

SHORT COMMUNICATIONS

The Condor 89:654-658
© The Cooper Ornithological Society 1987

OBSERVATIONS ON TWO RARE BIRDS, *UPUCERTHIA ALBIGULA* AND *CONIROSTRUM TAMARUGENSE*, FROM THE ANDES OF SOUTHWESTERN PERU¹

THOMAS S. SCHULENBERG

Museum of Zoology, Louisiana State University, Baton Rouge, LA 70803

Key words: *Upucerthia albigula*; *Conirostrum tamarugense*; *Andean birds*; *Peru*; *Chile*.

The birds of the western slopes of the Andes of southern Peru remain poorly known, despite the pioneering efforts of Maria Koepcke and earlier ornithologists. In the course of field work in southwestern Peru for the Louisiana State University Museum of Zoology (LSUMZ), I obtained new information for two very poorly known species.

UPUCERTHIA ALBIGULA. WHITE-THROATED EARTH-CREEPER

I collected one specimen (LSUMZ 114110, male) on 12 July 1983 at Km. 48 on the road from Nazca to Puquio, 2,675 m, Dpto. Ayacucho. This bird, the only individual of this species seen there in one-half day of field work, was on the ground in a ravine containing a variety of shrubs and several species of cactus, primarily *Armatocereus ghiesbreghtii* and *Weberbauerocereus rauhii*.

Upucerthia albigula is known only from the western slopes of the Andes in southern Peru and northern Chile. The northernmost previous record for this earth-creeper was near the city of Arequipa, Dpto. Arequipa, ca. 375 km southeast of the Nazca-Puquio road (O'Neill 1969). *U. albigula* is quite rare in collections. I know of only 14 specimens, 13 study skins and one alcoholic. These, from north to south, are: PERU: LSUMZ 114110, discussed above; American Museum of Natural History (AMNH) 802288, 2.5 miles N of Arequipa, Dpto. Arequipa (elevation?), unsexed (alcoholic specimen made into a skin), 31 August 1962; LSUMZ 34624, female, 20 km by road E Arequipa, Dpto. Arequipa, 2,625 m, 11 November 1964; LSUMZ 82743, male, 35 km by road E Arequipa, Dpto. Arequipa, 3,150 m, 27 October 1976; LSUMZ 120744, unsexed alcoholic specimen, 35 km by road E Arequipa, Dpto. Arequipa, 3,425 m, 2 September 1984;

LSUMZ 119178, sex?, 35 km by road E Arequipa, Dpto. Arequipa, 3,425 m, 3 September 1984; LSUMZ 78262, male, 20 km by road E Chiguata, Dpto. Arequipa, 3,900 m (this specimen probably collected at a lower elevation, closer to 3,000 m, fide T. A. Parker, III, pers. comm.), 15 June 1975; Museum of Vertebrate Zoology (MVZ) 125208, female, Arequipa, Dpto. Arequipa, 3,500 m (by the elevation given, I presume this specimen also was collected along the road E Chiguata), 22 December 1951; Forschungsinstitut Senckenberg (Frankfurt, W. Germany) 37531, female, Palca, Dpto. Tacna, 3,000 m, 18 October 1902 (paratype); CHILE: Field Museum of Natural History (FMNH) 61094, male, Putre, Prov. Arica, 3,550 m, 7 July 1924 (holotype); FMNH 61091, female, Putre, Prov. Arica, 3,550 m, 15 June 1924 (paratype); Museum of Comparative Zoology (MCZ) 287707, male, Putre, Prov. Arica, 3,500 m, 7 November 1943; MCZ 287708, male, Putre, Prov. Arica, 3,500 m, 7 November 1943; AMNH 80722, unsexed, "near Valparaiso" (locality presumed to be incorrect, specimen probably from Dpto. Tacna [Hellmayr 1932:170]), June 1885 (paratype).

Except for LSUMZ 114110, all LSUMZ specimens were collected east of Arequipa, both above and below the village of Chiguata. Here *U. albigula* is largely if not entirely restricted to ravines, where the density of shrubs is considerably greater than on surrounding plains or slopes. Cactus is present in these ravines but is not as conspicuous as at the Ayacucho locality. Characteristic birds of these ravines include *Leptasthenura striata*, *Asthenes dorbignyi*, *Anairetes flavirostris*, and *Sicalis olivascens*.

In the vicinity of Chiguata, *U. albigula* is found from at least 2,625 to 3,425 m. The elevational range of *U. albigula* overlaps broadly with that of *U. ruficauda*, which is found from ca. 2,675 to 4,150 m. These two species are often found syntopically, although *U. ruficauda* appears to be more common than *U. albigula* and less restricted to ravines. Differences in body size and bill shape between *U. albigula* (\bar{x} = 39.9 g, n = 7; bill strongly curved) and *U. ruficauda* (\bar{x} = 30.1 g, n = 12; bill straight) suggest that there may also be differences in foraging behavior or diet between these species, although no critical information exists on the foraging

¹ Received 23 April 1985. Final acceptance 18 February 1987.

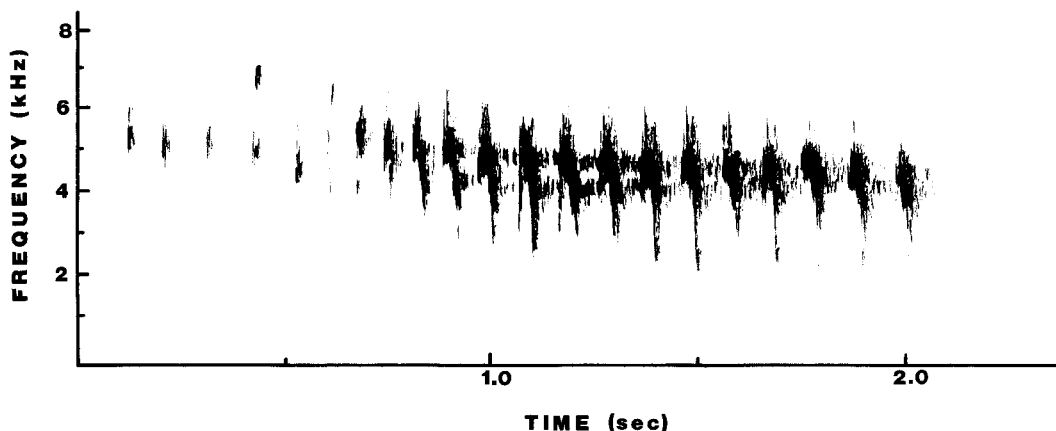


FIGURE 1. Sonogram of song of *Upucerthia albigula*, recorded on 5 February 1986 near Chiguata, Dpto. Arequipa, southwestern Peru; a copy of this tape is deposited at the Library of Natural Sounds, Cornell University (LNS 36056).

of either species. At this latitude *U. albigula* overlaps only slightly with *U. jelskii* (3,425 to 4,275 m; \bar{x} = 40.1 g, n = 23), a bird about the same size as *U. albigula* and with a similar bill structure. Apparently *U. albigula*, *U. jelskii*, and *U. ruficauda* occur together in the vicinity of Putre, ca. 3,550 m, Prov. Arica, Chile (Hellmayr 1932; B. Whitney, pers. comm.). Stomach contents of all three species were described as "insects" for specimens in the LSUMZ (*U. albigula*, n = 1; *U. jelskii*, n = 8; *U. ruficauda*, n = 7).

None of the sexed LSUMZ specimens of *U. albigula* were in breeding condition. Johnson (1967) reported breeding of *U. albigula* in "late November" at Putre, but the only nest he attributed to the species was apparently found in early, not late, November. The collection of R. A. Philippi, deposited at the Museum of Comparative Zoology, contains two male specimens collected on 7 November 1943. One specimen was apparently not in breeding condition ("tne" = testes not enlarged), but the second specimen was described as "te" and "tenía nido con dos huevos" ("had nest with two eggs"). There can be little doubt that the nest described by Johnson (1967) is the same as the nest referred to on this specimen label, as Johnson (1967: 153) contains a photograph of Philippi and Johnson standing at the entrance to the nest. T. A. Parker, III (pers. comm.) saw a pair of *U. albigula* coming in and out of a burrow near Chiguata on 8 February 1984. Parker and I have also found this species singing in this area in February 1984 (Parker) and February 1986 (Schulenberg). February is normally the early part of the short rainy season in this arid region; the rains of 1984 were the first there following a prolonged drought of several years. The song is a slightly descending series of harsh notes (Fig. 1).

U. albigula is quite similar to *U. jelskii*, and owing to confusion between specimens of the two, *U. albigula* was not described until 1932 (Hellmayr 1932:168). Structural differences between the two species are minor. Hellmayr noted that *U. albigula* has a "stouter, thicker, more arched" bill than *U. jelskii*, and Vuilleumier (p. 334 in Vaurie 1980) noted that the tip of the

bill is slightly broader, more spatulate in *U. albigula* than in *U. jelskii*. Hellmayr (1932:160-170) listed 11 plumage differences between the two species, based on the original type series of four *U. albigula* and "numerous" specimens of *U. jelskii*. These plumage differences are summarized as follows (characters of *U. albigula* first, followed by characters of *U. jelskii* in parentheses): back warm brown (back much paler); crown sepia, darker than the back (crown not darker than back); wing coverts rufous (wing coverts same color as back); median rectrices almost as rufous as lateral rectrices (median rectrices "more or less dusky contrasting with the rest of the tail"); supercilium wide (supercilium "indistinct and narrow"); supercilium more yellowish (supercilium "light pinkish cinnamon"); throat clear white (throat pale buff); well-defined scaly apical margins to feathers of lower throat ("mere suggestions" of darker edges to feathers of throat); chest deep buff and flanks clay color (underparts uniformly "pale pinkish buff"); rufous base to outer webs of primaries (base of outer webs of primaries dusky); outer webs of secondaries rufous (sooty margins to secondaries). I have reviewed all of the plumage characters attributed to *U. albigula*, based on six study skins of *U. albigula* (LSUMZ 5, MVZ 1) and 39 of *U. jelskii* (of which 17 are from Arequipa, Tacna, or Arica, i.e., areas of sympatry with *U. albigula*). Most characters vary sufficiently either in *U. albigula* or *U. jelskii*, as described below, as to bridge the differences between the two species. The single character that I regard as diagnostic of *U. albigula* is the extensively rufous outer webs of all but outermost two primaries. Several other characters, while not diagnostic in themselves, are nonetheless much more typical of *U. albigula* than *U. jelskii*. These characters are: (1) chin (and sometime throat) clear white; (2) prominent dusky tips to the feathers of the throat and breast; (3) lack of a sooty margin to the outer web of the secondaries; (4) broad supercilium; and (5) strong contrast between the colors of the flanks and belly. I have not seen any specimen in which more than one of these characters varied significantly toward the condition typical of the

other species; hence, any specimen may be identified by using a combination of these characters, in addition to the amount of rufous in the primaries.

The chief distinction between *U. albigula* and *U. jelskii* with regard to the color of the upperparts (back, nape, scapulars, and rump) is the degree of suffusion with red (*U. albigula*) or gray (*U. jelskii*) tones. There is significant variation in the color of the upperparts of the *U. jelskii* that I examined, with many specimens considerably browner, less gray, than others; some variation is also apparent in the small series of *U. albigula*. Typical examples of the two species are instantly separable by this character, but the color of the upperparts of duller, less reddish specimens of *U. albigula* is approached by many specimens of *U. jelskii*. There is no crown/back contrast in *U. jelskii*. This contrast is only weakly developed or not apparent at all in at least three of the specimens of *U. albigula*. The wing coverts of all LSUMZ specimens of *U. albigula* are more or less rufous. This feature seems to vary much as does the color of the upperparts, however, and the wing coverts of more dull-colored specimens of *U. albigula* are only slightly redder than those of many *U. jelskii* (in which, contra Hellmayr, the wing coverts are often slightly "warmer" in color than is the back). In many specimens of *U. jelskii* the median rectrices are only slightly darker, less rufous, than the lateral rectrices, equalling the condition found in *U. albigula*.

The shape of the superciliary in specimens is somewhat dependent upon the manner of specimen preparation. The superciliary of *U. jelskii* is typically narrow (ca. 2.5 mm broad over the auriculars, 10 mm behind the eye) but may be as broad as 3.0 mm; the superciliary of *U. albigula*, measured at the same point, ranges from 3.0 to 3.8 mm in breadth. The color of the superciliary varies among the six *U. albigula*, from yellowish-buff (quite distinct from the color of the superciliary of any *U. jelskii*) to pale cinnamon-buff, a color approached in the superciliary of some *U. jelskii*.

All six specimens of *U. albigula* have at least some pure white on the throat, although the extent of white varies within this small series: one specimen has only the chin white; three others have the upper throat white, shading into the yellowish-buff of the lower throat; and one specimen has the entire throat white, contrasting clearly with the color of the breast. The throat of *U. jelskii* is typically pale buff. This may be the same color as the breast or slightly paler, approaching whitish-buff, and in one specimen (MVZ 125209) the throat is as white as in *U. albigula*. As this bird was collected at Limbani, Dpto. Puno, in the eastern Andes, there is no possibility that the abnormal throat color of this specimen is the result of hybridization with *U. albigula*. All specimens of *U. albigula* show more or less well-developed dusky tips to the feathers of the lower throat and breast, producing a scaled pattern. Such markings are typically lacking in *U. jelskii*, or are only faintly indicated; a few specimens, however, also have fairly well-defined dusky tips to the feathers of the throat (e.g., LSUMZ 119179) or breast (e.g., LSUMZ 105881). The dusky tips in *U. albigula* vary greatly both in the intensity and extent of the markings. In some specimens of *U. albigula* the dusky tips are scarcely darker than the similar markings of the aforementioned examples of *U. jelskii*, whereas in the remaining *U. al-*

bigula the heavy scaling on the throat and breast is well outside the apparent range of variation of *U. jelskii*. In all specimens of *U. albigula*, the scaly markings extend at least onto the upper breast and sometimes to the lower breast. These markings are particularly prominent in LSUMZ 78262, on which specimen somewhat less well-defined dusky tips are also present on the feathers of the flanks. This specimen differs from the remainder of the series in several other features: the bill is unusually short, the underparts are deeper buff in color, and the rectrices are somewhat narrower and more pointed than in other specimens. This combination of features suggests that the bird is a juvenile. The scaly markings of the underparts of *U. dumetaria* are also more extensive in juveniles than in adults (specimens, LSUMZ). Interestingly, the plumage of juvenile *U. jelskii* does not differ significantly from that of adults, although it is possible that the specimens of *U. jelskii* with the darkest tips to the throat feathers are also young birds.

The color of the underside of *U. jelskii* varies from light grayish-buff to light yellowish-buff. The color of the underparts is generally uniform, although in a few specimens the lower flanks are brownish-buff, contrasting slightly with the center of the belly. The chest of all specimens of *U. albigula* is buff, and the flanks are typically clay color, while the center of the belly is pale buff; consequently, the color of the underparts of *U. albigula* are overall buffier than in *U. jelskii*, and there is more contrast between the flanks and the belly. There is some variation within the series of *U. albigula* in the shade of buff of the underparts, and duller examples are similar to some *U. jelskii*.

The amount of rufous in the wing of *U. jelskii* varies geographically; the northernmost populations, north of the range of *U. albigula*, entirely lack rufous in the wing. In areas of sympatry, *U. albigula* and *U. jelskii* can be easily distinguished by the differences between them in the amount of rufous in the remiges. According to Hellmayr (1932:170) "all . . . specimens of *U. albigula* have the base of the outer web of the third to the fifth primaries just as bright rufous as the inner web," whereas "there is a distinct dusky streak" in *U. jelskii*. In fact, the entire outer webs of all but the innermost secondaries and the greater part of all but the two outermost primaries are rufous in *U. albigula*; there is an extensive area of rufous on the closed wing. The outer margins of the outer webs of the secondaries are typically blackish in *U. jelskii*, and the distal margins of the outer webs of the primaries are blackish or dark brown (presumably the "streak" that Hellmayr referred to); consequently, the only rufous visible on the closed wing is a small area near the base of the inner primaries, just past the tips of the wing coverts, that contrasts with surrounding areas of dark brown.

Hellmayr (1932:170) reported that two specimens of *U. jelskii* from Prov. Tarapacá, Chile (south of the known range of *U. albigula*), lacked the blackish margins to the secondaries. I have examined one of these specimens (British Museum [Natural History] 1905.1.30.515), and found that it does indeed have entirely rufous secondaries (a second specimen from the same region, BMNH 91.9.9.99, has the typical dusky secondary markings; I have not examined a third specimen, which presumably is the other example Hell-

mayr referred to). This specimen is clearly *U. jelskii*, however, as shown by the other characters (e.g., buff throat, no dusky markings on throat, uniform underparts). The reduced amount of dusky markings in the wing of this specimen may represent the extreme expression, at the southern end of the species' range, of the cline from north to south towards increased amounts of rufous in the wing. The dusky markings on the outer webs of the remiges of *U. jelskii* are also typical of *U. validirostris* of northwestern Argentina; *U. jelskii* and *U. validirostris* are sometimes regarded as conspecific (Cory and Hellmayr 1924, Hellmayr 1932, Peters 1951).

Information on soft-part colors was recorded for four of the five LSUMZ specimens. For all, the irides were described as brown; the bill, tarsi, and feet were described as either black, brown, or dark gray. These are similar to the soft-part colors of other Peruvian species of *Upucerthia*.

CONIROSTRUM TAMARUGENSE. TAMARUGO CONEBILL

Three or four individuals were seen singly or in pairs on 1 July 1983 in low open *Polylepis* woodland at Km. 116 on the road from Tacna to Ilave, about 25 km by road northeast of Tarata, 4,050 m, Dpto. Tacna. These cone-bills were very active and did not associate with other birds, although *C. cinereum* was seen the same day at this location by S. E. Allen. No specimens were obtained; however, I had seen both *C. tamarugense* and *C. cinereum* daily only a week earlier, from 21 to 24 June 1983, east of Chiguata, Dpto. Arequipa, and was familiar with the field characters of both species. I was able to approach within 5 m of the cone-bills at Tarata and clearly saw the rufous superciliary, throat, and crissum that distinguish this species from the more widespread *C. cinereum*. I was close enough to these cone-bills to also note the dark gray color of the upperparts. The upperparts of *litorale*, the subspecies of *C. cinereum* that is sympatric with *C. tamarugense* in southern Peru and northern Chile, are a noticeably paler gray.

The Tamarugo Conebill was described from six specimens by Johnson and Millie (1972) from an oasis planted with tamarugal trees at about 1,000 m in Tarapacá, northern Chile. (These authors described the species as *Conirostrum tamarugensis*; I use the amended spelling *tamarugense* after Mayr and Vuilleumier [1983].) Johnson apparently also observed this species at 2,950 m, at Mamiña, Tarapacá (Johnson and Millie 1972). All other Chilean localities are from relatively low elevations (sea level to 1,350 m) in Arica, where the species is "not limited to tamarugal (*Prosopis tamarugo*) but is also found in the riverine scrub vegetation, agricultural areas, and citrus groves of the lowland valleys" (McFarlane 1975:307).

Shortly after the initial discovery of *C. tamarugense* in Chile, it was recorded in southern Peru, on the slopes of Cerro Pichupichu, northeast of the city of Arequipa on the road to Puno (Tallman et al. 1978). At this location, in a zone of shrubs (primarily *Gynoxys*) and trees (*Polylepis*) above the village of Chiguata, *C. tamarugense* is known from ca. 3,450 to 3,900 m. Both Peruvian locations (Chiguata and Tarata) are consid-

erably higher than any known location for the species in Chile. *C. tamarugense* is as yet unknown from the poorly explored foothill valleys of southern Peru, at least some of which contain habitat similar to the valleys in Arica where McFarlane found the species.

The seasonal distribution of this species, and in particular the location of its breeding grounds, remain a puzzle. Johnson and Millie (1972) and Tallman et al. (1978) suggested that *C. tamarugense* may breed at high elevations and wander to adjacent lowlands as a visitant. I know of at least 10 visits to appropriate habitat for *C. tamarugense* above Chiguata between late December and early March, a period that encompasses the rainy season in this area and hence is the breeding season for most if not all local passerine birds. All observers (R. A. Hughes, N. Krabbe, Parker, R. S. Ridgely, Schulenberg) were familiar with the characters of this species. On only one occasion during this period was *C. tamarugense* found: Hughes (in litt.) saw a single *C. tamarugense* in *Gynoxys* at ca. 3,400 m on 14 February 1983. None of the 24 LSUMZ specimens (14 skins, 10 skeletons) from Chiguata, collected in June, August, and early September, have enlarged gonads; the same is true of two LSUMZ specimens from Arica, collected by McFarlane in March.

Johnson and Millie (1972) described a female specimen (their only female paratype) as differing from the male by lacking the rufous color of the throat and crissum, and by being brownish-gray rather than slate-gray on the upperparts. Neither McFarlane (1975) nor Tallman et al. (1978), however, reported any sexual dimorphism among their specimens. I examined 11 sexed, adult (by skull ossification) specimens in the LSUMZ, nine from Chiguata and two from Arica. The rufous color of the throat and breast is darker in some males than in any females, but the difference is bridged by other males. I could find no other consistent plumage character that distinguishes the sexes. As noted by Tallman et al. (1978), this is not surprising because the adults of the presumed closest relatives of *C. tamarugense* (*C. cinereum*, *C. rufum*, and *C. ferrugineiventris*) are also not sexually dimorphic. An additional four males, with the skulls noted as 0 to 50% ossified, resemble adult males. However, two females with completely unossified skulls (LSUMZ 119237, 119244), collected in August and early September 1984 by G. H. Rosenberg, differ from all other specimens examined. Both specimens are much paler below than other specimens, with an extensive cream-colored area on the belly, and light brownish-gray, not dark gray, flanks and sides of the breast. These two specimens are also paler and browner, less gray, above than most (but not all) other specimens. Both specimens have a short rufous eyebrow, but the eyebrow of 119244 is paler than the eyebrow of any other specimen. The color of the throat and upper breast differs slightly between these two specimens, but in both, the rufous color of these areas is much paler than in the adults, closer to cinnamon-rufous, and is much reduced in extent. The undertail coverts of one specimen are the same pale cinnamon-rufous; in the other specimen these feathers are pale cinnamon-rufous with broad whitish-buff fringes. These two specimens agree in most details with Johnson and Millie's (1972) description of the female, and therefore I suggest that their description was based

on the juvenal or First Basic, not adult, plumage. It is not surprising that *C. tamarugense* would have such a plumage, as the related *C. cinereum* also has recognizable immature plumages (specimens, LSUMZ).

The general behavior of the *C. tamarugense* at Chiguata in 1983 was similar to that described for this species at this location by Tallman et al. (1978). In *Gynoxys* shrubs at 3,600 m, *C. tamarugense* was common in flocks with smaller numbers of *C. cinereum*. At higher elevations in *Polylepis* woodlands at 3,900 m, *C. tamarugense* was recorded daily, but in smaller numbers (4 to 10/day) in conspecific groups that foraged by themselves or in loose association with mixed-species flocks that contained *U. jelskii*, *U. ruficauda*, *Leptasthenura andicola*, *L. striata*, and *Phrygilus atriceps*. In contrast, at lower elevations in Chile, McFarlane (1975) found *C. tamarugense* only in association with *C. cinereum*, and regarded the former to be "much rarer" than the latter. The stomachs of six specimens from Chiguata contained insect parts. McFarlane and Loo (1974) also found insect parts in the stomachs of two *C. tamarugense* collected in Chile.

I am indebted to J. S. McIlhenny, B. M. Odom, and H. I. and L. R. Schweppe for their support of LSUMZ expeditions. I thank the Dirección General Forestal y de Fauna, Ministerio de Agricultura, Lima, for its continuing interest in and support of LSUMZ field studies. R. A. Hughes, N. Krabbe, R. S. Ridgely, and B. Whitney shared their observations with me; R. W. McFarlane and T. A. Parker, III, generously provided a wealth of unpublished material. S. E. Allen assisted in the field work. G. H. Rosenberg gave permission to publish on several important specimens that he collected. The cacti were identified by A. D. Zimmerman. G. Budney prepared the sonogram. R. W. McFarlane, T. A. Parker, III, J. V. Remsen, Jr., and F. Vuilleumier commented on drafts of the manuscript.

LITERATURE CITED

- CORY, C. B., AND C. E. HELLMAYR. 1924. Catalogue of birds of the Americas. Field Mus. Nat. Hist. Publ. Zool. Ser. 13, Part 3:1-369.
- HELLMAYR, C. E. 1932. The birds of Chile. Field Mus. Nat. Hist. Publ. Zool. Ser. 19:1-472.
- JOHNSON, A. W. 1967. The birds of Chile and adjacent regions of Argentina, Bolivia, and Peru. Vol. 2. Buenos Aires: Platt Establecimientos Gráficos S.A.
- JOHNSON, A. W., AND W. R. MILLIE. 1972. A new species of conebill (*Conirostrum*) from northern Chile, p.3-8. In A. W. Johnson, Supplement to the birds of Chile and adjacent regions of Argentina, Bolivia, and Peru. Buenos Aires: Platt Establecimientos Gráficos S.A.
- MAYR, E., AND F. VUILLEUMIER. 1983. New species of birds described from 1966 to 1975. J. Ornithol. 124:217-232.
- McFARLANE, R. W. 1975. The status of certain birds in northern Chile. Bull. I.C.B.P. 12:300-309.
- McFARLANE, R. W., AND E. LOO P. 1974. Food habits of some birds in Tarapacá. Idesia 3:163-166.
- O'NEILL, J. P. 1969. Distributional notes on the birds of Peru, including twelve species previously unreported from the republic. Occas. Pap. Mus. Zool. LA State Univ. 37:1-11.
- PETERS, J. L. 1951. Check-list of the birds of the world. Vol. VII. Museum of Comparative Zoology, Cambridge, MA.
- TALLMAN, D. A., T. A. PARKER, III, G. D. LESTER, AND R. A. HUGHES. 1978. Notes on 2 species of birds previously unreported from Peru. Wilson Bull. 90:445-446.
- VAURIE, C. 1980. Taxonomy and geographical distribution of the Furnariidae (Aves, Passeriformes). Bull. Mus. Nat. Hist. 166:1-357.