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## Systematic Notes on the Bird Family Cracidae. No. 1 Geographical Variation of *Ortalis canicollis* and *Penelope marail*

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In the spring of 1963 I started to study the family Cracidae for the purpose of preparing a complete revision. The results will be published in a report in which the emphasis will be placed on the relations of the genera and species and on an analysis of their characters. The distribution will necessarily be fully outlined and the geographical variation commented upon, but, as it is not my intention to dwell on the latter in detail in the contemplated report, it seems desirable to discuss the geographical variation of some species in a few preliminary papers.

My study is based on the collection of the American Museum of Natural History, but I have also examined the collections of the Academy of Natural Sciences of Philadelphia, British Museum (Natural History), Carnegie Museum, Chicago Natural History Museum, Naturhistoriska Riksmuseum of Stockholm, and the United States National Museum, Smithsonian Institution, and it is a pleasure to acknowledge the cordial hospitality and help that I have received in these museums. I am indebted also to Dr. Douglas A. Lancaster for information concerning the region of Tucuman in Argentina.

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*Ortalis canicollis*

The Gray-headed Chachalaca (*Ortalis canicollis*) has an extensive range which extends from southeastern Bolivia and southwestern Mato Grosso south to the regions of Córdoba and Santa Fé in northern Argentina. It varies geographically, and this variation has been briefly discussed by Cherrie and Reichenberger (1921) in a paper in which they recognized three subspecies and proposed two of these as new. Their material, however, consisted of only six specimens, and the validity of one of the two new forms has been questioned. This form (*grisea*) was based on a single specimen taken at Suncho Corral, province of Santiago del Estero, Argentina. The other new form (*pantanalensis*) was based on two specimens from the swamps of the Mato Grosso and is very distinct, as was shown by other specimens collected subsequently. The other three specimens were two from Paraguay, the type locality of nominate *canicollis* Wagler, 1830, and one from the province of Salta in northwestern Argentina.

Hellmayr and Conover (1942, pp. 181–182) commented briefly on the geographical variation and synonymized *grisea* with nominate *canicollis*, a decision that had already been taken by Peters (1934, p. 21). In recent years, Steinbacher (1962, p. 25) proposed a new subspecies from Paraguay which he named *ungeri*. He seems to have examined 16 specimens, and Hellmayr and Conover reported that they had seen a total of 28.

I have examined 65 specimens, including the specimens of Cherrie and Reichenberger, nearly all those reported by Hellmayr and Conover, and three topotypes of *ungeri*, and I believe that only two subspecies should be recognized. These are *pantanalensis*, and nominate *canicollis* with which I synonymize *grisea* and *ungeri*.

*Pantanalensis* is very distinct from nominate *canicollis*, as already noted. It is distinctly larger and much darker, being browner and more rufescent throughout, and less gray. Some of these characters were mentioned by Cherrie and Reichenberger (*loc. cit.*) but, unfortunately, Mrs. Naumburg (née Reichenberger) stated later (1930, p. 64) that *pantanalensis* differs from nominate *canicollis* “only” by having the third to the fourth outer pairs of rectrices tipped with rufous, as against only the two outermost pairs in the latter, a misleading statement that was paraphrased by Hellmayr and Conover (*loc. cit.*). The rufous tips vary individually in both *pantanalensis* and nominate *canicollis*, a variation discussed below.

The habitat of *pantanalensis* is implied by its scientific name, and it is known so far only from the lowlands of southwestern Mato Grosso, the greater part of which is swampy or consists of partially submerged plains

along the Paraguay River. I believe that it probably also inhabits the swampy regions of neighboring Bolivia and Paraguay.

It seems to me that all the other populations of this species should be referred to nominate *canicollis*, but it is interesting to note that, in the specimens that I have seen, those from the western limits of the range are paler than specimens from central Paraguay, the Chaco in Paraguay and Argentina, and central Santiago del Estero and Mocovi in northern Santa Fé. These paler birds were collected not far from the Andes in the regions of Oran, Salta, Tucuman, Rio Hondo in Santiago del Estero but very near the border of Tucuman, at Fort Guachalla in extreme western Paraguay, and at Villa Montes in Bolivia. These specimens are more grayish above, less brownish and olive, on the back, rump, and upper tail coverts, paler gray on the head, nape, and throat, and show also a tendency to be paler on the rest of the under parts, including the under tail coverts, than the specimens from the other regions mentioned.

This paler coloration is probably not fortuitous but correlated instead with climatic conditions because, as is well known, precipitation decreases and the dry season becomes longer as one proceeds westward across the Chaco from the Paraguay River to the foothills of the Andes.

One would be tempted to separate this paler population nomenclaturally, were it not for the fact that it does not seem to be sufficiently constant. For instance, one bird that was taken at Tapia, Tucuman, is very pale and gray. It is the palest specimen that I have seen, but another at Tafi Viejo, only about 16 kilometers south of Tapia, is darker and only very slightly paler and more grayish than specimens collected in Paraguay on the Rio Negro and in the region not far to the west of Puerto Pinasco on the Paraguay River.

These two specimens suggest that the coloration of this species may be correlated with local variations in aridity and habitat, because, according to Douglas A. Lancaster, who has recently collected birds in Tucuman, the region around Tapia is considerably more arid than that around Tafi Viejo, the vegetation consisting of scrub and low thorn woods. This consideration brings up the question of the validity of *grisea*. Hellmayr and Conover (*loc. cit.*) state that the type of *grisea* seems abnormal. They believe it represents "an individual mutant" because it is darker and grayer than is normal for the species and is bluish on the top of the central rectrices. But the bluish coloration of the top of the tail is certainly not abnormal, as all individuals of nominate *canicollis* are bluish on the top of the tail when in very fresh plumage, and the dark gray coloration may very well represent a population character, not an abnormality. More specimens should be collected in the region of Suncho

TABLE 1  
 VARIATION IN THE RUFIOUS AREA AT THE TIP OF THE FOUR OUTER PAIRS OF  
 TAIL FEATHERS IN *Ortalis canicollis*

(The numbers in the column heads refer to the pair of tail feathers counted from the outermost; those in the body of the table, to the number of specimens.)

Region	On 1, With Trace on 2	On 1 and 2 Only	On 1 and 2, With Trace on 3	On 1, 2, 3 Only	On 1, 2, 3, With Trace on 4
Mato Grosso	—	—	5	6	1
Paraguay	1	10	10	4	—
Argentine Chaco <sup>a</sup>	—	3	3	—	—
Northwestern Argentina <sup>b</sup>	—	8	9	1	—

<sup>a</sup> The specimens are from Comandante Fontana, eastern Formosa; Suncho Corral, central Santiago del Estero; and Mocovi, northern Santa Fé.

<sup>b</sup> Includes one specimen from Villa Montes in Bolivia, and two from Fort Guachalla in extreme western Paraguay. See text.

Corral before this question is settled. Until such time it seems best not to recognize *grisea*.

**VARIATION IN RUFIOUS AREA OF TAIL:** The rufous tips of the tail vary individually and geographically (table 1). On some specimens they are well indicated on the third outer pairs, and a trace of chestnut may be found also on the fourth pair. In others only the first and second pairs are tipped with chestnut, and a trace of rufous may be found on the third pair in some individuals. In one specimen that I examined it is restricted to the first pair, with a slight trace of rufous on the second. The decrease in the rufous area seems to be clinal from the Mato Grosso southward, but I have not seen specimens from the southern end of the range in Argentina which presumably represents the extreme of the cline. The decrease in the rufous area seems to be accompanied also by a decrease in size, as shown below by the measurements of the wing and tail. The paler birds from Bolivia, extreme western Paraguay, and northwestern Argentina, mentioned above, are similar to those of Paraguay and do not seem to form part of the cline.

In Paraguay, which is the type locality of nominate *canicollis*, the rufous markings vary very widely, and I therefore cannot agree with Hellmayr and Conover (*loc. cit.*) when they state, "In typical *canicollis* only the *two* outermost pairs of rectrices are tipped with rufous." This emphasis on only the two outer pairs was unfortunate, because it seems to have misled Steinbacher (1962), in describing *ungeri*, when he found

that his four specimens from Paraguay had well-indicated rufous tips on the three outer pairs of rectrices.

Steinbacher's specimens of *ungeri* were taken at Orloff (a locality in the Mennonite Colony in the Chaco). On these the rufous tips are apparently well developed on the first, second, and third pairs in three birds and present but less well developed on the third pair in the fourth bird. In my three specimens from Orloff, the rufous tips are well indicated only on the first and second pairs, and in two of the three specimens a slight trace of rufous is present on the third pair. We see that the extent of the rufous area varies individually at Orloff, as it does throughout Paraguay and neighboring northern Argentina, and that a new subspecies based on its geographical variation cannot be named from these regions.

We are faced also with the complication that nominate *canicollis* is based on specimens from Paraguay where two additional forms probably occur, the dark and large *pantanalensis* in the north near the Mato Grosso, and the pale form discussed above in the extreme northwest. It seems desirable therefore to restrict the type locality of nominate *canicollis*, and I do so here, to the region of Asunción. Wagler (1830) based his description of *canicollis* on Azara's number 336, the "Yacú-Caraguatá," but Wagler indicated no locality other than Paraguay. Azara did not mention a definite locality but reported (1904) that he made a number of trips south and north of Asunción during his long stay in Paraguay, where he was stationed for about 20 years. In his work on the birds of Paraguay (1805, p. 77) he wrote that he did not know the bird south of latitude 27° S. Wetmore (1926, p. 118) suggested "southern Paraguay or the adjacent provinces of Argentina" as the type locality of nominate *canicollis*.

MEASUREMENTS: Mato Grosso (*pantanalensis*), six males, wing 245–257 (252.3), tail 248–270 (254), tarsus 63–68 (65.5); six females, 227–247 (240), 235–250 (243.5), 56–64 (60). Villa Montes, Fort Guachalla, and northwestern Argentina (nominate *canicollis*), 11 males, wing 223–246 (232.8), tail 233–252 (245.8), tarsus 49–58 (53.1); seven females, 218–236 (225), 225–241 (232.7), 50–57 (52.5). Paraguay (nominate *canicollis*), 12 males, wing 215–240 (231), tail 230–260 (245.6), tarsus 50–59 (55); nine females, 213–232 (224), 222–253 (237.7), 49–54 (51.2). Argentine Chaco (nominate *canicollis*), five females, wing 206–219 (214.2), tail 213–233 (222.2), tarsus 50–55 (53).

#### *Penelope marail*

The Cayenne Guan (*Penelope marail*) is distributed from the Guianas

west to the Rio Caura in Venezuela and south to the north bank of the Amazon River. The westernmost locality on the Amazon from which it has been reported is the region of Itacoatiara, or about longitude  $58^{\circ} 30' W.$ , from where I have seen one specimen.

The specimens that I have seen from Brazil were all taken along the Amazon and differ from birds taken in French Guiana (the type locality of *P. marail* P. L. S. Müller, 1776), eastern Surinam, and eastern British Guiana by being paler below and by averaging smaller, and thus suggest that this species varies geographically although hitherto considered to be monotypic.

These birds from Brazil are paler, more grayish brown, less rufescent brown, on the abdomen, flanks, "thighs," and under tail coverts than the specimens from the Guianas. Their dark olive-brown plastron is less extensive and does not extend so far down on the breast, and the ground color of its feathers is somewhat paler, with the result that the white edges of the feathers are less conspicuous than those in birds from the Guianas. The latter are not uniform, as three or four, chiefly from Surinam, are less dark than others, but, nevertheless, these paler specimens are distinguishable from the birds of Brazil. In well-prepared skins, the difference in the size of the dark plastron between the specimens from the Guianas and those from Brazil is quite clear cut.

The material that I have seen is insufficient for the range of the paler form to be outlined, but the range probably consists of northern Brazil, at least along the north bank of the Amazon, and perhaps also of southeastern Venezuela, because a specimen that I have examined from the upper Rio Caura is similar to the birds of the Amazon; it is the only one available to me from Venezuela. Typical nominate *marail* may be restricted only to the Guianas where, on an annual average, the precipitation appears to be considerably greater than on the Amazon and in southeastern Venezuela. It may, however, range also to neighboring northeastern Para where no specimens have been reported but where the species probably occurs.

The name *jacupeba* Spix (1825, p. 54, pl. 71), type locality, "in sylvis Parae," is probably available for the birds of the Amazon, although Hellmayr (1906, p. 689) may not be correct when he states categorically that a specimen in the Munich Museum is the type of *jacupeba*. The specimen discussed by Hellmayr seems to have been collected by Spix and was catalogued with the birds he brought back from Brazil, but there is no indication that this specimen, which lacks data of any kind, is the type or was the only specimen available to Spix. It really cannot agree fully ("völlig") with the plate of *jacupeba*, as Hellmayr says, because the plate is very crude.

The plate is quite useless for subspecific identification, but, when one considers that two races are probably found in the state of Para, it becomes desirable to restrict definitely the type locality of *jacupeba* Spix. I do so here to the region of Obidos where Spix collected in October, 1819.

The differences in size between nominate *marail* and *jacupeba* from the Amazon are best shown by the lengths of the wing and tail. There seems to be only a very slight difference in the lengths of the bill and crest, and there is apparently none in the length of the tarsus.

MEASUREMENTS: Guianas (nominate *marail*), 20 males, wing 276–305 (288.5), tail 245–285 (262), bill 26–32 (29.4), crest 26–39 (33.4), tarsus 48–60 (56.5); 11 females, respectively, 266–290 (275.5), 230–265 (248.5), 24–31 (27.9), 27–38 (35), 51–61 (55.5). Brazil on the Amazon (*jacupeba*), seven males, wing 262–288 (277), tail 235–260 (249), bill 26–31 (28.7), crest 26–33 (30), tarsus 53–62 (57); seven females, 241–280 (269), 235–265 (246), 26–28 (25.5), 25–33 (29), 54–58 (56).

The material used in this study of *Penelope marail* consists of 32 specimens from the Guianas (seven from French Guiana, six from Surinam, and 19 from British Guiana), of one from Venezuela, and of 16 from Brazil (one from Cavari Island, one from Rio Counany, seven from the region of Obidos, six from the region of Faro, and one from Igarapé Arriba near Itacoatiara).

#### LITERATURE CITED

##### AZARA, FELIX DE

1805. Apuntamientos para la historia natural de los paxaros del Paraguay y Rio de la Plata. Madrid, Doña Manuela Ibarra, vol. 3.  
 1904. Geografia fisica y esfer[ic]a de las provincias del Paraguay, y misiones Guaranis, Asunción 1790. An. Mus. Nac. Montevideo, sec. hist.-fil., vol. 1. A reprint of Azara's book dated 1790.

##### CHERRIE, GEORGE K., AND ELSIE M. B. REICHENBERGER

1921. Descriptions of proposed new birds from Brazil, Paraguay, and Argentina. Amer. Mus. Novitates, no. 27.

##### HELLMAYR, CHARLES

1906. Revision der Spix'schen Typen brasilianischer Vögel. Abhandl. K. Bayerischen Akad. Wiss., Math.-Phys. Kl., vol. 22, no. 3, pp. 563–726.

##### HELLMAYR, CHARLES, AND BOARDMAN CONOVER

1942. Catalogue of birds of the Americas, pt. 1, no. 1. Publ. Field Mus. Nat. Hist., zool. ser., vol. 13, pt. 1, no. 1.

##### NAUMBURG, ELSIE M. B.

1930. The birds of Matto Grosso, Brazil. Bull. Amer. Mus. Nat. Hist., vol. 60.

##### PETERS, JAMES LEE

1934. Check-list of birds of the world. Cambridge, Harvard University Press, vol. 2.

## SPIX, J. B. DE

1825. Avium species novae . . . itinere per Brasiliam. Munich, Hübschmann, vol. 2.

## STEINBACHER, JOACHIM

1962. Beiträge zur Kenntnis der Vögel von Paraguay. Abhandl. Senckenbergischen Naturf. Gesell., no. 502.

## WAGLER, I.

1830. Revisio generis *Penelope*. Isis von Oken, vol. 23, cols. 1109–1112.

## WETMORE, ALEXANDER

1926. Observations on the birds of Argentina, Paraguay, Uruguay, and Chile. Bull. U. S. Natl. Mus., no. 133.