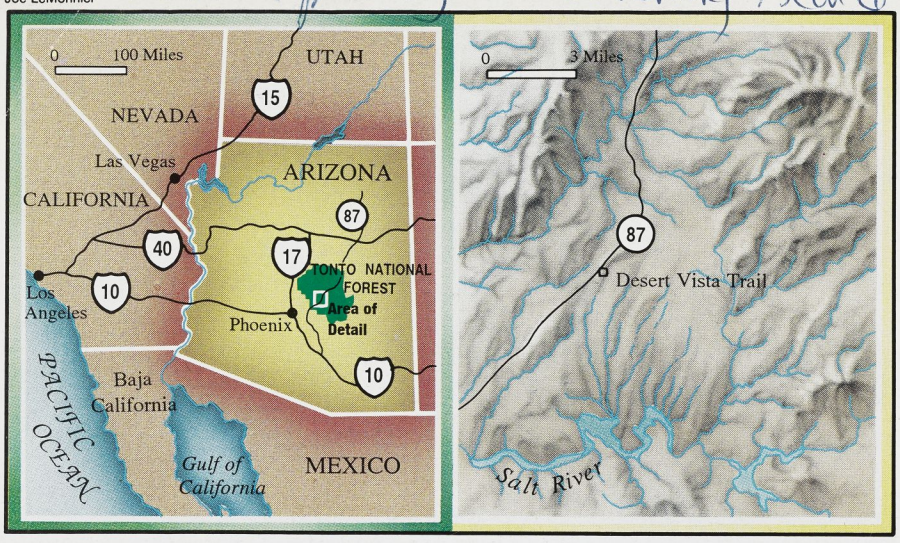


From a convenient parking area forty miles northeast of Phoenix, Arizona, the Desert Vista Trail meanders over an undulating sandy terrain in the Sonoran Desert. Maintained by the Tonto National Forest, the quarter-mile-long trail provides a close-up snapshot of one of North America's largest deserts. Extending from southwestern Arizona and southeastern California into Baja California, the Sonoran Desert encompasses 119,000 square miles, including 2,360 miles of seacoast along the Gulf of California. Three other great deserts lie nearby: the Chihuahuan Desert to the east and the Mojave and Great Basin deserts to the north. Of the four, the Sonoran Desert has been dry for the longest time and has acquired the most complex assortment of plants, a subtropical type of vegetation midway between temperate and tropical floras.

In their chapter on the Sonoran Desert in *The Reference Handbook on the Deserts of North America,* biologists Frank and Carol Crosswhite have traced the drying out of the Sonoran Desert to 40 million years ago, when, they believe, a semipermanent area of atmospheric high pressure arose off the Pacific coast (such a system exists today, blocking the moist air masses that form over the ocean). Then, 12 million years ago, tectonic movements separated Baja California almost entirely from the rest of the continent. Stretching, thinning, and faulting of the earth's crust resulted in the formation of a huge basin, which became hotter as the elevation fell. While the basin subsequently partly filled with seawater, creating the present Gulf of California, the Sonoran Desert has remained extremely dry for a number of reasons. The Crosswhites point to the high-pressure system that repeatedly forms off the Pacific coast; the cold north–south ocean currents off the coast of California, which encourage any moist air heading toward the continent to shed its moisture into the ocean; and the rain shadow, or blocking of moisture, caused by the mountains that rise above the desert.

The Sonoran Desert receives some rain in both summer and winter, ranging from an average of thirteen inches annually in

Joe LeMonnier



Desert Vista

For visitor information write:
Supervisor
Tonto National Forest
2324 E. McDowell Road
Phoenix, Arizona 85010
(602) 225-5200

the east to little or no rain in the west. The late desert authority Forrest Shreve recognized seven regional divisions of the Sonoran Desert based on the type of vegetation, which is influenced by latitude, elevation, and topography. The Desert Vista area falls into the Arizona Upland Division, where hot and dry conditions for most of the year are interrupted by seasonal precipitation, especially violent summer thunderstorms with heavy runoff. Because of the intermittent rain pattern, the vegetation is sometimes dense, sometimes sparse, and usually consists of several layers of plants, from dwarf cactuses that hug the ground to giant saguaro cactuses that may stand more than forty feet tall.

In the flatter regions of the desert, where the soil is deepest, creosote bush, which may make up as much as one-fifth of the vegetation, is mixed with whitethorn acacia, catclaw acacia, and several kinds of cholla cactuses. On hillier terrain, the plants increase in diversity, if not in numbers, because of the variation in conditions. Trees and large cactuses dominate: foothill palo verde, mesquite, desert hackberry, ocotillo, large barrel cactuses, and the incomparable saguaro. Small perennials that frequently grow here are the Christmas cholla cactus, desert zinnia, and brittlebush. Washes—ephemeral rivers whose beds are dry for much of the year—are lined with desert willow and blue palo verde.

All plants that live in the desert must be able to endure high temperatures and fierce solar radiation, coupled with a limited and irregular supply of water. A great number of desert species are annual wildflowers that spend most of their life cycle in a dormant stage. Known as ephemerals, they only spring to active life following a rainy period, blooming and forming their seeds in a short time. The ocotillo, a perennial that typifies another category of desert-dwelling plant, forms leaves after a rainy period, only to drop them once droughty conditions return.

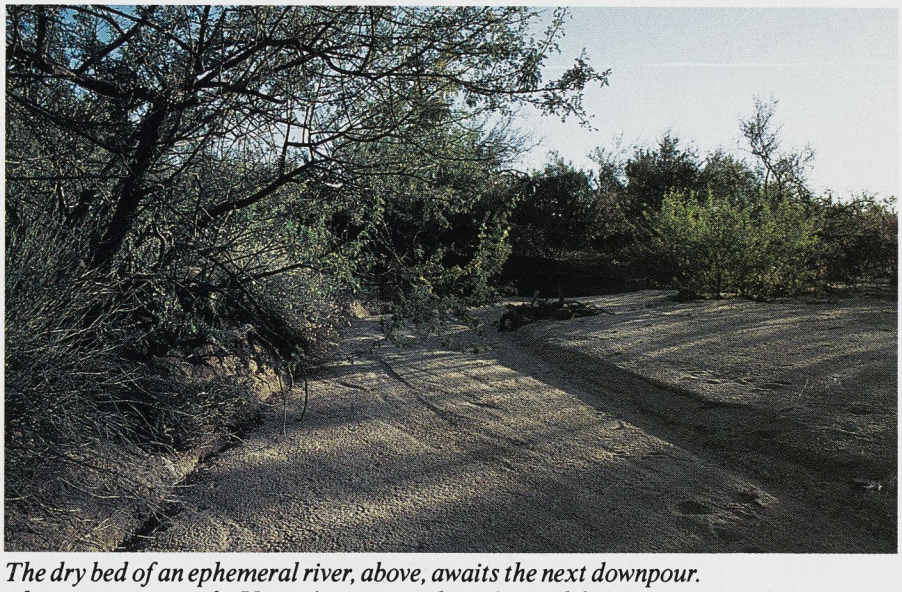
Drought-enduring evergreens, instead, are shrubs or small trees that keep their leaves throughout the year. These plants all have some device to prevent excessive loss of water from the leaves. Desert hackberry has a thick wax coating, while the abundant creosote bush has resinous leaves (the resin also deters browsing animals). Desert marigold has leaves covered by dense mats of hairs, which not only slow down water loss but also reflect sunlight. The catclaw acacia has minute leaves that reduce the amount of leaf surface exposed to drying forces. In jatropha, the stomata—the openings in leaves that permit the necessary exchange of carbon dioxide and oxygen—are recessed.

In cactuses, the water loss is minimal because the leaves have evolved into spines, while photosynthesis is carried out in the thick, green stems. Saguaros have active chlorophyll-bearing cells buried as much as three inches deep in their stems.

To collect moisture, some desert plants, especially those that live along the washes, have long root systems. Creosote bush has not only a deep root system but also many roots just beneath the surface of the soil, which absorb water effectively during and after a rainfall. Many desert species, including the myriad cactuses, are succulents, fleshy plants equipped with special cells for storing water. Most succulents have shallow roots that take up water quickly when it rains.

Recently, scientists have discovered that desert succulents usually have a special mechanism for photosynthesis. Most plants open their stomata during the day, when photosynthesis takes place, to permit the exchange of carbon dioxide and oxygen. But to prevent water loss when the sun is most intense, these succulents close their stomata. Instead they take in carbon dioxide at night and sequester it in the form of organic acids. Then, during the day, the organic acids release the carbon dioxide needed for photosynthesis.

"This Land" highlights the biological phenomena of the 156 U. S. national forests. Robert H. Mohlenbrock is Visiting Distinguished Professor of Plant Biology at Southern Illinois University at Carbondale.



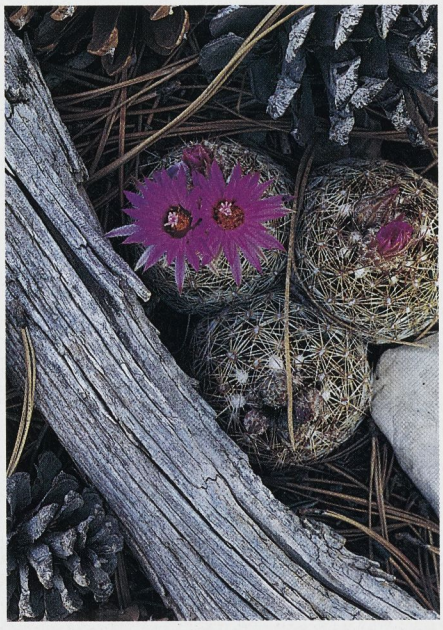
The dry bed of an ephemeral river, above, awaits the next downpour. The common name for Yucca baccata, *right, is Spanish bayonet.*

Diamond Point, Arizona

by Robert H. Mohlenbrock

Extending more than 200 miles, from northwestern Arizona into New Mexico, the Mogollon Rim is the irregular southern edge of the 9,000-foot-high Colorado Plateau. Along the rim, the terrain may drop rapidly down to 6,000 feet, before beginning a much more gradual descent down to 3,000 feet. A moist, ponderosa pine forest prevails on the plateau, while the region below is dry, supporting scrub forests and desert plants.

Much of the Mogollon (pronounced muggy-own) Rim area falls within four national forests that offer visitors a variety of campgrounds, picnic spots, fishing lakes, and scenic trails. One natural attraction—Chitty Canyon, Arizona—was featured in the August 1994 issue of *Natural History.* Another is Diamond Point, a protuberance that is part of the rim topography, but which lies ten miles south of the plateau, rising from a 6,000-foot base to 6,384 feet. Located in Tonto National Forest, Diamond Point receives its name from the quartz crystals scattered over the rocky terrain and included in many of the rocks. In the sun, Diamond Point truly glistens.



Century plants and other chaparral vegetation cloak Diamond Point, left. Above: Cushion cactus blooms

All photographs by Jack Dykinga

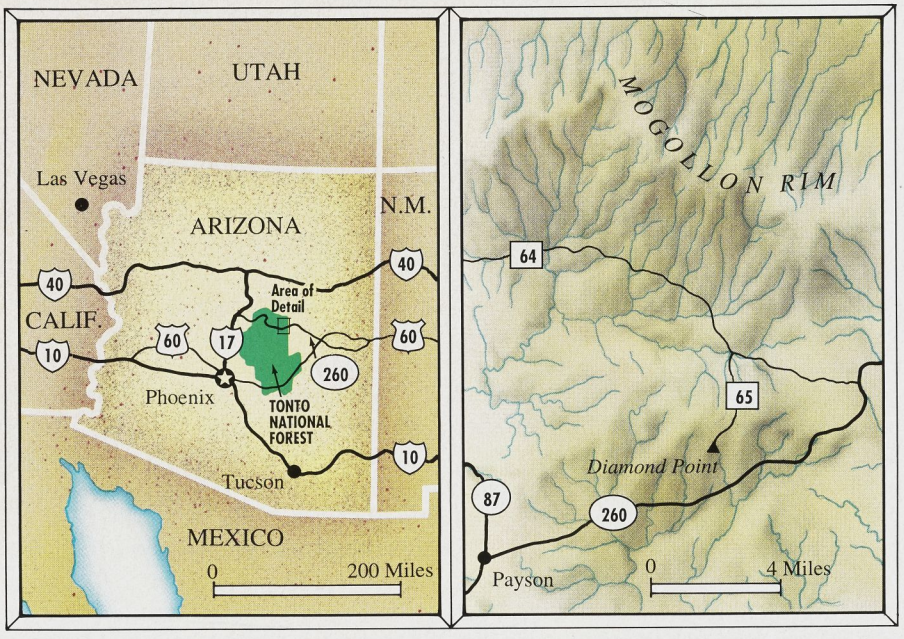
Part of the route to Diamond Point—along what is known as the Control Road, or Forest Highway 64—parallels a stream. New Mexico locust, Lowell ash, and Arizona walnut line the streambank, while grasses cover much of the forest floor. Here and there, a touch of color may be added by the blooms of lupine, scurf pea, beardtongue, milfoil, wild geranium, or the shrubby wild Arizona rose. But after the final turnoff onto Forest Highway 65 toward Diamond Point, this lush vegetation falls behind. As the road begins to climb above 6,000 feet, the soil becomes extremely dry and rocky, and the plant life gives way to a uniquely western habitat known as chaparral.

The word *chaparral* derives from the Spanish for evergreen oak; in Arizona it refers to a habitat dominated by shrubs and a stunted species of live oak, with relatively little ground cover provided by wildflowers and grasses. In general, Arizona's chaparral plant communities develop at between 3,000 and 5,500 feet, but in some places, such as Diamond Point, these limits differ as a result of slope exposure, soil type, and climate. Below 3,000 feet, chaparral tends to merge into desert scrub or desert grassland. Above 5,500 feet, chaparral usually gives way to forests of small (thirty-foot) pinyon pines, one-seed junipers, and alligator junipers—woodlands that are sometimes considered part of the chaparral but are more accurately termed Madrean woodland for their association with plant communities of the Sierra Madre.

Most of the plants in the true chaparral are trees and shrubs eight to ten feet tall. These plants usually have a multitude of branches; broad, leathery, evergreen leaves; a dense, compact crown; and a very deep root system from which new growth sprouts readily. In the drier sites, chaparral shrubs and trees cover only about 40 percent of the ground, while in more moist areas, they may provide twice that cover.

The most abundant plant is a particular species of live oak that grows only about ten feet high. It has blue-green, spine tipped, hollylike leaves. Almost as common is the birch-leaf mountain mahogany,

Joe LeMonnier



Diamond Point
For visitor information write:
Forest Supervisor
Tonto National Forest
2324 E. McDowell Road
Phoenix, Arizona 85006
(602) 225-5200

a shrub that—like so many other species with dense wood—is sometimes called ironwood. It is a member of the rose family, but its flowers lack petals. Mule deer browse on it, and its seeds and leaves are a staple in the diet of grouse. Another abundant shrub is desert ceanothus, a five-foot plant with small, thick leaves arranged in opposing pairs on the branchlets. Its small clusters of sweet-scented, white flowers bloom during the summer.

The chaparral contains two types of sumac. Sugar sumac has simple, evergreen leaves; the leaves of the other sumac, called skunkbush, are divided into three leaflets. Skunkbush is one of very few plants in the chaparral that shed their leaves in winter, and as its name suggests, its leaves emit an unpleasant odor when crushed.

One striking shrub is manzanita, whose bright green, thick, oval leaves contrast markedly with its twisted, mahogany-red stems, which glisten in the sunlight. The leaves stand vertically with the edges toward the sun, an adaptation that helps reduce water loss.

Datil, a nonwoody, succulent species, is a type of yucca. The leaves arise from ground level, are about two inches wide, and have fibrous threads that hang from the edges. Datil's white flowers are borne on a stalk up to six feet tall.

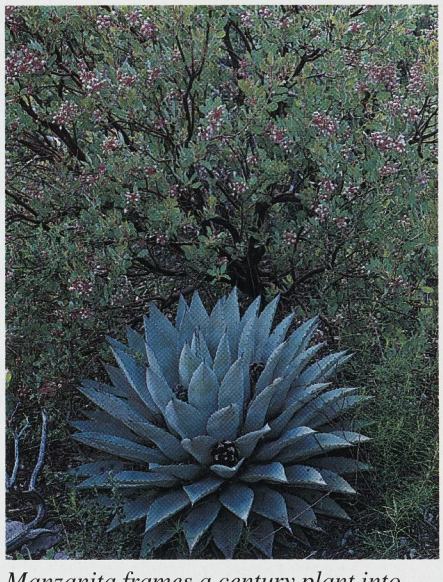
One of the most conspicuous chaparral plants, at Diamond Point and elsewhere, is the century plant. This species of agave has clusters of succulent leaves that often are nearly two feet long and up to six inches wide, with spiny teeth along the edges. After forty to sixty years (not one hundred, as the common name implies), a thick green stalk begins to grow upward from the leaves. When the stalk is about fifteen feet tall, it puts forth clusters of attractive yellow flowers. After producing seeds, a process that takes about six months, the plant withers and dies.

The chaparral's fallen leaves are thick and leathery and do not decay readily, creating a fire hazard. In June 1990, a conflagration in Tonto National Forest came within a few miles of Diamond Point. Known as the Dude Fire (named for Dude Creek), it consumed chaparral and woodland over an area three miles wide and fourteen miles long, killed several people, and destroyed fifty-one cabins, including one that belonged to Zane Grey, the legendary writer of western novels.

Most of the chaparral's woody species are well adapted to survive fires, resprouting rapidly from their massive root systems. Most also begin to produce seeds during the first five years of life, rather than later, which is common in many woody plants. The seeds are often fire resistant, and those of some species will germinate only after being subjected to fire. Plants lacking fire-resistant seeds usually produce a very large number of seeds.

Arizona chaparral and Madrean woodlands grow where winters are mild and summers hot. Precipitation at Diamond Point, averaging about eighteen inches annually, falls primarily during two seasons. About 55 percent falls during the winter (from November through April), usually in the form of gentle rains, while another 35 percent drops during intense thunderstorms in July, August, and September. May and June, the early part of the growing season, are usually dry. Where similar conditions prevail, as in the Mazatzal Mountains twenty miles southwest of Diamond Point, a similar selection of chaparral species appears. But a different chaparral community arises in California, 200 miles to the west, where rain falls mostly in winter.

Robert H. Mohlenbrock, professor emeritus of plant biology at Southern Illinois University, Carbondale, explores the biological and geological highlights of the U. S. national forests and other parklands.



Manzanita frames a century plant into which a few juniper cones have fallen.