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TWO RACES OF THE BRIDLED TITMOUSE

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In 1850, John Cassin named and described as *Parus annexus* a bridled titmouse, presumably taken in "Texas, upon the Rio Grande," by John Woodhouse Audubon. However, this name had been antedated slightly by *Lophophanes wollweberi*, the name bestowed by Bonaparte on a specimen from Zacatecas, Mexico, sent to the Darmstadt Museum by Wollweber. Thereafter, for many years, *annexus* was submerged as a synonym of *wollweberi*.

Ridgway was the first to recognize that this titmouse is subject to geographic variation. He resurrected *annexus* as a name for the "northern form" and called attention to the extremely doubtful type locality. This action was endorsed by Oberholser¹ and accepted by the 1931 Check-list Committee, with the substitution of "southern Arizona" as a type locality. Allocation of the name *annexus* to the northern form was unfortunate, but southern Arizona as a substitute type locality is inexcusable, since before the year 1850, the only bird collector known to have entered the range of the bridled titmouse in what is now southern Arizona was Lieutenant Emory, who was on the upper Gila River in 1846. Lieutenant Abert was in southwestern New Mexico in 1846 and 1847, but there is no mention of the species in their journals and we may assume that they never met it. Audubon crossed the northern Sierra Madre within the range of the northern form and indeed mentions seeing "a titmouse" (which could equally well have been the chickadee of the region). This would do well enough as a type locality except for two circumstances: Audubon's statement that his "few specimens" of unstated species were later "thrown away or lost," and the fact that the type is not representative of the form in that part of the Sierra Madre.

The courtesy of Mr. Rudolph Meyer de Schauensee of the Academy of Natural Sciences of Philadelphia has made it possible for

¹ The phraseology in Dr. Oberholser's note is ambiguous. But he informed me verbally on September 4, 1946, that he had never personally seen the type of *annexus* and had simply accepted Ridgway's statement.

me to examine the type of *annexus*. I can attribute Ridgway's action in placing it as he did only to a *lapsus calami*, for in not one of its characters does it resemble the northern form. Briefly, *Parus annexus* Cassin is a synonym of *Parus wollweberi* Bonaparte.

Although the type is a bird of definite characters it has a very indefinite history. There is no record at the Academy as to when the specimen was obtained from Audubon, an observation which pertains equally to the other "Rio Grande" types of *Emberiza bilineata* and *Parus atricristatus*, which were described in the same paper and presumably were received at the same time. Possibly all three were acquired by Audubon when he was near Rio Grande City in March and April of 1849, but he certainly did not collect them there at that time, for the type of *Emberiza bilineata* is in very abraded, late-summer plumage and the type of *Parus annexus* is a fully grown juvenile. At this late date speculation is futile, but a reasonable guess would be that Audubon obtained the type of *Parus annexus* from some member of the military who had been south in Mexico and was then at Ringgold Barracks. One of these, for instance, was Captain McCown, with whom Audubon was on a "friendly footing." As above mentioned, the type of *Parus annexus* (A.N.S.P. 23674) is a fully grown juvenile, of unspecified sex although very probably a male, in rather disheveled plumage and with the right wing missing. The specimen bears no label save for the red type-tag of the Academy. At one time it evidently was mounted, for the tarsi are distorted by wires. There is an adventitious yellowish stain on the under parts. In spite of the passage of a hundred years the upper parts are comparatively dark in color and quite comparable to those of recently collected juveniles of *wollweberi*, which it further resembles in relatively impurely white facial markings. In size it is larger than any individual of the forty-three juveniles of the northern form measured by me. Among the juveniles at hand this type, aside from the stained under parts, is an almost exact color duplicate of a female from Las Adjuntas, Nuevo León (C.N.H.M. 119211), and an equally close counterpart in size as well as color to a male from Cuernavaca, Morelos (Univ. Mich. 109303).

There being no older name available for the northern race, one is proposed below. In view of the extensive distributional and taxonomic contributions to our knowledge of Arizona birds by Allan R. Phillips, it is appropriate that one of the characteristic birds of that state should bear his name.

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Parus wollweberi phillipsi subsp. nov. Northern Bridled Titmouse.

Type from Yank Spring, Sycamore Cañon, Pajaritos Mountains, Santa Cruz County, Arizona. Altitude 4,000 feet. No. 33093 Dickey Collection, University of California at Los Angeles. Adult male, in freshly acquired, annual plumage. Collected October 7, 1945, by A. J. van Rossem.

Subspecific characters.—Differs from *Parus wollweberi wollweberi* (Bonaparte), of the central and southern Mexican plateau, in paler and more ashy (less olive) upper parts and edgings of wing and tail, in paler under parts with obsolescence of buffy tints, and in more extensive white, with corresponding reduction of black in the facial markings. Size slightly smaller.

Range.—Oak regions in the mountains of southeastern Arizona and southwestern New Mexico, south to the mountains of extreme southern Sonora and at least to 27° 30' N. Lat. in western Chihuahua.

Remarks.—This form is the "*annexus*" of Ridgway, Hellmayr, and other recent authors, but not of Cassin. In a recent publication I inadvertently used "Western Bridled Titmouse" as a vernacular name, a rather misleading one and certainly less appropriate than the one used here.

For a number of years I have had in manuscript the description of a race of this titmouse based on a series of fourteen specimens from Guerrero and Oaxaca in the British Museum. This material had been forgotten until the present investigation brought to light another Guerrero specimen in Chicago Natural History Museum and one from Oaxaca in the collection of the Fish and Wildlife Service. This extreme southern race is named as

Parus wollweberi caliginosus subsp. nov. Dusky Bridled Titmouse.

Type from Omilteme, Guerrero, Mexico. Altitude 8,000 feet. No. 9641 Chicago Natural History Museum. Adult, sex not indicated, just completing annual molt. Collected July, 1888, by Mrs. H. H. Smith.

Subspecific characters.—Differs from *Parus wollweberi wollweberi* (Bonaparte), of the central and southern Mexican plateau, in darker and more olive coloration both above and below; black markings in facial pattern broader and more extensive, with cor-

responding reduction of white; black, lateral, crest stripes broader, and olive gray crown area reduced in width to a central stripe about equal to the bordering black.

Range.—Mountains of Guerrero and Oaxaca.

Remarks.—The measurements of the British Museum series are not reliable since most of the specimens are in various stages of molt, and not one of the sixteen examined is determined as to sex. Measurements of *caliginosus* can well await specimens reliably determined as to age and sex.

As a possible name for the southern race it has been necessary to consider *Lophophanes galeatus* Cabanis, originally a Lichtenstein manuscript name for two specimens in the Berlin Museum. These are an adult male and a juvenile (sex not recorded), Nos. 4967 and 4966, respectively, taken by Deppe (and von Sack) at Real Arriba. This locality was long assumed to be in Puebla but Brodkorb (1942, p. 5) has determined it to be in the state of Mexico, not far from Temascaltepec. Both of these birds were in the mounted collection in 1933, but whether they have survived the war I do not know. I recorded only the measurements of the adult (wing 68; tail 62), but made no other notes concerning it. However, two specimens in the University of Michigan collection from Morelos are *wollweberi*, and since Morelos is even closer to the range of *caliginosus* than is Mexico I do not hesitate to list *galeatus* as a synonym of *wollweberi*.

Bonaparte's type of *Lophophanes wollweberi* was examined at Darmstadt in August, 1933. As there is the possibility that it has been destroyed before or during the war, the data concerning it should be placed on record. Incidentally, the Darmstadt collection was in very bad condition even in 1933. Dr. Stresemann told me that he was considering an attempt to salvage some specimens, but I do not know whether or not this was ever accomplished. The type of *wollweberi* is, or was, a skin, once mounted, and in a poor state of preservation. The bill had been eaten off, presumably by insects. The plumage showed slight wear. On the attached green tag was printed "Meise Parus Wollweberi Westerm[ann] Mexico." The catalogue slip for the skin reads "Geschenk des Herrn Wollweber." There was no other bridled titmouse in the collection or in the catalogue and undoubtedly this specimen is the type. Measurements were taken as follows: wing 69; tail 61.5; tarsus 16.2; middle toe minus claw 10. The sex was not indicated. Specimens of *wollweberi* from the eastern and southern parts of the range are slightly larger than those from the Sierra Madre Occidental. Because

of this, it is fair to assume that the type came from eastern Zacatecas, as was almost certainly true in the case of the type of Bonaparte's *Cardinalis sinuatus*, another Zacatecas bird collected by Wollweber. Large size, as well as historical considerations, suggests an eastern or southern area for the type of *annexus*.

Measurements.—The following measurements (averages in parentheses) were taken. Badly abraded, incompletely plumaged, questionably sexed, or otherwise faulty specimens were not included. Females of corresponding age average about $2\frac{1}{2}$ mm. shorter in wing and tail length.

phillipsi: 21 adult males (Arizona), wing 64.5–68.0 (66.4), tail 58.5–62.5 (60.7); 26 juvenile males (Arizona), wing 59.0–65.0 (63.6), tail 54.0–59.5 (57.5).

wollweberi: 5 adult males (Morelos, Mexico, and Aguas Calientes), wing 67.0–70.0 (68.8), tail 59.5–64.0 (62.0); 1 adult male (type of *galeatus*; Mexico), wing 68.0, tail 62.0; 1 adult male? (type of *wollweberi*; Zacatecas), wing 69.0, tail 61.5; 1 juvenile male (Morelos), wing 66.0, tail 61.0; 1 juvenile male? (type of *annexus*), wing 66.0, tail 62.0.

Specimens examined.—*phillipsi*, total 145: Arizona, 123 (The Baboquivari, Pajaritos, Tumacácori, Santa Rita, Patagonia, Santa Catalina, Sierra Ancha, Huachuca, Chiricahua, and White Mountains, Fort Lowell, Palmerlee). New Mexico, 5 (Grant County; Reserve, Catron County). Mexico: Sonora, 11 (Rancho La Arizona, Cibuta, Providencia Mines, Rancho Santa Bárbara, Sonora-Chihuahua boundary at $27^{\circ} 30'$); Chihuahua, 6 ([slightly intermediate $\times$ *wollweberi* in color] 30 miles west of Miñaca, Bustillos).

wollweberi, total 18: Mexico: Morelos, 2 (Cuernavaca); Mexico, 3 (Real Arriba; Mexico); Aguas Calientes, 2 (Sierra de Calvillo); Puebla, 1 (Puebla); Zacatecas, 1 (type of *wollweberi*); Nuevo León, 1 (Las Adjuntas); Jalisco, 4 (Sierra Blanca; Sierra Bolaños [size of *phillipsi*, color of *wollweberi*]); Durango, 3 (Huasamota; Durango [size of *phillipsi*, color of *wollweberi*]); locality unknown, 1 (type of *annexus*).

caliginosus, total 16: Mexico: Guerrero, 10 (Omilteme; Amula); Oaxaca, 6 (La Parada; Sola; Juchatenango).

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