

TAXONOMIC STATUS OF THE RUFIOUS-BELLIED CHACHALACA (*ORTALIS WAGLERI*)¹

RICHARD C. BANKS

Biological Survey Group, National Ecology Research Center, U.S. Fish and Wildlife Service,
National Museum of Natural History, Washington, DC 20560

Abstract. The Rufous-bellied Chachalaca, *Ortalis wagleri*, of northwestern Mexico was merged with the morphologically different West Mexican Chachalaca, *Ortalis poliocephala*, on the basis of hybrids taken in the vicinity of Puerto Vallarta, Jalisco (Moore and Medina 1957). Eight specimens from that vicinity vary in appearance chronologically, from an individual similar to *wagleri* in 1892 through skins appearing to be F₁ hybrids in 1955 to birds nearly indistinguishable from *poliocephala* in 1961. There is no other evidence of contact between the two forms. This is deemed insufficient evidence for considering the forms conspecific, and I recommend that *Ortalis wagleri* be restored to the status of species.

Key words: Rufous-bellied Chachalaca; Wagler's Chachalaca; *Ortalis wagleri*; West Mexican Chachalaca; *Ortalis poliocephala*; Mexico; hybridization; taxonomy.

INTRODUCTION

Chachalacas (*Ortalis* spp.) are economically important game species throughout their collective range in Latin America. Like their larger and more showy relatives in the family Cracidae, the guans and curassows, many chachalacas are suffering from reduced population levels because of overexploitation and habitat loss; several species in the family are considered endangered. Despite this, many aspects of the biology of the cracids are poorly known—including their taxonomic and evolutionary relationships.

From the time of its description in 1867 until 1957, the Rufous-bellied or Wagler's Chachalaca, *Ortalis wagleri*, of northwestern Mexico was considered a distinct species. The more southern West Mexican Chachalaca, *O. poliocephala*, similarly was considered distinct for most of its named existence, although from about 1934 until 1953 it was ranked as a subspecies of the Plain Chachalaca, *O. vetula* (Griscom 1934, Hellmayr and Conover 1942, Ridgway and Friedmann 1946, Wagner 1953). Just when the specific distinction of *poliocephala* was reconfirmed, *wagleri* was merged into it as a subspecies (Moore and Medina 1957). This taxonomic status was maintained by Vaurie (1965, 1968) and is reflected by the AOU (1983), although Delacour and

Amadon (1973) suggested that the two forms might actually be distinct.

The genus *Ortalis* is a difficult group, consisting of 10–12 very similar species, mostly monotypic and mostly allopatric. Those that overlap geographically generally do so in limited fashion, at only one or a few localities (Delacour and Amadon 1973). Very little hybridization is known (Vuilleumier 1965), despite the overall similarities among all the species. It has even been suggested that the entire genus constitutes a super-species (Amadon in Mayr and Short 1970). Difficulties of classification in the genus are indicated by the AOU (1983), in which notes presenting alternative taxonomic treatments are given for each of the four species listed. One change in the taxonomy of the Central American group has already been made, namely the elevation of *O. leucogastra* to the species level (AOU 1985).

DIFFERENCES BETWEEN *O. WAGLERI* AND *O. POLIOCEPHALA*

Ortalis wagleri is distinctive in the genus in having the abdomen and the tips of the tail feathers rich chestnut. The species *poliocephala*, on the other hand, is whitish or grayish white on the underparts and tail tips, although most individuals have a wash of buff or rufous on the thighs or abdomen and on the tips of the rectrices. Even though he treated these forms as conspecific, Vaurie (1965, p. 12) noted that they represent

¹ Received 12 January 1990. Final acceptance 3 May 1990.

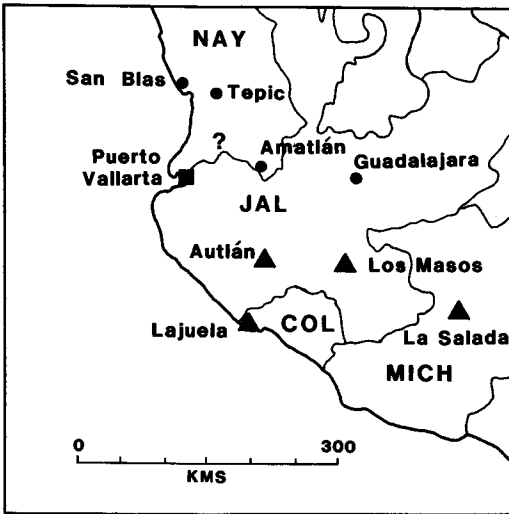


FIGURE 1. Map showing nearest documented localities of *Ortalis wagleri* (dots) and *O. poliocephala* (triangles) in western Mexico. The hybrid area in the vicinity of Puerto Vallarta is indicated by a square. An uncertain record is marked by ?; see parenthetical note on p. 750.

the extremes of color variation in the genus. The two forms are similar in size, being the largest members of the genus. In *wagleri*, the bare facial skin around the eyes is blue, and the bare throat red, whereas in *poliocephala* both the bare orbital and gular skin are "carmine" (Delacour and Amadon 1973); these facial differences could aid in reproductive isolation. Whereas *poliocephala* is a bird of higher, moister broad-leaved deciduous forest in the major part of its range in southern Mexico, *wagleri*, in northwestern Mexico, is a bird of much drier vegetation at lower elevations.

There may also be vocal differences between *wagleri* and *poliocephala*. Davis (1965) reported on the voices of most members of the genus *Ortalis* and concluded that the vocalizations of *wagleri* and *poliocephala* were more like one another than either was like other species. However, the differences were great enough so that he called them separate, but sibling, species. Vaurie (1965, p. 16) also discussed the voices of these birds, using Davis's tapes. He felt that "the 'song' of *wagleri* . . . sounds very similar to that of *poliocephala*." However, "the spectrograms prepared from the tapes of *wagleri* did not confirm the very close similarity to *poliocephala* . . ." Vaurie (1965, p. 17) went on to say that "five

[spectrograms] of *wagleri* from Nayarit . . . show some similarity to the spectrograms of *poliocephala* but not very much." Neither of these studies is definitive or convincing.

EVIDENCE FOR THE MERGER

The evidence to support the merger of these two distinctive Mexican forms (Moore and Medina 1957) consisted of a small series of birds from the vicinity of Puerto Vallarta, Jalisco, near the border of Nayarit, that seem to be hybrids or intergrades. The earliest Puerto Vallarta specimens had been used to set the southern limit of *wagleri* at about the border of Nayarit and Jalisco. Aside from specimens from the Puerto Vallarta area, there is a large gap in the documented range of the two species from San Blas and Tepic, Nayarit, along the entire coast of Jalisco to northern Colima (Ridgway and Friedmann 1946). (Note: Vaurie, 1965, p. 17, mentioned a tape of calls attributed to *O. wagleri* made 34 miles northeast of Puerto Vallarta, Jalisco. This appears to be in the valley of the Río Ameca, about 30 miles northwest of Amatlán, Nayarit. Spectrograms of those calls, however, were considered very different from those of calls of *wagleri* from farther north and were not similar to those of calls of *poliocephala*. The identity of the bird recorded, but apparently not collected, is in doubt.) There seems to be a similar gap inland, the nearest documented approach of the two forms being between Amatlán, Nayarit, and Guadalajara, Jalisco (*wagleri*), and Autlán and Los Masos, Jalisco (*poliocephala*), distances of about 150 km or 80 miles (Fig. 1, Vaurie 1965). If this separation is real, and not an artifact of incomplete collecting, it is as large as the gap between any two neighboring populations in the North American range of the genus (Vaurie 1968, Delacour and Amadon 1973).

Moore and Medina (1957) artificially closed the distributional gap between the forms by newly naming the population of *poliocephala* from Colima *O. p. lajuetae*, and by including some of the Puerto Vallarta specimens in the range of this subspecies. This new subspecies was supposed to differ from more southern *poliocephala* by being darker below, varying in the direction of *wagleri*. Few later authors (e.g., Schaldach 1963) have recognized that subspecies, but even those who have not recognized it have followed Moore and Medina (1957) in stating that the population is intermediate between true *poliocephala* and

wagleri (Vaurie 1965, 1968). Delacour and Amadon (1973) recognized the race deliberately to call attention to the supposed intergradation. Of course, the redefinition of the range of *poliocephala* to include Puerto Vallarta established a point of contact with *wagleri*, already stated to occur south to that area. Reiteration of the concept of contact has reinforced the idea of intergradation from Colima northward through Jalisco, and thus supported the proposal that the two different forms represent a single species. This reinforcement has taken place despite the lack of specimens from the rest of the supposed intergrade zone or additional material that is intermediate morphologically.

I cannot recognize the existence of a subspecies of *poliocephala* from Colima northward through Jalisco that differs from southern birds by being darker below. Specimens of *poliocephala* in the southern part of the range have more color than Moore and Medina (1957) and later authors (Vaurie 1965, Delacour and Amadon 1973) have admitted. Many birds from Michoacan, Guerrero, and Oaxaca have extensive buff or rufous on the flanks, posterior lower parts and tail tips, and match Colima birds in this respect. In my view, *poliocephala* is rather uniform throughout its range, with no trends or clines in color or size.

THE HYBRIDS

Moore and Medina (1957) wrote about only three hybrids from the Puerto Vallarta area, although they listed four specimens from the vicinity. Vaurie (1965, p. 17) mentioned the same four. There were actually six specimens available from that area at that time. Three specimens, two taken in 1892 and one in 1909, are in the American Museum of Natural History (AMNH). These birds were all labeled *wagleri*, apparently until 1957, and were those responsible for the notion that *wagleri* reaches its southern coastal limit in northern Jalisco (Ridgway and Friedmann 1946). Both Moore and Medina (1957) and Vaurie (1965, 1968) overlooked (or at least did not discuss) two of these three birds. Three birds taken by Allan R. Phillips in 1955 were the ones primarily studied by Moore and Medina (1957). Those birds were flat, salted skins at the time of that study (see fig. 1 in Moore and Medina 1957) but have since been prepared as study skins. One is now in the Delaware Museum of Natural History (DMNH) and two are in the National Museum of Natural Sciences (Canada) (NMC). Two

other specimens were taken in the vicinity of Puerto Vallarta in 1961 by Peter R. Grant and are now in the Cowan Vertebrate Museum of the University of British Columbia (UBC). I have studied all eight of these specimens, along with the series from within the recognized ranges of *poliocephala* and *wagleri* in the U.S. National Museum of Natural History (USNM) and all specimens in the AMNH.

Descriptions of these eight specimens follow, as compared with "typical" *O. wagleri* (USNM 164438, male, Chacala, Durango, coll. by E. A. Goldman, 24 Feb. 1899) and *O. poliocephala* (USNM 185335, male, Papayo, Guerrero, coll. by E. W. Nelson and E. A. Goldman, 19 Apr. 1903). Because the forms are essentially identical dorsally, only the ventral surfaces are compared.

AMNH 471460, female, Las Peñas, Jalisco, coll. by A. C. Butler, 7 Mar. 1892. Similar to *wagleri* ventrally but paler, the abdomen, crissum, thighs, and tips of rectrices (except central, in each description) dark rufous rather than rich chestnut. Lower neck and breast gray as in *poliocephala* rather than brown as in *wagleri*.

AMNH 471461, female, Bahía de Banderas, Jalisco, coll. by A. C. Butler, 8 Feb. 1892. Similar to 471460 ventrally but slightly paler, with a buffy midventral streak on the abdomen.

AMNH 24021 (Dwight coll.), male, Las Peñas, Jalisco, coll. by P. I. Osburn, 16 Apr. 1909. Similar to 471461 but much paler below, entire abdomen dark buff rather than rufous.

DMNH 38485 (ARP 3867), male, Carboneras, NE of El Pitillal, N of Puerto Vallarta, Jalisco, coll. by A. R. Phillips, 23 Mar. 1955. Similar to AMNH 24021 but still paler below, sides of abdomen rufous but ventral midline pale creamy buff. Rufous on posterior underparts and tail tip paler than in the three AMNH birds. "Concealed part of lower eyelid whitish, rest (and throat) rich (purplish) rose-red."

NMC 92599 (ARP 3868), female, locality and date same as DMNH 38485. Similar to DMNH 38485 (with which taken in same shot) but still paler on posterior underparts, nearly like *poliocephala* except for darker tail tips. Center of abdomen more buffy than creamy. "Concealed part of lower eyelid whitish, rest (flesh) pink, throat deeper (more definitely pink)."

NMC 92600 (ARP 3818), male, Arroyo las Estacas, Puerto Vallarta, Jalisco, coll. by A. R. Phillips, 5 Mar. 1955. Similar to *poliocephala* on breast. Posterior underparts similar to NMC

92599. Skin surrounding eye "and sides of throat pinkish, darker red above eye and at rear. Sides of head dark plumbeous."

UBC 10475, male, Puerto Vallarta, Jalisco, coll. by P. R. Grant, 26 June 1961. UBC 10521, male, data same as 10475 except date 26 May 1961. Both these birds are essentially pure *poliocephala* except that the tail tips, especially of 10521, are slightly darker.

These specimens represent a chronological series of hybrids or intergrades from 1892 to 1961, ranging from birds most similar to *wagleri* to those barely separable from pure *poliocephala*, from a single area (very close to a single locality) between the disjunct ranges of the two forms. The bird taken in 1909 and the two taken in 1955 from Carboneras are nearest to what one might envision as F_1 hybrids, whereas the others are much closer to one or the other of the presumed parental species.

DISCUSSION

This series of hybrids, along with the distributional information, can be interpreted in several ways. Perhaps these birds are from an intermediate, hybrid, and intergrading population as suggested by Moore and Medina (1957), indicating sufficient gene flow so that the forms should be considered conspecific. The observed range of variation might be expected in a hybrid zone, but the chronological aspect of the series of hybrids would not be expected. No specimens from the north or south of the large distributional gap show any indication of gene flow. Within the range of *wagleri*, the more northerly Sonoran population was separated from that of southern Sinaloa and Nayarit (van Rossem 1934) as *O. wagleri griseiceps* on the basis of being relatively paler. Although that subspecies is not generally recognized (Friedmann et al. 1950, Vaurie 1965), the fact that it was named suggests that if there is color variation in *wagleri* it is in the opposite direction than would be expected if there were gene flow from *poliocephala*.

Perhaps *poliocephala* has replaced *wagleri*, over a century or so, as the species of chachalaca that occurs around Puerto Vallarta. This would suggest first, that *wagleri* occurred there originally, and secondly, that *poliocephala* has pushed it out by extending its own range northward. There is no evidence to support these suggestions. The earliest known specimen from Puerto Vallarta is a hybrid or intergrade, and there is no evidence

that *wagleri* ever occurred in the coastal area south of San Blas, Nayarit. There are still no records of *poliocephala* in coastal Jalisco from south of Puerto Vallarta, the nearest occurrences being inland at Autlán, Jalisco (Zimmerman and Harry 1951, reported as *O. vetula*) and in Colima.

Perhaps the birds from Puerto Vallarta do not represent a natural population, and therefore indicate nothing about the specific status of *wagleri* and *poliocephala*. The fact that there are no reliable reports of chachalacas for many kilometers in any direction from the environs of Puerto Vallarta is consistent with this hypothesis. Throughout Mexico and Central America, chachalacas are frequently kept as pets or in a state of semidomestication (Griscom 1932; McClellan 1927; Leopold 1959; R. W. Dickerman, pers. comm.). A striking bird like *wagleri* is perhaps particularly likely to be kept, as noted by McClellan for San Blas. It seems not too unlikely that both *wagleri* and *poliocephala* might be, or have been, maintained in Puerto Vallarta, and that a mixed population, or at least an occasional mixed clutch, might result from birds that escaped or were released. The change through time from *wagleri*-like to *poliocephala*-like birds may merely reflect a greater relative ease in obtaining birds from the south or a higher survival rate for *poliocephala* in conditions of captivity.

CONCLUSION

The evidence for conspecificity of *O. wagleri* and *O. poliocephala*, being entirely based on a few hybrids from an area in which perhaps neither species occurs naturally, is not convincing in view of the striking differences between the populations. I suggest that *Ortalis wagleri* be restored to specific status. I further suggest that the descriptive English name Rufous-bellied Chachalaca rather than the patronymic Wagler's Chachalaca (used for the combined species by AOU 1983) be applied to *O. wagleri* and that West Mexican Chachalaca be used for *O. poliocephala*.

ACKNOWLEDGMENTS

I thank Allan R. Phillips for arranging the loan of specimens en route to deposit in the National Museum of Natural Sciences (Canada), and David Niles for the loan of a specimen from the Delaware Museum of Natural History. Peter R. Grant told me of specimens he had taken in the area of concern, which were loaned by Richard J. Cannings of the Cowan Vertebrate Museum of the University of British Columbia. Specimens

from the American Museum of Natural History were borrowed through the courtesy of Francois Vuilleumier and Allison Andors. J. V. Remsen provided me with information on the holdings of the Museum of Natural Science of Louisiana State University. M. Ralph Browning provided technical support, and Claudia Angle prepared the figure. Browning, Ned K. Johnson, and Henri Ouellet read and commented on the manuscript.

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