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## DISTRIBUTION AND MOLT OF THE MEARNS QUAIL

By H. S. SWARTH \*

WITH FRONTISPIECE, MAP AND THREE PHOTOS

ONE of the most interesting, as well as least known of the North American Gallinæ is the Mearns Quail (*Cyrtonyx montezumæ mearnsi*), known thruout its range in the United States as the "Fool Quail." The vernacular name is derived chiefly from the custom the bird has of lying very closely, and taking flight only when nearly trodden upon, habits greatly in contrast to those of the Scaled and Gambel quails of the same general region, which trust less to concealment than to the speed of their legs. In his own way, however, the Mearns Quail is quite well able to care for himself, sufficiently so that the opprobrious name would hardly seem to be deserved. It has been argued that the habit of lying close, an exceedingly desirable one from the standpoint of the sportsman, common to the Bob-white and other allied game birds, is largely a matter of education; that is, that originally these species had similar habits to most of the quail now inhabiting the wilder southwestern country. I believe it is true of the California Quail, and possibly of other species, that in places where they are much hunted they lie more closely and run less than in wilder regions where they are seldom disturbed. However the Mearns Quail seems to have found the habit of hiding best adapted to his needs in the first place, tho, in Arizona at least, his surroundings are in every respect very similar to those of the Mountain Quail in California, which is so preëminently a running bird that it is very difficult to get a wing shot at it.

Their call consists of a series of notes slowly descending the scale, and ending in a long, low trill, the whole being ventriloquial in effect and most difficult to locate. It is easily imitated, however, and the birds readily answer when one whistles; when the flock is scattered they will sometimes even return, calling at intervals as they approach. The only other note I have heard is a quavering whistle uttered as they take flight.

\*Contribution from the University of California Museum of Vertebrate Zoology.

The Mearns Quail is found along a considerable extent of the Mexican Boundary of the United States, being, however, very local and extremely irregular in its distribution. It is a bird of the Upper Sonoran and Lower Transition zones, fond of rough, brushy hillsides, and but seldom venturing out into the open valleys. In Arizona it has been recorded from almost all the higher mountains of the southeastern portion of the Territory, but these are nearly all more or less completely isolated ranges, and there are large tracts of country intervening, not at all suited to the species, where other species of quail occur, *Lophortyx gambeli* and *Callipepla squamata*. The species was found in the Mogollon Mountains by Dr. Mearns, reaching its northern and western limit near Fort Whipple, where Dr. Coues secured two specimens in 1865. Henshaw speaks of it as a common resident in the White Mountains, where he secured adults and young in August and September. Scott found it on the San Pedro slope of the Catalina Mountains, ranging from 4000 to 5700 feet, and at the head of Mineral Creek in the Pinal Mountains. It has also been found in the Chiricahua, Santa Rita, Patagonia, Huachuca, and Rincon Mountains. Thus its distribution in Arizona may be traced with a fair degree of accuracy.



MAP SHOWING UNITED STATES RANGE OF THE MEARNS QUAIL

In New Mexico it has been reported from the head of the Gila River, the Sierra Hachita, and from the Guadalupe Mountains, and probably occurs in many intervening spots. In Western Texas there are records of its occurrence in the Chisos and Davis Mountains, in Crockett, Edwards, and Tom Green Counties, and from the vicinity of San Antonio, probably its eastern limit. Information regarding the distribution of the Mearns Quail in Texas and New Mexico is scanty and unsatisfactory, as is readily seen on trying to apply it to a map; and while the accompanying outline possibly indicates the extreme points of the range, it leaves much to be desired as regards details. I believe, however, that the distribution of the species in Arizona is fairly well indicated tho there are one or two mountain ranges in the same general region, from which there is no data available, and where I believe the bird is sure to be found. The point I wished to illustrate and emphasize is the peculiarly disconnected manner of distribution—the species is non-migratory and in each range is as absolutely isolated as if on an island, the low, semi-desert valleys between forming effective barriers.

The species extends south far into Mexico, but just where the variety *mearnsi*

merges into the true *C. montezumæ* can not well be shown, and I have tried merely to indicate the distribution in the United States.

The vertical range seems to be approximately from 4000 to 9000 feet, but whether it breeds thruout this range I can not say. I have seen quite young birds at something over 9000 feet.

During a visit to the country of the Mearns Quail, finding the species abundant, and in the midst of the autumnal molt, I took advantage of the opportunity to secure a number of the birds, including a series that illustrates very well the manner in which the first winter plumage of the male is acquired. This was in

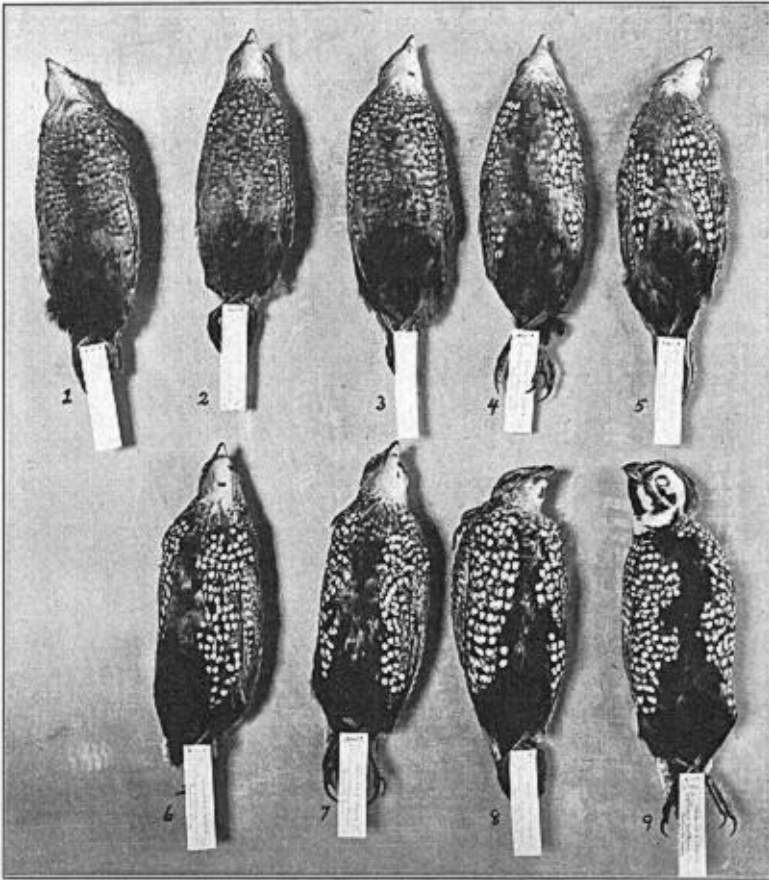


FIG. 1.—SERIES OF MEARNS QUAIL ILLUSTRATING POST-JUVENAL MOLT OF THE MALE

October and November, too late to secure any downy young, the youngest ones seen being in the "juvinal plumage" which is retained in its entirety for but a very short time. Figure 1, including eight immature males in various stages of change, and one adult male in freshly acquired autumnal plumage, shows how the change in the underparts is accomplished. Number 1 is in the juvenal plumage, purely. The back is streaked, much as in the old bird, but head and underparts lack entirely the bold striking markings of the adult male. The breast and lower parts are spotted, but it is interesting to note, that, whereas in the old male the

markings consist, on the individual feather, of a double row of round white spots on a dark background, in the juvenile there is a similar double row of black spots on a light colored feather. The median line of the breast is suffused with cinnamon and the lower abdomen and crissum are dull black.

Number 2 shows a few white-spotted feathers at the upper end of the pectoral tracts, while the remainder of the series illustrates the downward extension of this growth. New, glossy black feathers are beginning to appear on the flanks at the same time that the spotted breast feathers are sprouting; but the rich chestnut of the center of the breast is the last of the body plumage to be acquired, even number 8 (otherwise in perfect plumage except for the head), showing a line of the pale colored juvenile feathers. The changes in the upper parts are much less apparent, number 1 being streaked above, practically like the adult, tho on close examination it is seen to lack, to some extent, the exquisite markings and delicate

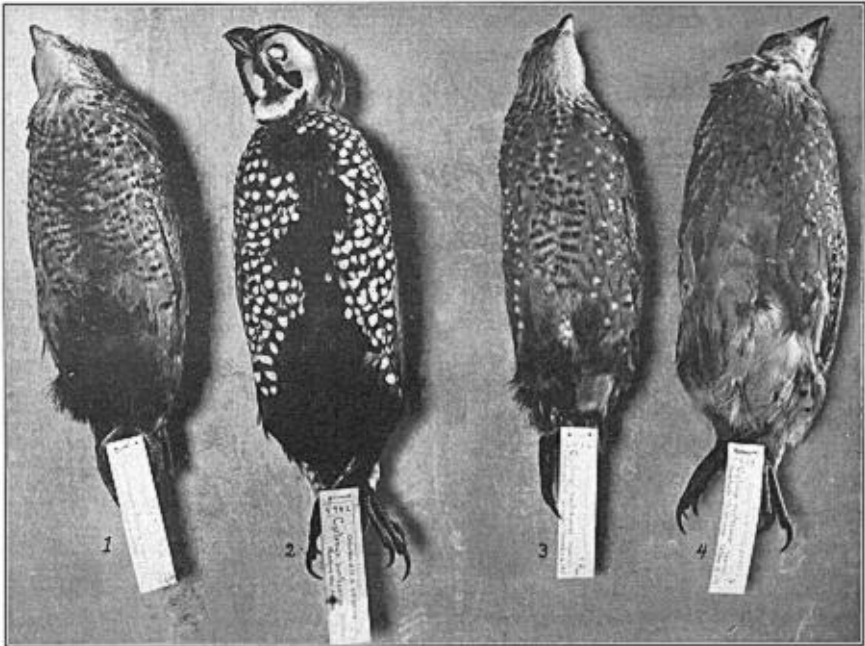


FIG. 2.—MEARNS QUAIL: NO. 1, MALE JUVENAL; NO. 2, MALE ADULT; NO. 3, FEMALE JUVENAL; NO. 4, FEMALE ADULT

pencilings possessed by the latter. It lacks also the black spotted tertials, and blue greater wing coverts, these being nearly perfect in the stage reached by number 8. I secured no specimens illustrating the acquisition of the conspicuous and curious facial markings, and it seems remarkable that the plumage of the other parts, body and wings, should be entirely renewed before there is the beginning of any change on the head. In the young of both sexes the head is marked practically as in the adult female except that the occiput is transversely barred, while in the latter it is marked with longitudinal streakings. There is a rounded occipital crest, similar to that of the adult tho not as full. In those birds which have nearly or quite completed the change in the body plumage, there is a line of pin feathers appearing on the center of the occiput, the beginning of the change on the head.

In the stage reached by number 4 the primaries have quite completed their growth.

Figure 2 shows a male in juvenal plumage (number 1), a male in second winter plumage (number 2), a female in juvenal plumage (with some first winter feathers appearing on the upper breast, however) (number 3) and a female in second winter plumage (number 4).

Dr. Dwight, in a paper on the molt of the North American *Tetraonidæ* (*Auk* XVII, 1900, p. 50), speaks of the young of this species as being alike in the juvenal plumage, and resembling the adult female. All the young males I secured have the crissum, flanks, and lower abdomen, dull black (a mark surprisingly conspicuous as the birds take flight), while the middle of the breast is rusty brown, a foreshadowing of the brilliant markings to appear later; while the young females (and adults also) have these same parts white or pinkish.

This species seems to be late with its breeding. The young of *Lophortyx gambeli*, *L. californicus vallicola*, and *Oreortyx pictus plumiferus*, living under very similar conditions, have, by the end of September as a rule, fully acquired their first winter plumage, while I have secured young of *Cyrtonyx m. mearnsi* the first week in November which had hardly begun the post-juvenal molt. It is possible that the heavy summer rains that occur in the regions inhabited by this species destroy many of the earlier sets of eggs, thus forcing the birds to bring out their young later, but the same reasoning would apply to other species not so conspicuously dilatory.

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## THE POPULAR NAMES OF BIRDS

By JONATHAN DWIGHT, JR., M. D.

POPULAR or vernacular names are of two sorts—those very local in their use and those approved by standard authorities for general use wherever the language is spoken. The standard for North American Birds, for over twenty years, has been the A. O. U. Check-List which has as a matter of fact recognized the most widely used local names and only supplied others when no popular name was in vogue. Of late years unfortunately its authority has been impaired by a few radicals who have been agitating certain "reforms", and under the circumstances it may be well to weigh these claims which do not seem to rest on a very solid foundation.

There is no immunity to the germs of fads, and their virulence is attested by every new fashion, every new cult, every new world-language, every new breakfast food that periodically flourishes and claims its victims; and just as some visionaries seek to improve on the natural development of dogs or horses by clipping of ears and docking of tails, so, in much the same spirit, others clip and dock words in the attempt to reform spelling or improve grammar.

Today some of our apostles of vernacular reform wish to throw away the possessive case for the popular names of birds and beasts and substitute the so-called adjectival form;—they would have us say "Audubon Warbler," "Anna Humming-bird," "Wilson Thrush," "Merriam Elk," and so on, dropping the time-honored apostrophe and the "s." Tomorrow, perhaps, it may please them to drop "needless" syllables and thereby attain such agreeable results as Bar Owl, Belt King-