TWO NEW RACES OF BIRDS FROM THE HARQUAHALA MOUNTAINS, ARIZONA

BY A. J. VAN ROSSEM

THE Harquahala (or Harqua Hala) Mountains which span the boundary between Yuma and Maricopa counties in southwestern Arizona, are about thirty miles long in an east-west direction and average perhaps twelve miles in width. The peak elevation of Mount Harquahala is 5,672 feet and an extensive area of the central part of the range is in excess of 5,000 feet. They thus possess mass and altitude decidedly greater than any other mountains in the great expanse of desert between the broken, dissected spurs of the Mogollon-Kaibab arc and the mountains of southern and southeastern California. In large part these mountains, like most southwestern desert ranges, are in appearance immense mounds of shattered rock, on which abrupt ridges alternate with deep and frequently impassable caffons. They differ in the character of the highest levels in that the customary saw-tooth summit ridges are replaced by steeply rolling terrain in the highest central portions. There is no permanent running water and but few, widely scattered springs or seepages.

Of chief interest from an ornithological standpoint is that the circumstances of extensive mass and sustained altitude above the 4,000-foot level permit the existence of an Upper Sonoran Zone vegetation with some attendant bird species. Although this zone is well defined in that little or no characteristic Lower Sonoran vegetation infiltrates much above 4,000 feet on the north slopes or 5,000 feet on southern exposures, the Upper Sonoran growth is neither luxuriant nor generally distributed. Depressions, ravines, or other favorable situations support more or les dense patches of scrub oak, manzanita, mountain mahogany, *Ceanothus,* and laurel, but such patches constitute only a very small proportion of the total cover, which, for the most part, consists of grasses, several special of yuccas and agaves, and small, stiff-stemmed shrubs. There is said to be some juniper growth at the summit. However, depauperate though it be both in the number and stature of plant species, this "island" is the only clearly definable Upper Sonoran area, so far as I am aware, in the great desert of southwestern Arizona.

My interest in this range was first aroused in the fall of 1937, when I saw, but under the circumstances could not collect, a pair of Brown Towhees about an abandoned shack in the southern foothills. At a later date, W. J. Sheffler mentioned that he had found nests of the Bush-Tit and Rufous-crowned Sparrow in the scrub oak and grass

zone near the summit. This locality, accordingly, was one of special interest to Dr. Loye Miller and myself when we undertook intensive distributional studies in the Arizona section of the Gulf of California drainage basin. To date we have visited the Harquahalas in September, October, and November, 1945, and April, 1946, for a total of ten days. The list of characteristic species resident or breeding in the Upper Sonoran Zone is a short one, and this is quite understandable in view of the limited variety of vegetation. Subspecific determination has not been completed save in the two cases described beyond.

Aphelocoma californica
Psaltriparus minimus
Thryomanes bewickii
Catherpes mexicanus
Icterus parisorum (summer only; breeding)
Polioptila caerulea (summer only; breeding)
Pipilo fuscus
Pipilo maculatus
Aimophila ruficeps

A number of other species of more general zonal distribution are apparently also resident in the Upper Sonoran of the Harquahalas. Among them are *Aquila chrysaetos, Falco sparverius, Bubo virginianus, Otus asio, Sayornis saya, Toxostoma curvirostre, Toxostoma dorsale, Heleodytes brunneicapillus, Salpinctes obsoletus, Phainopepla nitens,* and *Carpodacus mexicanus.* A list of the numerous migrants and winter visitants is omitted as not pertinent. Omitted also is the list of Lower Sonoran species, common to the surrounding desert, which were encountered in the foothills.

In the two Upper Sonoran cases where adequate series have been collected, undescribed races are obviously represented. There are possibly two others which must await additional material.

Pipilo fuscus relictus new subspecies

HARQUAHALA BROWN TOWHEE

Type.—Male adult in complete fall plumage, No. 33190, Dickey Collection; north slope of Harquahala Mountains, Yuma County, Arizona; altitude 3,500 feet; November 15, 1945; collected by A. J. van Rossem.

Subspecific characters.—In general size and proportions very similar to *Pipilo fuscus mesoleucus* Baird but slightly smaller. Entire coloration darker (dorsum between "Deep Grayish Olive" and "Hair Brown" instead of between "Grayish Olive" and "Deep Grayish Olive"), tail darker and more blackish (nearly "Chaetura Drab" instead of brownish "Fuscous"), white of under parts much restricted, and crown patch darker and duller (dull "Army Brown" instead of "Mikado Brown"). Most similar in color to *Pipilo fuscus intermedius* Nelson but even darker, the tail decidedly so; size slightly larger.

Range.—Upper Sonoran Zone of the Harquahala Mountains, descending in suitable ravine cover to as low as 2,500 feet in the Lower Sonoran.

Remarks.—Aside from the coastal races of the *"crissalis"* complex, the northern group of Brown Towhees attains its maximum darkness of coloration in the Harquahala race. As stated in the description, the closest resemblance is not with the geographically nearest race, *mesoleucus,* but with *intermedius* of Sonora, a relationship suggested further by certain non-measurable but visually apparent features in the bill profile. Offhand, and without the benefit of field acquaintance with the forms involved, one might reasonably infer that *relictus* is a step in the direction of the *"crissalis"* group of the Pacific coast. At least one could so interpret the character of restriction of white on the under parts which, in the most pronounced examples, approximates the *"crissalis"* group very closely. However, the two groups have utterly different call notes and on this basis *relictus* is definitely a member of the *"fuscus"* series.

So far as I am aware, no recent topotypical examples of *mesoleucus* have been collected. Since such material was vital for comparison we made a special trip into the Big Sandy region in November, 1945, and succeeded in taking eight specimens on Burro or Mohon Creek, a tributary of the Big Sandy and only a few miles from the type locality. These are a little larger than eastern Arizona specimens and very slightly grayer dorsally because of the freshness of the plumage. Otherwise the two series appear identical.

Measurements of males, in millimeters.—

mesoleucus	*Wing*	*Tail*	*Culmen*	*Depth of bill at base*
5 from Burro Creek	93–97 (*94.9*)	105–110 (*107.2*)	15.2–16.1 (*15.6*)	10.1–10.8 (*10.4*)
31 eastern Arizona	91–99 (*94.5*)	99–112 (*105.8*)	14.3–16.1 (*15.3*)	9.5–11.2 (*10.3*)
relictus				
16 from Harquahalas	89–96 (*93.1*)	98–108 (*103.0*)	14.0–15.8 (*15.0*)	9.3–10.8 (*10.3*)
intermedius				
22 from Sonora	86–95 (*91.1*)	96–107 (*101.0*)	13.7–16.0 (*14.9*)	9.3–10.6 (*10.1*)

Specimens examined.—P. f. mesoleucus; 76 from New Mexico (2), Arizona (65), and northern Sonora (9). *P. f. relictus;* 26 from the Harquahala Mountains. *P. f. intermedius;* 29 from central and southern Sonora.

Aimophila ruficeps rupicola new subspecies

HARQUAHALA RUFOUS-CROWNED SPARROW

Type.—Male of the year in complete first fall plumage, No. 33183, Dickey Collection; north slope of Harquahala Mountains, Yuma

County, Arizona, November 14, 1945; altitude, 4,000 feet; collected by A. J. van Rossem.

Subspecific characters.—Similar in size and proportions to *Aimophila ruficeps scottii* (Sennett) of south-central Arizona but coloration everywhere grayer and darker. Dorsal edgings, together with rump, "Deep Grayish Olive" instead of "Light Grayish Olive"; chest, sides, and flanks, "Olive-Gray" instead of "Smoke Gray"; chin, throat, and median under parts darker, grayer (less buffy white), and in distinctly less contrast to the pectoral region and sides; crown and reddish brown areas of feathers of the upper parts darker; dorsal streaking narrower with gray edgings correspondingly broader.

Range.—Confined to the Harquahala Mountains at altitudes from 3,000 to 5,000 feet, chiefly in the Upper Sonoran Zone.

Remarks.—In spite of the dark coloration, I can see no indication of intermediate relationship with the dark, brownish races of coastal California. I have not at hand the necessary fresh-plumaged material for proper comparison with certain Mexican races.

The very extensive series of *scottii* in the Dickey Collection has been supplemented by specimens from some critical localities through material borrowed from the Bishop Collection and San Diego Natural History Museum. In this combined series it is apparent that *scottii* is not uniform over its extensive range but has distinct geographical trends in size, and to a lesser degree in color. Baboquivari and Pajaritos Mountains populations, for example, are smaller and are slightly paler in spring plumage. Fresh fall specimens are required for final conclusions.

Measurements of males.—

scottii	*Wing*	*Tail*
22 from Chiricahua and Huachuca Mountains	65–71 (*67.3*)	67–75 (*71.2*)
19 from Santa Catalina, Santa Rita, and San Cayetano Mountains	64–67 (*65.5*)	66–75 (*70.1*)
10 from Pajaritos and Baboquivari Mountains	62–65 (*63.7*)	64–70 (*68.0*)
rupicola		
7 from Harquahala Mountains	63–67 (*65.1*)	66–75 (*70.8*)
[5 females from Harquahalas	61–64 (*62.6*)	67–72 (*70.0*)]

Specimens examined.—A. r. scottii; 68 from Arizona (62), and northern Sonora (6). *A. r. rupicola;* 12 from Harquahala Mountains.

Dickey Collections
University of California
Los Angeles, California