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Accepted for publication 30 January 1974.

SYSTEMATICS OF THE WHITE-THROATED TOWHEE (*PIPILO ALBICOLLIS*)

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The White-throated Towhee, *Pipilo albicollis*, is a Mexican endemic species of limited distribution. Most of the published information about this species can be found in two papers, those of Davis (1951) and Marshall (1964). Davis used the specific name *Pipilo rutilus*, but see Stresemann (1954).

Marshall's careful studies of vocalizations indicate that *Pipilo albicollis* is less distinct from the Brown Towhee, *P. fuscus*, than I had believed when I wrote of this genus and its relatives in 1957 (Parkes 1957). I called attention to certain striking similarities between *P. albicollis* and *Melozone kieneri* and proposed that, judging from skins, *P. albicollis* formed a link between *P. fuscus* and *M. kieneri*. Marshall found that some of the Mexican races of *P. fuscus* exhibited some of the characters that I had thought were confined, in this group, to *P. albicollis* and *M. kieneri*, but the latter two species still share characters not found in the other forms. One of the characters I invoked was the pattern of the juvenal plumage. I found that in true *Pipilo* (i.e., the *erythrophthalmus* group plus *chlorurus*) the juvenal plumage is distinctly streaked above and below (the ventral streaking corresponding in intensity, in general, to the pigmentation of these areas in adults), whereas all juveniles I saw of *P. fuscus* and Abert's Towhee, *P. aberti*, (which, with *P. albicollis*, form the "brown towhee" group) completely lacked dorsal streaking. In *M. kieneri* the dorsal markings appeared as bars (actually transverse expansions at the tips of somewhat suppressed streaks). The one juvenile of *P. albicollis* then available (Moore Collection 32696) showed a "faint barring" on the dorsum. Two additional juveniles now before me (Carnegie Museum 141364; A. R. Phillips 5195), as well as several in first prebasic molt that retain some dorsal feathers of the juvenal plumage, confirm this. The terminal barbs of the juvenal dorsal feathers have a few blackish barbules at the very tip, giving the effect of a faintly darker, narrow transverse barring or scalloping. This is presumably what Marshall (1964:354) meant in stating of *P. albicollis* that its "marks are broader than long." As stated in my 1957 paper and confirmed by additional specimens, the *ventral* markings of juvenile *albicollis* resemble those of the juvenile *Melozone kieneri* I examined in being irregularly distributed and vaguely shaped dense *spots*, quite unlike those of any other *Pipilo*. Marshall deprecated my statement that *P. fuscus* and *P. aberti* differed from *P. erythrophthalmus* and *P. chlorurus* in completely lacking dorsal streaks. He found that "many juvenal *fuscus* [he did not mention *aberti*] are liberally streaked above and below; and that juvenal *kieneri* are usually streaked, not spotted below." My 1957 findings were based

in large part on borrowed material; at this point I can say only that I do not doubt Marshall's word, but that the 53 juveniles of *P. erythrophthalmus* and 8 of *P. chlorurus* in the Carnegie Museum are all characterized by distinct longitudinal dorsal streaking. There is *no trace* of such streaking in the Carnegie sample (part of a substantially larger series examined in 1957) of six *P. fuscus* and four *P. aberti* juveniles.

Marshall speaks several times of the "Canyon Towhee" (*Pipilo fuscus* part) as the "ancestor" or "ancestral stock" of the White-throated Towhee. I have long objected to the assignment of a living species as the "ancestor" of another living species; but this objection aside, Marshall's interpretation leaves no room whatsoever for a possible relationship between *Pipilo albicollis* and *Melozone kieneri*. He suggests that *Melozone* may be related to *Atlapetes* and the *chlorurus-erythrophthalmus* group of *Pipilo* (rather than to *P. albicollis*), and, further, that "the brown towhees may be connected with some members of the heterogeneous *Aimophila*." I do not find these suggestions persuasive, based as they are on subjective impressions of a few vocalizations plus, in the first case, "a black shiny bill plus addiction to densest understory brush" and, in the second, "brown coloration and occurrence at edges of brush." Marshall's paper, nevertheless, is a major contribution to our knowledge of relationships *among* the brown towhee segment of *Pipilo* (if, indeed, they are truly members of that genus, as Marshall and I and several other authors have wondered).

Mayr and Short (1970:82) state that "*albicollis* and *fuscus* meet barely, *if at all* [italics mine], in southern Mexico." They cite Davis (1951) to support this statement, although Davis's map clearly shows sympatry of the two species in almost half of the range of *albicollis* and his text cites three localities of sympatry. Marshall (1964:353) has shown that the supposed sympatry at Mitla, Oaxaca, was based on mislabeled specimens of *P. fuscus*, but there is no question about the other two localities of sympatry. Dr. Allan R. Phillips (pers. comm.) has informed me of an additional area of sympatry, near Nochixtlán, Oaxaca. His specimen of *P. fuscus* from that locality is apparently the southernmost known.

Davis (1951:84) described *Pipilo rutilus parvirostris* as a new subspecies confined to the vicinity of Mount Zempoaltepec, Oaxaca. He based it on two characters: a "decidedly shorter" bill, and "coloration of pileum browner, less gray." However, he pointed out that the supposed color difference might be attributable to the fact that most of the *parvirostris* series were collected in the fall of 1941, and that the *best* specimens of "*rutilus*" available were from February 1948. He suggested that "the richer, browner coloration of *parvirostris* may be the result of foxing and unworn plumage." Recently taken specimens demonstrate that dorsal browns do become grayer with wear in *Pipilo albicollis*. In addition, Davis's series of "*rutilus*" was composite, and included some specimens of a truly grayer-backed subspecies, to be described beyond. In a later paper, Davis (1954:148) cast some doubt about the validity of the bill length character; in this paper he demonstrated seasonal bill length changes in several passerines owing to changes in feeding habits. Three summer specimens of *parvirostris* had slightly longer bills, sex for sex, than the average of the fall series of 12 males and 7 females. The summer series of "*rutilus*" had mean bill measurements longer than a single male and female taken in December, but 9 February females averaged very slightly *longer*-billed than 12 summer females. Davis emphasized the need for additional collecting to provide seasonally comparable samples. Paynter (1970:180) listed *parvirostris* in the "Peters" Checklist with a query, citing Davis (1954) on the uncertainty of its validity.

On hand at Carnegie Museum are specimens of *Pipilo albicollis* recently collected by Allan R. Phillips, Robert W. Dickerman, Otto Epping, and the writer. For comparison, 28 specimens, including 23 of the type series of *parvirostris*, were borrowed from the Moore Laboratory of Zoology. A list of specimens examined will be found at the end of this paper.

In studying variation in this species, Davis (1951) did not wholly segregate his specimens by age class. In discussing the molts and plumages of the brown towhee group in general, he wrote (p. 3): "Birds undergoing the postjuvenal (first fall) [= first prebasic] molt retain the primaries and secondaries, and usually the rectrices." A few lines later, however, he wrote ". . . rectrices are often replaced in the postjuvenal molt. . . ." Insofar as *P. albicollis* is concerned, the statement about the retention of juvenal remiges is too dogmatic. At least some individuals do replace remiges. A. R. Phillips 7891, "windows cover sk[ull] roof," 20 November, has several short, sheathed remiges. Moore 31112, 17 September, is molting from the narrow rectrices typical of juveniles to the broad rectrices of the first basic plumage (see Davis 1951:3, fig. 1). It is also in heavy wing molt. The old remiges are scarcely worn at all and are obviously of the juvenal generation, whereas the old remiges of adults undergoing wing molt are generally worn and frayed. Virtually *all* of the *parvirostris* specimens from Moctum, Oaxaca, taken in September and October (including Moore 31112) are molting remiges; the chances of all of these having been adults, at that time of year, are slim, but unfortunately no notes on skull pneumatization appear on their labels.

In table 47 Davis (1951:83) shows that the entire type series of 31 specimens of *parvirostris* was included in the sample for bill length, although some of these are clearly immature, and possibly even a majority, as might be expected in a fall sample taken at random. The bill lengths of nine males of *albicollis* taken in October and November, and thus seasonally comparable to Davis's series of *parvirostris*, ranged from 9.9 to 10.7 mm, with a mean of 10.32 mm. This is very close to Davis's figure for 22 males of *parvirostris*: 9.8–11.0 (mean 10.37). Of the nine *albicollis*, the five adults had bills measuring 10.4–10.7 (mean 10.62), whereas the four immatures measured 9.9–10.0 (mean 9.95). If we assume that the age ratio among the specimens of *parvirostris* was about the same, then the inevitable conclusion is that Davis (1954) was correct in his suspicion that seasonally comparable samples would not show significant differences in bill length.

Making allowances for the differences in collecting years, I find that the fresh-plumaged 1941 specimens in the type series of *parvirostris* are not significantly different in color from fresh-plumaged *albicollis* taken in central and southern Oaxaca in 1963–65. This fact, together with the demonstrated lack of significant differences in bill length of seasonally comparable specimens, indicates that Davis's skepticism about the validity of his "*parvirostris*" was justified, and that name becomes a synonym of *albicollis*.

The distribution map published by Davis (1951:79) clearly suggests a disjunct range for the species *Pipilo albicollis*, although this may be in part an artifact of collecting. Nevertheless, the specimens I

have seen from localities additional to those mapped by Davis have been from near one or the other of the two clusters of localities he shows: one in southern Puebla and northern Oaxaca, and one in central to southern Oaxaca. The series of specimens assembled for the present study shows that two races of *Pipilo albicollis* are in fact recognizable, corresponding to the northern and southern groups of localities mapped by Davis. The type locality of *Pipilo albicollis* Sclater is San Miguel de las Peras, Oaxaca, which is well within the range of the southern form, leaving the northern one to be named. It may be called:

Pipilo albicollis marshalli

new subspecies

Holotype. Carnegie Museum No. 142292 [presumably adult] male (testes 2 × 1 mm, cranium fully pneumatized, rectrices of adult shape). From San Vicente Villalegría, 4 miles N of Tehuacán, Puebla, México. Collected by Juan Nava S. for Kenneth C. Parkes (field no. KCP 2445) on 9 February 1965.

Diagnosis. Differs from *P. a. albicollis* in being colder and grayer dorsally, on face, and on sides of neck; flanks duller, less richly rufescent and more olivaceous anteriorly; spots on tips of wing coverts and upper tail coverts, and edgings of fresh outer secondaries paler (whitish to buff rather than some shade of orange-buff); orange-brown area of throat paler and, in series, averaging less extensive.

Range. Southern Puebla and adjacent northern Oaxaca, México. I have not examined the specimens from Guerrero mentioned by Davis (1951:81), but his description of the dark flank color of the two unworn specimens as well as the locality strongly suggest that these birds are referable to *marshalli.*

Etymology. Named for Joe T. Marshall, Jr., who has contributed much to our knowledge of the brown towhees in life, although this represents but a tiny fraction of his total contribution to ornithology.

Remarks. Color comparisons above are based on fall and winter specimens taken in 1963–65, and thus comparable with respect both as to seasonal wear and museum age. Even in worn birds, however, several of the differences are noticeable. Two juveniles of *marshalli* are available. Comparing these with three specimens of *albicollis* that retain portions of the juvenal plumage (A. R. Phillips 7889, 7890, 7944), the two *marshalli* have the throat only faintly washed with yellow, whereas in juvenile *albicollis* the throat is distinctly yellow, this color even permeating the darker adjacent area of the face to produce a somewhat greenish appearance. As in later plumages, the pale edgings of the inner secondaries are more distinctly rufous in *albicollis.* The first prebasic molt of the three *albicollis* has progressed too far to permit adequate comparisons of flank and dorsum color.

Specimens examined. [Additional locality records are given by Davis 1951.]

Pipilo a. albicollis

Oaxaca: San Jose del Pacifico, 6 (November)
13 km S of Miahuatlán, 2 (November)
El Tule (S. of Oaxaca), 3 (January)
6 km S of Etla, 4 (January)
Mitla, 6 (April, 1; June, 5)

P. a. "parvirostris" (= *albicollis*)

Oaxaca: Moctum, 20 (September through December)
Totontepec, 3 (April)

P. a. marshalli

Oaxaca: San Antonio del Río (just S of Puebla border, N of Camotlán), 4 (May, 1; July, 3)
4 miles WNW Tamazulapan del Progreso, 1 (May, juvenile)

Puebla: San Vicente Villalegría, 4 miles N of Tehuacán, 7 (October, 3; February, 4)

I am grateful to John William Hardy and Martin L. Morton for sending me the important specimens of *Pipilo albicollis* from the Moore Laboratory of Zoology, Occidental College; to Allan R. Phillips and Robert W. Dickerman for companionship and guidance in the field in México, and for lending me specimens from their personal collections (which are now deposited in the Delaware Museum of Natural History and Cornell University, respectively); to Juan Nava S. and Santos Farfán B. for assistance in the field; to the Dirección General de la Fauna Silvestre for permits to collect birds in the Republic of México; and to the Edward O'Neil Fund of Carnegie Museum for financial support of field work.

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Accepted for publication 29 August 1973.