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A REVISION OF *ATLAPETES GUTTURALIS* WITH DESCRIPTIONS OF THREE NEW RACES

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The recent receipt of excellent material from Guatemala, Nicaragua, and Costa Rica of this wide-ranging highland species led to the discovery that the series from the localities mentioned above differed markedly from each other. Accordingly other available material was brought together, resulting in a series of nearly 100 specimens, representing thoroughly age, season, and locality. A careful study of this series shows that Dr. Chapman's *brunnescens* is restricted to the highlands of Chiriqui, and that the birds inhabiting the geographically isolated highlands farther north constitute three well-defined races to be described below.

Several other points have come up in the course of our study which we here record. The first is that skins in the course of time (in less than thirty years, certainly) unquestionably turn brown, and are therefore useless for subspecific comparison, a fact which Dr. Chapman has already recorded for many species from old Bogotá collections. We have seen such discolored skins from "Bogotá," Costa Rica, and Guatemala, and it was the receipt of fresh material from Costa Rica which first called our attention to this fact. When Dr. Chapman described *brunnescens* and referred all Central American material to this race, he had only a few birds from Nicaragua, three old skins from Costa Rica, and an old Lawrence skin from Guatemala in addition to an excellent series from Chiriqui. These old skins have turned brown and are not separable from Chiriqui specimens, but fresh material proves to be quite different. Mr. Ridgway, the only other ornithologist who has treated the species at all recently, lists only six specimens.

While we describe the Nicaraguan bird below, additional material having been acquired, it is only proper to state that it could never have been described with the material which Dr. Chapman had available. It differs but slightly from *brunnescens*; in fact, we would hesitate to describe it were it not for the fact that a different race in Costa Rica separates it from its closest relative. This leads to a second fact about *Atlapetes gutturalis*, namely, that its racial variation is not geographically progressive from one end of its range to the other. Thus, the Costa Rican

race is very close to typical *gutturalis* from Colombia, and would scarcely be worthy of a name were it not for the very distinct *brunnescens* intervening. Similarly, as stated above, the Nicaragua form is closely related to *brunnescens*, while the Guatemala race, far from continuing what might be called the subspecific tendency of the Nicaraguan bird, is distinct from either of the other two groups. This type of variation is already known for several other highland species in Central America, and results unavoidably in a considerable number of subspecies, some of which are very close indeed.

The variations due to age and season are well shown by the series at hand, which also illustrates the moults, so that comparisons of like plumages may be made and subspecific differences better determined. Every month in the year is represented and in the series are a number of moulting birds which follow the usual course of the moult in sparrows and finches. The postnuptial or annual moult takes place in the fall during August, September, October, and November, the Colombian birds being about a month later than the others. Two Chiriqui birds of August 21 and September 21 each still retain the old first (ninth) primary while the other wing-quills, the tails, and a large part of the body plumage are new. In two Colombia birds of October 26 and November 13 all the primaries are new, the first (ninth) about one half grown. Although this moult is in the fall in all of the races, the young seem to leave the nests at different periods. Birds in full juvenal plumage of the Costa Rica and Chiriqui races are dated May, June, and July, acquiring their first winter dress through a partial moult by the end of August, while similar birds of the Colombia race dated March have acquired their winter dress by the end of March. It is probable that the time of the rainy season in the different regions governs the time of moult and occasions the variations.

These birds do not suffer much from wear. The tendency is for the feathers of the back to become paler. When fresh, they often have dusky margins, and loss of these as well as fading tend to make the grayer feathers paler and the browner feathers lighter, although each preserves its original tone to a large degree.

There is also a partial prenuptial moult in the spring involving only some of the head, throat, and anterior parts of the body. This freshens up the plumage and is most noticeable perhaps on the back. An understanding of the plumage changes is needful in order to comprehend the variations that are entirely geographical.

We give below diagnoses of the five subspecies of *Atlapetes gutturalis*. All measurements are in millimeters. The special color names employed

are taken from Ridgway's 'Color Standards and Color Nomenclature' (1912). We are indebted to Mr. Waldron deWitt Miller for his courtesy in letting us study and describe the Nicaraguan material.

***Atlapetes gutturalis gutturalis* (Lafresnaye)**

SUBSPECIFIC CHARACTERS.—Back deep mouse-gray; white headstripe broad, throat patch lemon-yellow; breast whitish; flanks and under tail-coverts deep olive-gray; averaging very slightly larger than any other race, bill decidedly larger.

MEASUREMENTS.—Males: wing, 73–80 (77.4); exposed culmen, 15–17 (15.5). Females: wing, 71–79 (74.1); exposed culmen, 14–16 (15.1).

RANGE.—Highlands of Colombia, 3000–8500 feet.

SPECIMENS EXAMINED.—♂ 10; ♀ 14; not sexed 5; juv. 5.

***Atlapetes gutturalis brunnescens* Chapman**

SUBSPECIFIC CHARACTERS.—Decidedly browner than typical *gutturalis*. Back between olive-brown and fuscous; headstripe narrower; throat patch slightly deeper yellow; breast whitish; flanks and under tail-coverts buffy brown; size similar to *parvirostris*, smaller than *gutturalis*, particularly the bill.

RANGE.—Highlands of Chiriqui.

SPECIMENS EXAMINED.—♂ 14; ♀ 1; not sexed 3; juv. 10.

***Atlapetes gutturalis parvirostris*, new subspecies**

SUBSPECIFIC CHARACTERS.—Very similar to typical *gutturalis*. Back very slightly darker grey; headstripe equally wide; throat patch slightly lighter yellow; breast whitish; flanks light grayish-olive; averaging slightly smaller with a noticeably smaller bill, in this respect resembling *brunnescens*.

TYPE.—No. 52724, Coll. J. Dwight; ♂ ad.; Aquinares, Costa Rica, altitude 4500 feet, March 27, 1920.

MEASUREMENTS.—Males: wing, 70–78 (73.6); exposed culmen, 13–15 (14). Females: wing, 72–76 (74.0); exposed culmen, 14.

RANGE: Highlands of Costa Rica.

SPECIMENS EXAMINED.—♂ 7; ♀ 2; juv. 5.

***Atlapetes gutturalis fuscipygius*, new subspecies**

SUBSPECIFIC CHARACTERS.—The brownest of all the races. Most closely resembling *brunnescens*, but upper parts even browner, especially on the lower back and rump, approaching raw umber; headstripe narrow as in *brunnescens*; throat patch and breast similar; flanks and under tail-coverts saccardo-umber, much browner than in *brunnescens*; size of the other Central American races.

TYPE.—No. 101517 A. M. N. H.; ♂ ad.; San Rafael del Norte, Nicaragua, altitude 4000 feet, April 14, 1907.

RANGE.—Highlands of north central Nicaragua.

SPECIMENS EXAMINED.—♂ 3; ♀ 3.

***Atlapetes gutturalis griseipectus*, new subspecies**

SUBSPECIFIC CHARACTERS.—Not closely resembling any of the other races. Back lighter in tone than *parvirostris* and more olive, olive-gray rather than mouse-

gray; headstripe broad, as in typical *gutturalis* and *parvirostris*; throat patch lighter yellow and more extensive than in any other race; breast distinctly clear gray, not whitish as in other races; flanks and under tail-coverts saccardo-olive, more olive, and less brown or gray than other races; size of the other Central American races.

TYPE.—No. 52725, Coll. J. Dwight; ♂ ad.; Quezaltenango, Guatemala, altitude 8500 feet, November 18, 1919.

RANGE.—Highlands of central Guatemala.

SPECIMENS EXAMINED:—♂ 5; ♀ 2; not sexed 1.