THE WILSON BULLETIN

NO. 99

A QUARTERLY JOURNAL OF ORNITHOLOGY

VOL. XXIX JUNE, 1917 NO. 2

OLD SERIES VOL. XXIX. NEW SERIES VOL. XXIV.

SOME NOTES OF THE BIRDS OF ROCK CANYON, ARIZONA.

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(With Photographs by the Writer and J. D. Figgins.)

The biological interest attached to the Sonoran life zones, and particularly to the Lower, is readily attested by the number of papers and more lengthy publications treating of these regions.

But despite all that has been written, interest in these wonderful areas is not flagging, nor has the subject been at all exhausted. In fact, in common with many other regions, they have just been surveyed, and the work now before the field and cabinet biologist may be confidently expected to materially enlarge our knowledge of their flora and fauna. Species will be added or eliminated; others discovered as entirely new to science; ranges will be extended; migrations, with schedules of arrivals and departures and other movements of a consequential character be determined; and above all, causes definitely ascertained for the existence or nonexistence of the many characteristic forms.

It was accordingly with much pleasurable anticipation that the writer, accompanied by Messrs J. D. Figgins and A. H. Burns, pitched camp at the mouth of Rock Creek Canyon, on the south side of the Santa Catalina Mountains, under large palo verdes and mesquites on the afternoon of May 7th, 1916, where we were delighted to find ourselves surrounded by con-

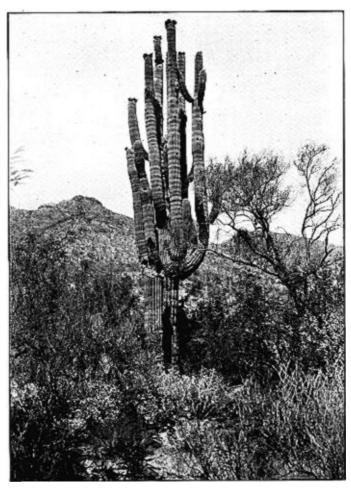


Photo by F. C. Lincoln

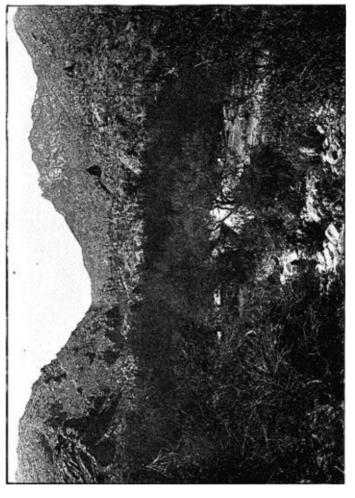
The largest Sahuaro we saw. Note the Woodpecker holes and the Gila Woodpecker near the top of the right hand arm

ditions ideal beyond our most sanguine hopes. In fact, judging from the results obtained in the vicinity, we concluded it to be the most important, from an ornithological viewpoint, of any for many miles in every direction, due solely to the presence of permanent water with the accompanying luxurient desert vegetation.

The portion of Rock Creek upon which we were located, had its source (at this season) but a scant hundred yards above our camp, disappearing into the thirsty sands about the same distance below; at both places forming large waterholes supporting small clumps of medium-sized cottonwoods, which, during all daylight hours, were literally alive with a great variety of birds. It was in the vicinity of these two sources of water supply with the intervening territory, that the great bulk of our observations were made, the extraordinary abundance of bird-life between and at these points rendering their pursuit useless in the less likely desert regions; though, of course, the latter were carefully studied as well.

In the neighborhood of the water-holes the creek banks rose abruptly; on the west with an almost impenetrable thicket of thorn-bush and mesquite fringing a rugged plain, where the higher growths of deciduous plants fell rapidly away to barren flats of creosote-bush (Covillea), cholla (Opuntia cholla), and tree cactus (O. versicolor), with the beautiful giant cactus or "Sahuaro" (Cereus giganteus), either as solitary trunks or gracefully branched like some giant candelabra. This plain stretched clear for twenty-five or thirty miles, broken only by a few rolling hills and the narrow thread of cottonwoods that marked the course of the (now dry) Santa Rita River.

To the east the bank rose sharply to a high stony ridge, rough, hot, and cheerless; covered with masses of the multispined cholla, straggling growths of palo verde (*Parkinsonia*) and the ever-present sahuaros. Still on to the east and north rose the beautifully modeled Santa Catalina Mountains, bearing near their summits, heavy growths of cedar



We "pitched camp under large palo verdes and mesquites" Photo by F. C. Lincoln



"At the mouth of Rock Creek Canyon, on the south side of the Santa Catalina Mountains" Photo by J. D. Figgins

and yellow pine, which did much toward softening the dry harshness of the desert below.

The flower season had passed its zenith at the time of our visit, but enough maroon and mahogany-colored flowers remained on the tree cactus, with some big, lemon-yellow blooms on the prickly-pear, to afford an idea of the gorgeousness of the landscape but a short time before. The flowers of the giant cactus were just appearing; the white, waxy clusters forming a crown around the apex of each trunk and arm. We were also fortunate in finding two barrel cacti (Echinocactus) in bloom, with flowers of rich burnt-orange color, splashed and mottled with red. The candle-bush, too, (Fouquieria) had dropped most of its odd flame-like vermilion spikes and was beginning to send tiny ovate leaves out over each spine. But the palo verde and mesquite were still in full bloom, resembling nothing so much as green and yellow cumulus clouds in the distance, and from the numbers of bees that frequented them it was evident that a supply of sweets was stored in these stern denizens of the waste places. Agaves or century-plants, with a few thread-and-needle plants were found on the rocky slopes and taluses farther up the canyon.

By the last of May the heat was felt severely by our temperately accustomed skins, and contrary to all expectations, we did not find the air exceptionally dry, and we perspired freely. Despite the noon-day heat, however, the nights and mornings were always sufficiently cool to render the use of sweaters a matter of satisfaction, and we slept between heavy blankets with comfort.

The month's work netted a collection of about 225 specimens, representing 52 species and subspecies, which, with observations on 13 others not collected, brought the list up to 65.

The following constitutes the list, with annotations:

Ardea h. herodias—Great Blue Heron. One example was noted at a small water-hole on the Santa Rita May 27th, and again on June 1st.

Oxyechus vociferus—Killdeer. One noted on the Santa Rita May 27th.

Lophortyx gambeli—Gambel's Quail. Plentiful, particularly in the vicinity of the water-holes on Rock Creek. A brood of newly hatched young (still damp) was secured on the 24th of May, while other broods of all ages were of daily note. A set of heavily incubated eggs found on the 26th. Their call-note has a decidedly sarcastic tone and is not infrequently given from the top of a mesquite or palo verde, 20 or 25 feet from the ground.

Zenaidura m. marginella—Western Mourning Dove. Common, but not seen in as great numbers as Melopelia. Very wild. Nest with quarter grown young found May 20th.

Scardafella inca—Inca Dove. Not found in the desert country at all, but very common in the city of Tucson, particularly on the University campus, where specimens were secured. During the heat of the day it was of common note to see from a pair to six or eight close together on a single limb. They are almost domesticated, and in the neighborhood of poultry yards are considered somewhat of a nuisance.

Melopelia a. mearnsi—Western White-winged Dove. Abundant. Frequents the mesquite and cactus-covered foothills, the sahuaros forming their favorite perches. In the evening the calling of the males was incessant, and being quite variable in length and tone, many phrases were readily adaptable. One that could always be counted upon to rouse the ire of the cook at our evening mealtime was, "Who cooks for you? Who cooks for you?" Not infrequently supper was temporarily forgotten by the exasperated culinary artist, who took gun and proceeded to collected the insinuating pigeon.

They feed largely on the berries of the thorn-bush and insects secured from the sahuaros.

The season opens June 1st, much too early, as we found nests containing both eggs and young at a still later date.

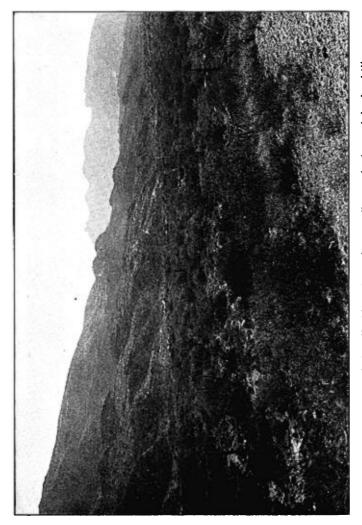
Cathartes a. septentrionalis—Turkey Vulture. Common. Five or six seen daily around the mouth of the canyon.

Buteo b. calurus—Western Red-tail. An adult or two seen daily and our camp neighbor, Mr. Harold Bell Wright, had an immature he had captured nearby, for a pet. This bird became very tame and would make no demonstration at being approached.

Urubitinga anthracina—Mexican Black Hawk. Rare. I saw one on two occasions on May 24th, but failed to secure it with the light load in my collecting gun. On second observation it was associated with the Vultures.

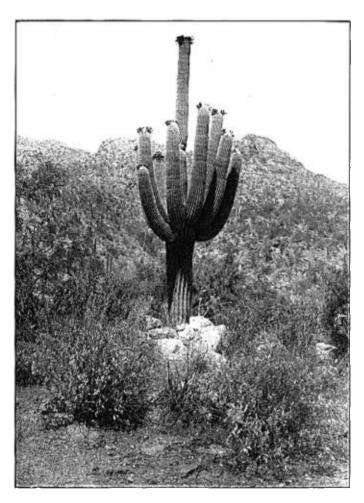
Aquila chrysaetos—Golden Eagle. Rare; two seen on the banks of the Santa Rita June 1st.

Falco s. phalaena-Desert Sparrow Hawk. Rare. An occasional



"Fringing a rugged plain." Mesquite and cactus flats at the base of the foothills

Photo by J. D. Fingins



Pheto by F. C. Lincoln

A perfect Sahuaro. "Beautifully branched like some giant candelabra"

specimen observed near camp during the latter part of May. Probably the same bird in each case.

Otus a. cineraceus—Mexican Sceech Owl. Rare. An adult female taken at camp by Mr. Figgins, May 27th, the only record.

Micropallas whitneyi—Elf Owl. Common. The most plentiful raptore. Secured a good series of adults with three downy young. The latter taken May 29th. Nest in old Flicker or Gila Woodpecker holes in the sahuaros. Their food seems to consist entirely of insects as, beetles, caterpillars, etc. All specimens but one secured after dark and they are evidently entirely nocturnal.

Bubo v. pallescens—Western Horned Owl. Probably not uncommon in the cedar zone above the desert country, as we would hear them occasionally, but always above us. The Mexicans, however, report them as not infrequent in the lower foothills and canyons.

Geococcyx californianus—Road-runner. Not common; but three examples noted. One secured. One that I followed near the Santa Rita, ran up a sloping tree trunk and endeavored to hide in the foliage. Failing in this it made a short flight, or rather glide, to the earth and again took to its legs to escape.

Dryobates s. cactophilus—Cactus Woodpecker. Rare; only ones noted being a pair that had a nest in a willow at the upper waterhole.

Centurus uropygialis—Gila Woodpecker. Plentiful; more so than any other Picidae. Almost every sahuaro of any size contained their drillings or nests. Extremely pugnacious, the approach of one to a water-hole being sufficient to drive all other birds congregated thereabout into the trees. Much of their food at this season seems to be derived from the flowers of the sahuaros. The young keep up an incessant whining or buzzing noise, which is quite ventriloquil and weird when one stands at the foot of the cactus containing the nest.

Colaptes chrysoides—Gilded Flicker. Common. Nest very early, as fully fledged young were flying about at the first of May.

Phalaenoptilus n. nuttalli—Poor-will. Rare. On the evenings of the 11th and 12th one was repeatedly heard near camp, but all subsequent work failed to flush the specimen.

Chordeiles a. texensis—Texas Nighthawk. Common; especially so in the evenings around the water-holes and camp. Flushed one pair evidently preparing to nest. The male kept close to and a little above the female, at times so close as to touch her with the tips of his wings. Almost no note at all. No boom as with virginianus.

Aeronautes melanoleucus—White-throated Swift. Common. Nests in the cliffs higher in the canyon, but descends to the mouth regularly in the evenings to feed.

Archilochus alexandri—Black-chinned Hummingbird. Hummingbirds were of common note, but as the majority were females or immatures, visual identification was impossible. In point of relative abundance, however, alexandri probably ranked next to calypte costae. All hummers fed readily from the various cactus flowers, as well as those of the mesquite and palo verde, heavy pollen stains marking every specimen secured.

Calypte costae—Costa's Hummingbird. Common. Probably the most plentiful of the *Trochilidae*. Mr. Figgins had an interesting experience with one of these birds while sketching under his umbrella. The bird, a female, was fearlessly curious and repeatedly came under the umbrella and perched on the ribs, or the canvas, once flying so close to his face that he (Mr. F.) forgetting the protection afforded by his glasses, shut his eyes for fear the bird would strike at them.

The males fight furiously, as is the case with all other *Trochilidae* that I have observed. One fight that I witnessed, kept up for fully five minutes, when the vanquished bird flew off, while the victor, too exhausted to pursue, perched nearby to preen his feathers. Selasphorus platycercus—Broad-tailed Hummingbird. Uncommon, if not actually rare. Only one secured, a female, on the 20th.

Tyrannus verticalis—Arkansas Kingbird. Fairly common, with vociferans and Myiarchus around the camp. Found only in the vicinity of water.

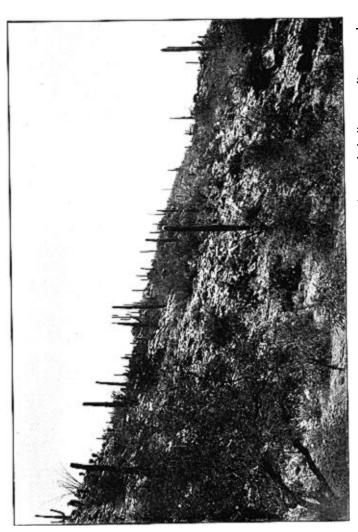
Tyrannus vociferans—Cassin's Kingbird. Rather more numerous than verticalis.. Usually found with them.

Myiarchus m. magister—Arizona Crested Flycatcher. Plentiful. The two forms of Myiarchus kept up, with the assistance of the Kingbirds, a continual fight in the vicinity of our camp. Their call-note may be likened to "Come 'er, Come 'er, Come 'er," uttered rapidly with the accent on the "er." It is quite noticeable that if another bird accepts the invitation, a fight is the inevitable result. A few of their nests were found in woodpecker excavations in the sahuaros, usually with incubated eggs, and the ever-present piece of shed snake-skin. This last is remarkable since we found snakes decidedly rare. This form was always found along streams, never in the open desert, as was cinerascens.

Myiarchus c. cinerascens—Ash-throated Flycatcher. Found in about the same numbers as migister, but more frequently in the creosote covered foothills.

Sayornis nigricans—Black Phœbe. Rather rare. Secured an adult the first day in camp and two immatures subsequently.

Nuttallornis borealis—Olive-sided Flycatcher. Not common. A couple of specimens secured early in May, probably migrants to the higher country.



"A high, stony ridge, covered with masses of the multi-spined cholla, straggling growths of palo verde, and the ever-present sahuaros" Photo by J. D. Figgins

Myiochanes r. richardsoni—Western Wood Pewee. Not uncommon along Rock Creek and the Santa Rita.

Empidonax difficilis—Western Flycatcher. Fairly common. Seen daily along the creek.

Pyrocephalus r. mexicanus—Vermilion Flycatcher. Not common. Two pair seen near Tucson and three others secured at Rock Creek and the Santa Rita. At the latter place they exhibited a marked preference for low perches, often alighting on wire fences. There is certainly no protective coloration with this species as it shows out vividly at all times.

Corvus cryptoleucus—White-necked Raven (?). En route from Deming, New Mexico, numbers of Ravens were noted that I believe were this variety. A few were occasionally seen flying over camp, although the flats of tall yucca plants seemed to be their preferred habitat.

Molothrus a. obscurus—Dwarf Cowbird. Shortly after we located camp numbers of these birds flew over, one of which was secured.

Icterus parisorum—Scott's Oriole. Rare. A nest containing three heavily incubated eggs found on the 26th. Female secured. Another pair collected at the upper water-hole on the 30th. This last female had much black on the head and throat; a rare occurrence.

Icterus c. nelsoni—Arizona Hooded Oriole. Common. Frequented the cottonwoods above and below camp and was very common along the Santa Rita. Found a nest on the 28th on a dead Yucca stalk, twenty feet from the ground, containing four fresh eggs.

Carpodacus m. frontalis—House Finch. Plentiful. Found in the open desert and along the water-courses. A small bunch could be found at the water-holes during all hours of the day. The candle-bush was preferred for perching places. The males of this region are remarkably brilliant; much more vermilion than any in my series of Colorado specimens. This may be the result of the intense sunlight.

Astragalinus p. hesperophilus—Green-backed Goldfinch. Rare in the vicinity of the canyons, but found in some numbers along the Santa Rita.

Chondestes g. strigatus—Western Lark Sparrow. Rare. None seen on Rock Creek, but a few seen along the road near the Santa Rita.

Amphispiza b. deserticola—Desert Sparrow. Not uncommon, but more often heard than seen. A juvenile, just out of the nest, was secured May 23d.

Pipilo f. mesoleucus—Canyon Towhee. Common. Frequents the more open brushy hillsides. Was also noted daily at the waterholes.

Oreospiza chlorura—Green-tailed Towhee. Rare. A few migrants to the higher slopes came through on the 14th and 15th.

Cardinalis c. superbus—Arizona Cardinal. Fairly common along the water-courses. Their song is quite different from that of true cardinalis of the east.

Zamelodia melanocephala—Black-headed Grosbeak. Common. Apparently nests in the mesquite and thorn-bush.

Passerina amoena—Lazuli Bunting. Rare. Only record, a male taken on the Santa Rita May 27th.

Piranga ludoviciana—Western Tanager. Plentiful. I have never found this variety as abundant as it was here, nor the males as brilliantly colored. They were exceptionally fat, however, and several specimens were lost through the exudation of oil from the shot-holes.

Piranga r. cooperi—Cooper's Tanager. Rare. Not seen at camp, but one was secured at the river and another seen. A fine male was also observed on the University campus at Tucson.

Tachycineta t. lepida—Northern Violet-green Swallow. Fairly common around camp at times, although it apparently nests farther up in the hills.

Bombycilla cedrorum—Cedar Waxwing. A flock of five of these birds flew into the trees at camp on the 26th. Two were killed, but one could not be recovered from the dense thorn-bush into which it fell.

Phainopepla nitens—Phainopepla. Plentiful at camp and on the river bottoms. The young were out of the nests and their cat-like calling was at times incessant around the water-holes.

Lanius l. excubitorides—White-rumped Shrike. Not common. Found principally in the lower mesquite desert.

Vireosylva g. swainsoni—Western Warbling Vireo. Rare. The only record is a specimen killed at camp on the 17th.

Vireo b. arizonae—Arizona Vireo. Plentiful. Frequents the densest thickets, and their plumage was badly worn from continual passage through the brush.

Vermivora luciae—Lucy's Warbler. Seemingly not uncommon, but difficult to raise from the heavier growths of mesquite, etc. Three specimens were secured.

Dendrioca a. sonorana—Sonoran Yellow Warbler. Rare. A single female secured on the 24th, with two or three seen subsequently, my only records.

Dendroica townsendi—Townsend's Warbler. Rare. A male was secured on the 25th on the open desert.

Icteria v. longicauda—Long-tailed Chat. Not common. A few seen near camp and on the Santa Rita.

Wilsonia p. pileolata—Pileolated Warbler. Not uncommon at camp for a few days during the latter part of May.

Minus p. leucopterus—Western Mockingbird. Not uncommon; usually found in the desert. Only occasionally heard singing.

Toxostoma c. palmeri—Palmer's Thrasher. Abundant. By far the most numerous bird and one of the few found any distance from the water-courses in the desert. One brood of young had already been raised and many nests were found containing eggs and young in all stages of development. Their call-note may be readily adapted to the phrase "Pretty quick," with the accent on the "quick."

Nests were usually placed in the chollas, but some were found in the mesquites and palo verdes.

Catherpes m. conspersus—Canyon Wren. Rare. Heard on one or two occasions in the canyon above camp.

Heleodytes b. couesi—Cactus Wren. Plentiful. The most characteristic bird of the cactus desert. They also had raised one brood and were engaged in caring for the second at the time of our visit. A few sets of eggs (both fresh and incubated) were also found. Nest almost invariably placed in a cholla; only one found not so placed, and that in a palo verde.

Auriparus f. flaviceps—Verdin. Not uncommon, and their retort-shaped nests were found in numbers, though usually unoccupied. We succeeded, however, in securing two sets of young just ready to leave the nest. Their plumage was much frayed out, but when one considers the combing that the feathers of many of these desert birds are subjected to it, it is more surprising that they retain any body covering at all. Nevertheless, we found very few spines in birds' feet, and saw absolutely no evidence that would lead us to believe more serious tragedies of common occurrence.

Polioptila plumbea—Plumbeous Gnatcatcher. Plentiful. Adults and fully grown young found everywhere. Most abundant in the dry water-courses near the main stream.

Hylocichla u. ustulata—Russet-backed Thrush. Not common. (Rare)? For a few days during the latter part of May thrushes were not uncommon, and I took one on the 24th, thinking it to be u. swainsoni, but upon comparing it with California specimens of true ustulata at the Museum, I am satisfied it should be so referred, though I cannot, of course, state positively that all Hylocichla seen were of the same variety, and it is quite possible that a large series would have contained both forms in more or less equal numbers.