

## AN ARIZONA VALLEY BOTTOM.

BY FLORENCE MERRIAM BAILEY.

It was only about a thousand feet lower than our camp in the mesquites and live oaks at the foot of the Santa Ritas and it did not take our good neighbor's Ford long to rattle down the nine miles over the stony desert slope past the mistletoe-hung mesquites and catsclaws of the twenty-three acres where white labels marked my series of Cactus Wren and Verdin nests and we startled ground squirrels and jack rabbits—the handsome white-sided *alleni*—swerving around sharp turns made to avoid washes from mountain canyons, crossing the terrace where the grotesquely jointed bristling cholla cactus afforded nesting sites for numerous colonies of Cactus Wrens and woodrats and a Cactus Woodpecker's nest had been discovered; down at last to the sight that always brought a thrill, the first of the spectacular giant cactus trees raising their long bare arms stiffly straight toward the sky, their riddling Woodpecker holes suggesting questions as to the home sites of the Gila and the Gilded Flicker which we craned our necks to watch fleeing from them as we sped by. And so at last we halted at the gate placarded "Mountain Road" which, shut carefully behind us, let us into Continental, the bungalow hamlet of the Rubber Company on the edge of the Santa Cruz Valley.

It was a drop of only a thousand feet but took us from the atmosphere of the cool mountains to that of the warm valley bottoms. The difference struck us forcibly one morning in late February when after two days of cloud and drizzle in the mountains resulting in a much-rejoiced-over fourteen one-hundredths of an inch of rain, we left the dark wintry mountains behind to look down on light, summery, shadow-streaked desert ranges and descend into the valley sunshine. Another morning when the sky over the valley was gray and parallel lines of rain slanted down toward the desert ranges, they mostly stopped, cut off in a jagged line at the bottom by the blotter-like dry air which, in characteristic Arizona manner, absorbed the moisture before it fell. And even then, although

most of the short ranges of the panorama outspread below us were in shadow, sun shafts illuminated occasional crater-like peaks.

The fact that rubber and Egyptian cotton were being raised, albeit experimentally at 2900 feet altitude in the Lower Sonoran zone, showed our southern latitude. The wild native cotton bush, however, grows in the zone above along the lower canyons. On a tent top overlooking the rubber plantation a Palmer's Thrasher seemed to have established his singing post, shouting out loudly enough for all the workers of the village to hear, both the Mexicans setting out young rubber plants in the experimental garden and those putting the three-year-old bushes, which looked much like gray sagebrush, into the crusher, roots, trunks, leafy branches and all, to extract the rubber.

Just below Continental with its bungalow hamlet and adjoining adobe Mexican village, across the tracks of the Tucson-to-Nogales spur of the Southern Pacific, we drove down into the fertile bottoms of the Santa Cruz River which were teeming with animal life—that of both bird and beast. While the wide river bed was dry except for an occasional narrow wet streak, large greening cottonwoods spacing one bank and dense thickets, logs, and flood trash along the other showed that at times the river lived up to its traditions.

In its confused mass of flood trash numerous wood rat houses—large piles of sticks, leaves, and rubbish—were found, and both the thickets and the sandy river bottoms were so tracked by small mammals that the Mammalogist after eagerly naming the footprints got excited, declaring that it was one of the most richly populated mammal grounds that he had seen in all his forty years of field experience. Not that there was such a great variety of species, but such a superabundance of individuals. The thickly tracked bottoms must have presented an animated scene under the full moon, we thought. The most abundant of all the small mammals proved to be the typical desert kangaroo rats, one species of which, barely found at the altitude of camp, was the commonest of all. Two other mammals not found above were the destructive cotton rat of the southern cotton fields and the little round-tailed ground squirrel, here found significantly living in a dyke protecting one of the fields of the Rubber Company. One species of the handsome kangaroo rat we were sorry to see was also making holes in

the dyke. A small side gulch was found especially good trapping ground for the still smaller mammals and visiting the live traps set in niches in its walls of a morning had the interest of visiting the cages of an unfamiliar zoo.

By day the sunny bottoms were full of bird life, and in March and April, ringing with bird songs. A small covey of Gambel's Quail were occasionally flushed or heard talking as they trotted along and once four ran ahead of the Ford so long that it was suggested they had not time to fly. On different days the Canyon Towhees were heard singing, and both the Say's and the Black Phoebes calling in their gentle tones, while a few Audubon Warblers jerked out their flat chip, the House Finch interlarded his matter-of-fact call note, Woodpeckers drummed, and a Roadrunner snapped his bill. A Shrike caught the eye, and Vesper Sparrows were seen picking about on ground which they matched, Mourning Doves rose from the sand with whistling wings, Horned Larks passed overhead, a few gray-backed Swallows flew up and down the river bed, flocks of Gambel's and other smaller Sparrows rose ahead of us, while close bands of white-winged, Lark Buntings, in ever larger and larger flocks, gradually assuming the black plumage as the spring waxed, passed up the bottoms with the rich musical *whee-u* which fell gratefully on the ear, as of distinguished passers-by.

The cheery round of House Finches, the rollicking, jubilant song of Thrashers, the rich elaborate song of Meadowlarks, and the soft cooing of Mourning Doves recalled delightful days in the orange grove country of southern California. But two striking birds unknown in the fog belt of California gave a distinct Arizona flavor to the assemblage—the Vermilion Flycatcher and the White-necked Raven.

When I was watching a pair of Gilded Flickers one day, a flash of red on a bush near the ground excitingly proved to be from the red cap and brilliant undersurface of a Vermilion Flycatcher. He went about flycatching casually while I was feasting my eyes on his splendid color. When his back was turned I was struck by its plain brownness which is such a contrast to the scarlet of crown and breast that an enemy might well be put off the track, for who could imagine that the puffed out red ball of the crown had any connection with the flat brown back? Surely this is

'secant coloration' raised to the nth power—a patch of flame-color cut off from the figure of the bird by flat brown which, in this case, toned in admirably with the brown of the brushy river bottoms. Seen against the sky the red went out surprisingly. One of the beauties gave us a rare treat as we drove down by the river, one morning, actually flying along with his lilted Flycatcher flight just ahead of us down a row of young cottonwoods. When at last he lit it was in the sun in full view on an old stack of bean straw, where his flame color evoked a discussion of the meaning of his name *Pyrocephalus* and the facetious remark—"Better look out or he'll set the straw on fire."

The other bird not found along the coast of California was that characteristic bird of the desert, the White-necked Raven. One seen on top of a yucca was a pleasant reminder of the desert country of New Mexico. A number were sometimes seen in an old corn field where there was a trickle of irrigation water and once a flock of about twenty-five was found in a freshly plowed field belonging to the Rubber Company, some of them following the plow. Another time a flock of seventy-nine of the large black birds was counted drifting slowly low over the fields. While making up their minds which way to go on their foraging expeditions flocks of different sizes would circle around over the dry river bottoms, their black backs whitening as they circled under the sun. Curiously enough they seemed unwilling to tolerate the presence of a bird of another species, once chasing off a Red-tailed Hawk that joined the flock as if there were not room in the sky. One flock of thirty or forty talked softly with a continuous croaking *kackack-hackack* as they rose higher and higher, perhaps to six or seven hundred feet; then gradually drifted off until only ten were left overhead. Another time a hundred and twenty were seen milling in the sky. Sometimes one would close its wings tight to its body and slide down through the air. Early in March the Ravens were noticed occasionally flying in twos but as they appear to be rather late breeders it may have been without significance. The larger Ravens are supposed by some observers to remain mated through life and that might be the case with the White-necks, though it seems unlikely with gregarious birds. Some day, perhaps, such speculative questions may be settled by bird banding.

On the ninth of March when the owner of the Ford, after leaving us at our trapping ground, went on thirty miles farther to Tucson for supplies to take back up the mountains, we spent a long red letter day in the beautiful sunny valley. It began most auspiciously for in the live traps we found two of the valley mammals needed most, the cotton rat, and the round-tailed squirrel that completed our number of ground squirrels for the locality, as we already had the pretty little singing one and the gray-tailed whistler, the antelope squirrel, at camp. Near the dyke where the mammals were taken, an orange-eyed Bendire's Thrasher was seen and nearby a Gnatcatcher was noted in a young cottonwood; then a Desert Sparrow's song was heard, two Say's Phoebes were caught chasing each other and twittering, and two Doves flew off together apart from the flock.

As usual the pleasant valley bottom was full of birds singing their joyous songs in the morning sunshine. A flock of the White-necked Ravens whose evolutions it was always interesting to watch—perhaps seventy-five of them—came flying up over an old corn field, breaking before they reached me, about fifty turning to the right and milling over the brushy bottom land, the rest turning to the left and milling over a bare field. Soon the first band that had broken away as if dissatisfied with the brushy ground beneath, divided again, about twenty-five breaking away to mill over the plowed field. Before long the large flock had entirely disappeared from sight and sound, and only an occasional wanderer was seen during the rest of the morning.

When the traps were all emptied of their catch and those for diurnal mammals reset for the day, cool morning had changed to hot noon and after making our way through a thicket where the beautiful soft feathers of a Great-Horned Owl told of some wanton act, we crossed the sandy river bed where the odd Roadrunner's track—two toes pointing forward, two back—was found together with a variety of small mammal tracks, and then climbed up the high bank to enjoy the shade of a big green-topped cottonwood in which a pair of Red-tailed Hawks had their nest. Soft tapping overhead drew our attention to a female Cactus Woodpecker with its white and black barred back and a call which suggested that of the Downy.

An old Woodpecker's hole just out of reach was discovered in a stub under the edge of the cottonwood and the Mammalogist proceeded to investigate it. Standing a forked branch against the stub for ladder with a stout stick in the upright fork to prevent his boot from wedging, he climbed up and with a weed stem gently poked down inside the hole, until he recognized the soft touch of feathers. A moment later a long feathered leg was thrust up to drive off the enemy and sharp talons clasped the intruding fingers. So tight was the clasp that when pulled up the long feathered leg was followed out of the hole by its owner, a little, eared Screech Owl. Wanting to examine the hole the Mammalogist handed the handsome little bird to me. While I was admiring the clear black and gray pattern of its soft feathers I inadvertently let its legs slip, whereupon its sharp claws seized my finger, drawing tighter and tighter. "Straighten its leg," I was admonished with the explanation, "when its leg is bent the tendon over its heel draws its claws tight and it can't open them itself; straighten its leg and the claws open." It seemed quite a worthy experiment to try at the moment and I was soon celebrating my release. The old nest hole was a deep one but by reaching down to the elbow a number of ejected Owl pellets were discovered, together with small mammal bones from disintegrated pellets, among them those of the wood rat, two genera of kangaroo rats, two species of white-footed mice, a grasshopper mouse, and a pocket mouse. Cactus seed found with the bones had probably been brought in the pouches of kangaroo rats which were most abundant in the bone remains. Numerous feathers were also found in the bottom of the nest, mostly gray, probably Quail, but some were of the dull red of the female Arizona Cardinal.

While the nest was being examined a tiny lizard, a good match in color for the gray bark of the cottonwood fairly flew from the stump. When the nest had been examined carefully the little Owl was returned to finish its nap. Near the stub, under the cottonwood a small 'killem' trap that had been missed from the trap line was found containing the hind foot of a nocturnal white-footed mouse, a pretty bit of circumstantial evidence to convict some one, but the Owl was not the only nocturnal prowler in the neighborhood.

In the shade of the cottonwood we ate our lunch, making a leaf-

and-stick fire no larger than the crown of a hat, cutting slender twigs for skewers and using a section of branch to rest them on, so toasting our bacon and cheese over the miniature fire in approved camp style and enjoying our feast as all else on this red letter day with its break in the routine of formal camp life.

Hearing a plaintive note we looked over at the next green cottonwood on the river bank and on a low branch discovered one of our rarely seen Black Phoebes, flying out and back for insects. Another was seen by the overflow of an irrigation ditch while still others were found perching on a wire fence and on old cornstalks, both of which served as good lookouts, taken advantage of also by Say's Phoebe whom we were especially glad to see again. As we looked off over the river bed, two Rough-winged Swallows flew up and down the river channel with its hole-punctured banks, out over the brushy bottoms and over the old corn fields, as they went giving their characteristic *trip, trip*.

A green tree top close by was alive with House Finches, chattering merrily as they cut off and ate the ripe seeds of the cottonwood. *Car-po-dacus*—fruit cutters, in very truth. Through the field glass we could see the long green racemes with their seed pods suggesting the stems of choke-cherries. As the seed pods were cut and the seeds eaten, their tiny cotton balloons came sailing lightly down through the air.

In this same place six weeks later when we had again climbed the bank to lunch in the shade of the big cottonwood, a brown, round-headed Short-eared Owl flew from the tree and passed up the line of cottonwoods. All the morning I had been hearing a chorus of Red-winged Blackbirds from that side of the river and as the Owl flew the black flock swung out from one of the trees. It settled back, however, and after lunch I sauntered along toward the tree to hear the concert. One of the birds was standing on a branch in plain sight, opening his bill wide and singing with all the swing and abandon of the war-time leader of a 'community sing.' How he did enjoy it! While I was standing spellbound, to my chagrin he caught sight of me and down swung the whole flock, making off to the mesquites. I followed slowly and cautiously and by the time that I began to distinguish black forms inside the green screen the rich rollicking chorus was in full swing again.

Another day, two of the rare Gilded Flickers which come over the Mexican border into Arizona and nest largely in giant cactus, though also in cottonwoods, were found together in a cottonwood on the river bank. Presently one flew across the river bed to a hole conspicuously black with shadow about twice the size of the ordinary Flicker hole in the opposite river bank. On reaching it the explorer—for a nest site or only for ants—called *clape*—open to the interpretation of *Come on over*—and disappeared in the shadow. Its companion did not appear interested, however; perhaps, if it were a nesting site that was being suggested, knowing that it was quite too early to be thinking about such matters, and after a little, with the characteristic Flicker *if-if-if-if-if-if* flew off down the river. Near here a Sage Thrasher, an old acquaintance of the sagebrush deserts, was seen in the bottoms, running rapidly over the sands in a constrained conscious pose with head drawn back as if from a tight check-rein.

On our first visit to the cottonwood, the old Red-tailed Hawk disturbed on her big stick nest in the top of the tree flew up and with her mate circled around high above us. Once she came swooping down to a branch close to the nest over our heads, when the sun falling on her made parts of her figure glisten. As we ate our lunch we watched the fuzzy gray nestlings whose eyes looked like black shoe buttons move around in the nest and stand up on opposite sides screeching shrilly for their parents to come and feed them.

Not far up the bank an irrigated strip of bright green wheat attracted the Meadowlarks who gave their rolling chattering call, singing and answering each other from the green in clear sublimated tones in notes which to hungry eyes suggested, *Green grass looks good' in Ari-zo'-na.*

It was a peaceful landscape with green cottonwoods spacing the river bank, Mexicans plowing the fields beyond, and softly tinted desert mountains showing in the background. Bird songs filled the air and a gratefully fresh breeze reached us as we rested under the shade of the cottonwood. Watching the two Red-tails and a Raven soaring and sailing in the sky the Mammalogist commented with satisfaction: "The Raven tries to get higher than they are, but he can't do it." Looking overhead at the shining green cottonwood—alamo—leaves touched by the sun recalled the



delightful line, redolent with the *dolce far niente* spirit of the southwest—" . . . beneath the alamo to lie and watch the clouds go floating by," when, as if to suit the line, an exquisite bit of rainbow was discovered in the floating clouds.

Making our way back over the dry river channel we crossed beautiful smooth sand dunes, ripple-marked by the wind, and climbed up a cut bank gulch where there was a productive line of small traps to be examined, returning to the road by way of the *Pyrocephalus* bean straw stack, where a poor old Mexican was sorting and sifting the beans, his gray burro, with saddle off, standing under the mesquites nearby. A gray Bendire's Thrasher coming into view at the moment evoked the comment that both Thrasher and burro were camouflaged for the desert, so nearly did they approximate the color of the branches surrounding them that one did well not to miss them altogether. The sight of the old Mexican trying to save the last few beans from an abandoned stack was a pitiful commentary on the hard times in this year of drought in the valley—again we had cause to be thankful for better conditions in the mountains—and another day it was brought home to us still more strikingly when two Mexican bean savers came from the village and a party of Mexicans, two men driving a mule, one boy on a burro, and one on foot crossed the river bed—as they came sending a flock of fifteen Meadowlarks flying over the channel—all on their way to this same abandoned stack. Later when we passed them they were working soberly, holding up handfuls of beans to let the wind blow off the chaff.

During the afternoon of our long day in the valley we were much interested to find that the large flock of Ravens which in the morning had milled around overhead and then dispersed returned to the river bottoms before night, perhaps to roost in the cottonwoods.

Before leaving the valley we revisited the dyke where the traps had to be reset for the night, and while waiting I took a last look around for birds. What a contrast the valley bottom offered to the base of the mountains, even though only a thousand feet below! At camp only one Mourning Dove and one Black Phoebe, both lonely wanderers, had been seen during the winter; here they were at home, and the gentle note of the Phoebe, the soft cooing of the Doves and the musical whistle of their wings blended charmingly with the summery chorus. At camp House Finches

had been seen mainly in the tree tops in passing, when a preoccupied call note was the most vouchsafed; here their merry chatter and their gay, sweet songs seemed part of the valley sunshine. The Short-eared Owl at camp was replaced by the Great-Horned and the Spotted; Gilded Flickers had been rarely seen higher than the giant cactus, just above the valley; Redwings which would find nothing to attract them on the arid stock range above, sang their joyful choruses in the rich irrigated bottoms; while the hordes of White-necked Ravens milled over the cultivated rubber fields where, at will, they could descend to follow the plow; and the gathering flocks of Lark Buntings found food for even their increasing multitudes on their journey north.

Looking back at the mountains—a resource that never failed in satisfaction—it was easy to dream of the birds entirely foreign to the valley found on their heights. Elephant Head, the sheer rock cliff at the base of the range in the foreground suggested White-throated Swifts, for there they were supposed to find congenial homes; Madera Canyon, the wide canyon trough darkly wooded with live oak and pine leading up to the pass between Baldy and Hopkins, an old rich collecting ground, boasted names to conjure with, such as Mearns' Quail, Coppery-tailed Trogon, Arizona Woodpecker, Stephens' Whippoorwill, Broad-billed Hummingbird, the Sulphur-bellied, Olivaceous, and Coues' Flycatchers, Painted and Red-faced Warblers, and Mexican Creeper, with many another to add distinction to a desert range. On the highest ridge of the mountains a patch of yellow pine timber which, when seen from the hot cactus desert flat rested the eye, suggested Crested Jays and small Sonoran deer enjoying the cool rich shadows.

It was good, too, to think of the Forest Service outlook on top of the highest peak, where faithful fire watch was kept, no matter how fierce winds and storms made it their plaything. Indeed, perhaps the best gift of the sunny valley bottom was its view of the mountains, the beautiful Santa Ritas, enveloped in blue atmosphere; for from the valley we looked up the wide canyon trough to the two crowning peaks of the range, Baldy, the highest, with head upreared majestically, facing Hopkins across the gap; a narrow band of white cloud above the peaks often adding to their height and nobility.

*1834 Kalorama Road, Washington, D. C.*