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Systematic Notes on the Bird Family Cracidae. No. 7 The Genus *Pipile*

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INTRODUCTION

The genus *Pipile* consists of six geographical forms (fig. 1): one restricted to Trinidad, the others, to South America where they are widely distributed from southern Venezuela and southeastern Colombia south to Bolivia, Paraguay, Misiones, and southeastern Brazil.

All six forms are closely related and are very much alike in appearance and size. They are also essentially allopatric, and it is clear that they constitute a single superspecies, but it is difficult to divide the latter into species. The introductory section that follows summarizes the differences of opinion.

Sclater and Salvin recognized only three forms and species (*cumanensis*, *jacutinga*, and *cujubi*) in their review of *Pipile* (1870, pp. 529–530), but the subspecies concept had not been adopted then by many authors. It had been adopted universally when Salvadori reviewed this genus again (1914), but Salvadori considered that the six forms he recognized were separate species which he listed in the following order: *cumanensis*, *nattereri*, *grayi*, *jacutinga*, *cujubi*, and *pipile*. Salvadori was an excellent systematist, and his treatment is still worthy of serious consideration today, but

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inate *pipile* and *cujubi*; *Pipile cumanensis*, consisting of nominate *cumanensis*, *naumburgae*, *grayi*, and *nattereri*; and the monotypic *Pipile jacutinga*. Hellmayr and Conover recognized four species, listed as follows: *Pipile pipile*, *P. cujubi*, *P. jacutinga*, and *P. cumanensis*, with *nattereri* as a subspecies. This treatment was qualified by Hellmayr and Conover, however, who stated that their three monotypic species, *Pipile pipile*, "together with *P. cujubi*, and *P. jacutinga* forms a natural (probably conspecific) group within the genus," an opinion that I believe is incorrect as far as *Pipile pipile* is concerned.

Hellmayr and Conover thus eliminated two forms, *grayi* Pelzeln, 1869, and *naumburgae* Todd, 1932, which they synonymized with *nattereri* Reichenbach, 1862. They were correct when they stated that *naumburgae* is invalid, a statement that was confirmed by my examination of the two specimens on which *naumburgae* was based, but they were misled about *grayi* by having seen too few specimens. The status of *grayi* was questioned also by Peters (*loc. cit.*), and the opinion of Peters, and that of Hellmayr and Conover, concerning *grayi*, which are discussed below, have caused much confusion in the literature. I mention at this stage another form that is discussed below. This is *Pipile jacou* Reichenbach, 1862, a synonym of *cumanensis* Jacquin, 1784; it requires a brief discussion because Salvadori treated it as a "*species incerta*" in an appendix to his review (1914).

The systematic treatments of Peters and of Hellmayr and Conover are flawed by a failure to recognize the fact that the differences in the color of the bare skin of the throat in life (bright blue versus bright red), together with the difference in the color and feathering of the face, appear to be the most important taxonomic characters at the species level.

To anticipate my conclusions and to facilitate the discussion that follows, I list here the three species that I recognize. The type localities and general range are mentioned, and the list is followed by a description of the morphological characters.

SYSTEMATIC LIST

*Pipile pipile*¹

Pipile pipile pipile Jacquin, 1784; type locality, "Orinoco River near

¹ *Crax pipile* Jacquin, 1784, and *Crax cumanensis* Jacquin, 1784, have not, to my knowledge, been considered conspecific before this study, but their combination into one species raises a problem concerning the name to be given to the species, because *pipile* and *cumanensis* were published simultaneously. *Cumanensis* has page priority, but the name *pipile* seems more appropriate, as *pipile* Jacquin is the type of the genus. This is somewhat unfortunate, because *pipile* is a very rare bird on the verge of extinction, whereas *cumanensis* is the most widely distributed and best known form of the genus.

Cumana," Venezuela; error and based on a captive bird in the Imperial Menagerie of Vienna; Trinidad is suggested here as the correct type locality. Range: Restricted to Trinidad.

Pipile pipile cumanensis Jacquin, 1784; type locality, "Orinoco River region near Cumana," Venezuela; probably error and based also on a captive bird in the Imperial Menagerie of Vienna; the delta of the Orinoco has been suggested as the correct type locality by Phelps and Phelps (1958, p. 83). Range: Guianas, southern Venezuela, northwestern Brazil, and southeastern Colombia, south to eastern Ecuador and eastern Peru.

Pipile pipile grayi Pelzeln, 1869; type locality, "Peru," but probably error; Sangrador, eastern central Mato Grosso, Brazil, is suggested here as the correct emended type locality.¹ Range: Bolivia, Paraguay, central and probably southern Mato Grosso.

Pipile kujubi

Pipile kujubi kujubi Pelzeln, 1858; type locality, Para, restricted to Belem. Range: Northern Brazil, from the lower Madeira eastward along the Amazon to northeastern Para.

Pipile kujubi nattereri Reichenbach, 1862; type locality, "Rio das Frechas" [which equals Rio das Flexas, latitude 16° 05' S., longitude 57° 15' W., Mato Grosso].² Range: Central and western Brazil.

¹ *Penelope Grayi* Pelzeln, 1784, is, technically speaking, only a new name for *Penelope Jacquinii* G. R. Gray, 1867, which is preoccupied by *Penelope Jacquinii* Reichenbach, 1862, a synonym of nominate *pipile* Jacquin, 1784. As a new name, the type locality of *grayi* remains the same as that of *jacquinii* which was based by Gray on a specimen in the Gould Collection which is said to have come from Peru, but the true origin of this specimen is not known. Laubmann (1939, p. 126) emended the type locality of *grayi* to Paraguay, but no doubt only on the ground that *grayi* occurs there. Peru is actually within the range of possibility, because specimens collected on the Rio Inambari in southeastern Peru are intermediate between *cumanensis* and *grayi*, but this fact has not been reported before the present study. If Gould's specimen did not come from Peru or Paraguay, it seems to me that the proper locality to select as an emendation is the locality of the two specimens examined by Pelzeln. This locality is "Sangrador [im Sertão] Juli (December?), Flussreise von Matogrosso." Sangrador is in eastern central Mato Grosso, not far from the border of Goyaz, at latitude 15° 39' S., longitude 53° 49' W.

² The Rio das Flexas was said to be near Cuyaba by Hellmayr and Conover (1942, p. 193) and by Oliveira Pinto (1964, p. 10), but such a position is not quite correct, as the settlement of Flexas, which is about 2.5 kilometers east of the river, is 136 kilometers southwest of Cuyaba. Reichenbach's *nattereri* is based on specimens collected by Natterer on October 19 and 20, 1827, and the location of the "Rio das Frechas" is made clear by the itinerary of Natterer published by Pelzeln (1868, p. x). On October 20, 1827, and

Pipile jacutinga

Pipile jacutinga Spix, 1825; type locality, between Bahia and Rio de Janeiro. Range: Eastern Brazil from southern Bahia southward to Rio Grande do Sul, Misiones, and eastern Paraguay.

MORPHOLOGICAL CHARACTERS

The color pattern of the head, the feathering or lack of feathering on the face and upper throat, and the shape of the throat wattle are shown semidiagrammatically in figure 2.

Pipile pipile pipile: In this form the feathers of the crest and those of the pale patch on the nape are very much darker than in any other form, the white area being restricted narrowly to the edges of the feathers. The white area on the upper wing coverts is extensive, and the color of the upper parts is purplish brown, with a moderate gloss. The throat wattle is broad, forming a dewlap, and is attached to the throat along its entire length, or virtually so. The skin of the face and throat is completely bare¹ and slaty in skins but bright cobalt blue in life.

Pipile pipile cumanensis: This form resembles nominate *pipile* except that the crest and patch on the nape are very much whiter, being virtually unstreaked, whiter than in any other form; the white area on the upper wing coverts is more extensive and purer white; and the color of the upper parts is greenish blue, with a strong metallic gloss.

Pipile pipile grayi: This form resembles nominate *pipile* and *cumanensis* in having the skin of the face and throat bare and bright cobalt blue in life, but it does not have a throat wattle, the latter being replaced by a long, slender, and pendulous caruncle which is attached to the center of the throat and averages about 30 mm. in length. The feathers of the crest and patch on the nape are less pure white than in *cumanensis*, having distinct black or brownish black shaft streaks. The feathers of the crest, moreover, differ from these of *cumanensis*, or any other form, by being

perhaps also on October 21, Natterer collected at Fazenda do Sangrador, and on October 21, at Ribeirão do Sangrador, a river that flows 15 kilometers east of Flexas. I mention these facts because the Sangrador in question has been confused with the Sangrador where Natterer collected, on December 3 and 4, 1824, the two specimens of *grayi* seen by Pelzeln. This second Sangrador was referred to as "Sangrador (im Sertão)" by Pelzeln (1868, p. viii) and is much farther east at latitude 15° 39' S., longitude 53° 49' W., at about 356 kilometers east of the Sangrador where Natterer collected in 1827.

¹ A few hairlike feathers that are scattered or in more or less well-defined rows grow from the bare skin of the throat, wattle, or caruncle, in all six forms; they are not shown in figure 2.

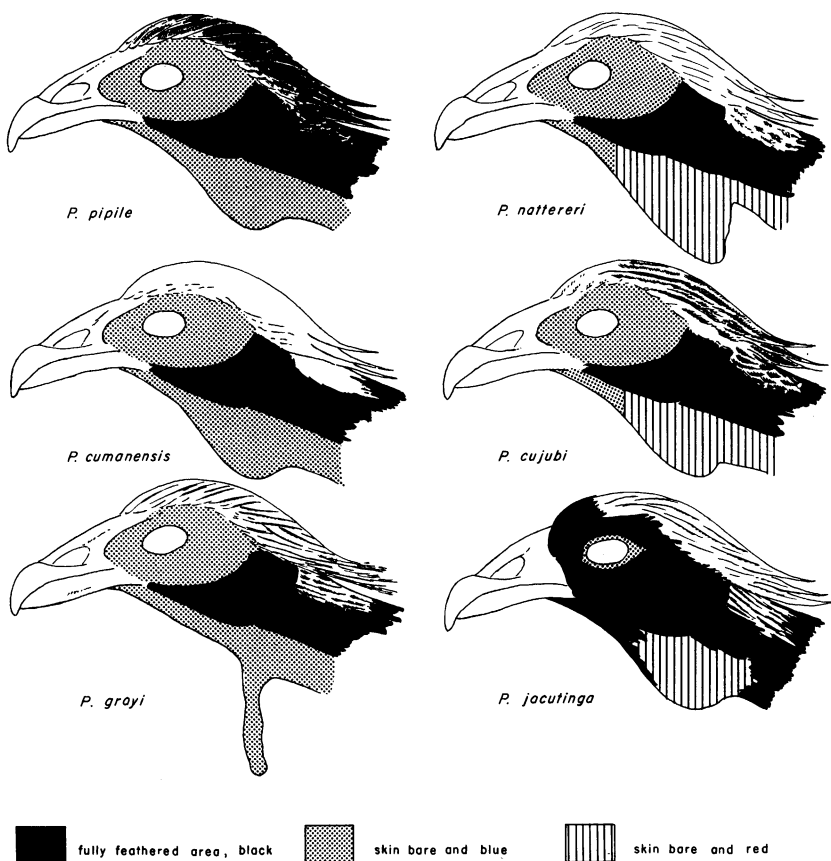


FIG. 2. Color pattern of the head, feathering or lack of feathering on the face and upper throat, and shape of the throat wattle in the six forms of the genus *Pipile*, shown semidiagrammatically.

hirsute, less integrated. The white area on the upper wing coverts is similar to that of *cumanensis*, but the color of the upper parts is olive-green, not bluish green as in *cumanensis*, or purplish brown as in nominate *pipile*.

Pipile kujubi kujubi: In this form the crest and feathers of the patch on the nape are moderately or rather heavily streaked, but less black than in nominate *pipile*. The white area on the upper wing coverts is strongly reduced, very much smaller than in any other form, the white part of the feathers consisting of rather narrow edges on both webs of the lesser and median coverts but is present only on the mesial web of the greater coverts. The color of the upper parts is bluish and rather strongly glossed.

The throat wattle is broad and forms a dewlap. The skin of the face and throat is completely bare, the skin, in life, being cobalt blue on the face, dark blue on the chin and upper throat, contrasting very strongly with the skin of the center and posterior part of the throat which is bright red.

TABLE 1
MEASUREMENTS OF ADULT MALES OF *Pipile*

(The numbers in parentheses in the range denote the size of the sample. The standard deviation was not computed for samples of fewer than five.)

| Species and Subspecies | Wing | Tail | Tarsus | Exposed Culmen |
|-------------------------|--------------|--------------|------------|----------------|
| <i>P. p. pipile</i> | | | | |
| Mean | 361.50 | 286.0 | 60.50 | 31.50 |
| Range | 360, 363 (2) | 280, 292 (2) | 60, 61 (2) | 31, 32 (2) |
| <i>P. p. cumanensis</i> | | | | |
| Mean | 327.70 | 260.81 | 59.87 | 33.85 |
| Range | 302-355 (55) | 235-283 (55) | 54-64 (55) | 28-37 (55) |
| σ | 10.65 | 10.57 | 2.27 | 1.69 |
| <i>P. p. grayi</i> | | | | |
| Mean | 351.29 | 268.94 | 61.17 | 31.70 |
| Range | 326-373 (17) | 254-285 (17) | 55-66 (17) | 28-32 (17) |
| σ | 15.18 | 8.45 | 2.95 | 1.48 |
| <i>P. c. cuyubi</i> | | | | |
| Mean | 345.23 | 276.23 | 59.17 | 35.11 |
| Range | 323-358 (17) | 250-292 (17) | 55-62 (17) | 31-37 (17) |
| σ | 10.50 | 10.63 | 1.79 | 1.67 |
| <i>P. c. nattereri</i> | | | | |
| Mean | 356.50 | 270.50 | 60.50 | 35.50 |
| Range | 355, 358 (2) | 264, 277 (2) | 59, 62 (2) | 35, 36 (2) |
| <i>P. jacutinga</i> | | | | |
| Mean | 342.60 | 274.80 | 60.40 | 34.40 |
| Range | 320-360 (5) | 266-284 (5) | 56-65 (5) | 32-36 (5) |
| σ | 14.79 | 7.17 | 3.64 | 1.50 |

Pipile cuyubi nattereri: This form resembles nominate *cuyubi* in having a bright blue face and a dark blue and bright red throat, both of which are completely bare, but, as a rule, the dewlap is better developed. In *nattereri*, the crest and patch on the nape are less heavily streaked, the white area on the upper wing coverts is much better developed, and, as a rule, the color of the upper parts is somewhat duller blue than in nominate *cuyubi*.

Pipile jacutinga: This form is the most strongly differentiated of all and

differs from the other five by being feathered on the face (rather than completely bare), with the exception of a narrow eye ring which is bare and pale blue, "whitish blue," in life. The feathers of the face are pure velvety black, and a broad band of pure black extends also across the forehead at the base of the anterior feathers of the crest, the base of these feathers being white, or white with black shaft streaks in the other

TABLE 2
MEASUREMENTS OF ADULT FEMALES OF *Pipile*
(The numbers in parentheses in the range denote the size of the sample. The standard deviation was not computed for samples of fewer than five.)

| Species and Subspecies | Wing | Tail | Tarsus | Exposed Culmen |
|-------------------------|--------------|--------------|------------|----------------|
| <i>P. p. pipile</i> | | | | |
| "Range" | 350 (1) | 281 (1) | 61 (1) | 32 (1) |
| <i>P. p. cumanensis</i> | | | | |
| Mean | 309.84 | 252.75 | 57.97 | 32.29 |
| Range | 280-335 (44) | 230-275 (44) | 51-66 (44) | 29-37 (44) |
| σ | 12.71 | 18.67 | 3.26 | 1.72 |
| <i>P. p. grayi</i> | | | | |
| Mean | 338.92 | 269.28 | 61.64 | 30.0 |
| Range | 308-367 (14) | 250-292 (14) | 56-67 (14) | 28-32 (14) |
| σ | 16.98 | 10.02 | 3.14 | 1.41 |
| <i>P. c. cuyubi</i> | | | | |
| Mean | 325.28 | 266.83 | 57.85 | 31.85 |
| Range | 316-342 (7) | 251-285 (6) | 55-63 (7) | 28-34 (7) |
| σ | 8.97 | 12.21 | 3.10 | 1.82 |
| <i>P. c. nattereri</i> | | | | |
| Mean | 317.50 | 265.50 | 57.75 | 31.25 |
| Range | 316-322 (4) | 252-280 (4) | 54-61 (4) | 30-33 (4) |
| <i>P. jacutinga</i> | | | | |
| Mean | 331.92 | 274-69 | 60.07 | 33.30 |
| Range | 314-357 (14) | 263-286 (14) | 54-66 (14) | 31-35 (14) |
| σ | 10.66 | 7.25 | 2.81 | 1.24 |

forms. The bare skin of the throat is blue and red in *jacutinga* (as in nominate *cuyubi* and *nattereri*), but the bare area is much more restricted as the chin and upper throat are fully feathered and black; the wattle of *jacutinga* is also less developed. The feathers of the crest and of the patch on the nape are rather heavily streaked, and the white area on the upper wing coverts is very well developed and very extensive. The color of the upper parts in *jacutinga* is a rich violet-blue, with a strong metallic gloss.

The description given above shows that all six forms are very well differentiated, and, with the exception of *cumanensis* and *grayi*, they are not connected by intermediates. The most important characters for the determination of relationships are: (a) the bare and blue face and throat which group nominate *pipile*, *cumanensis*, and *grayi*; (b) the bare face (blue) and bare throat (blue and red) which group nominate *cujubi* and

TABLE 3
RANGE OF VARIATION IN SIZE IN THE GENUS *Pipile*
(Mean lengths in millimeters stated in round numbers.)

| | Wing | Tail | Tarsus | Exposed Culmen |
|---------|---------|---------|--------|----------------|
| Males | 328-361 | 261-286 | 59-61 | 31-35 |
| Females | 310-350 | 253-281 | 58-61 | 30-33 |

nattereri; and (c) the black and feathered face (combined with a black forehead and a black and feathered chin and upper throat) which are peculiar to *jacutinga*. A taxonomic decision based on these characters alone would be sound, but such a decision is supported also by the geographical distribution which is discussed below.

The differences in size are slight or relatively so (tables 1 and 2), and the range of variation is summarized in table 3.

One could conclude from the similarity of the measurements and the narrow range of their variations that the proportions of the six forms are also quite similar, but an analysis of the proportions by means of a ratio diagram (fig. 3) shows some surprising differences.¹ *Pipile pipile cumanensis* was selected as the standard of comparison, because I have a large series and also because it is the most widely distributed form and perhaps the least specialized.

The relative proportions of *grayi*, and especially nominate *pipile*, which I believe are probably conspecific, are not similar, and both of these forms have a very distinctly shorter bill than *cumanensis* which forms the third member of this species. The tarsus of nominate *pipile* is also proportionately much shorter than that of either *grayi* or *cumanensis*. It is difficult to account for these intraspecific variations, but they may reflect an ancient separation, although *cumanensis* and *grayi* are still able to interbreed, as evidenced by intermediate specimens. The isolation of nominate *pipile* on Trinidad, where it never seems to have been nu-

¹ For a discussion of ratio diagrams and instructions for constructing them, see Amadon (1950, p. 258).

merous, has probably favored its more rapid evolution. It is interesting to note that nominate *pipile* has the smallest bill of all, an exception to the well-known rule that the bill is usually bigger in insular forms.

On the other hand, the proportions of nominate *cujubi*, *nattereri*, and *jacutinga* do not differ significantly, a fact that supports my opinion that

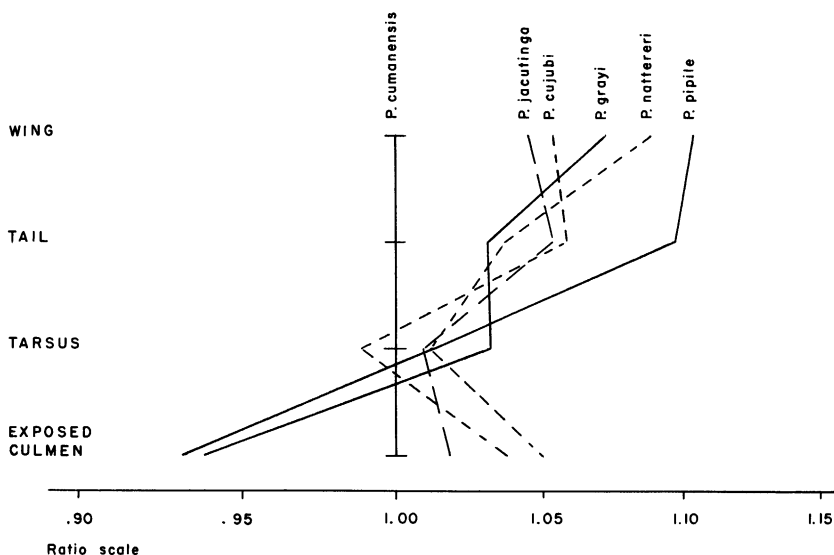


FIG. 3. Comparison by ratio diagram of the proportions of the six forms of the genus *Pipile*.

jacutinga is more closely related to nominate *cujubi* and *nattereri* than it is to the other three forms.

DISTRIBUTION

The more interesting regions on the map (fig. 1) are eastern Paraguay and the central part of the Mato Grosso between the fifteenth and eighteenth parallels, where *Pipile pipile* (subspecies *grayi*) meets and overlaps with *Pipile cujubi* (subspecies *nattereri*) in the Mato Grosso, and with *Pipile jacutinga* in eastern Paraguay.

The fact that the ranges of the two subspecies of *Pipile cujubi* approach rather closely on the right bank of the lower Rio Madeira also deserves comment. From this region, Gyldenstolpe (1945, p. 65) and Oliveira Pinto (1964, p. 111) reported that nominate *cujubi* had been collected at Lago do Batista, and I have examined a specimen of *nat-*

tereri from Igarapé Auara. The two localities are 183 kilometers apart, which seems considerable, but, as the region in question appears to be very uniform and does not seem to offer any important geographical or ecological barriers, we cannot presume that Lago do Batista and Igarapé Auara represent the boundaries of the ranges. In other words, it is quite possible that the two birds meet, and perhaps overlap, without interbreeding, which would imply that they are not conspecific.

Laubmann (1939, pp. 126–128) had already reported that *grayi* and *jacutinga* are sympatric in eastern Paraguay, and the report is confirmed by one specimen of each that I have examined that were collected by Schulze in October, 1938, at Cerro Amambay, 40 kilometers southwest of Capitan Bado.

Laubmann (*loc. cit.*) has also called attention to the fact that *grayi* and *nattereri* overlap in the Mato Grosso. The fact was common knowledge, but some authors have surprisingly questioned or denied it by arguing that *grayi* is not a geographical form, but represents only the female or immature *nattereri*. This opinion, which could be reached only in the absence of adequate material, was best expressed by Peters (1934, p. 23) who stated: "Everyone who has had to deal with *grayi* and *nattereri* has found difficulty in identifying specimens, birds answering to the description of one turning up within the limits of the range ascribed to the other. I strongly suspect that *grayi* and *nattereri* will eventually prove to be one and the same bird, '*nattereri*' the ♂ and '*grayi*' the ♀." Nevertheless, he recognized *grayi*.

Hellmayr did not question the validity of *grayi* in his review of *cumanensis* (1908, pp. 96–98), but he rejected it emphatically later in his joint review with Conover (1942, p. 193), the two authors stating that *grayi* is "certainly not [a] geographic [form] . . . as most of the individuals are either females or immature." The reason for this reversion of opinion is not clear to me, but I believe it was caused by a lack of adequate material. To be sure, Hellmayr and Conover (*loc. cit.*) mentioned five specimens from Bolivia and Paraguay as being in the "Conover Collection," but, as they were listed on the initiative of Conover only (as stated on p. iii of the preface of their work, 1942), they probably were not seen by Hellmayr. Moreover, I find that the series of *grayi* in the "Conover Collection" consists, not of five specimens only but of 15 (seven adult males, seven adult females, and one immature male). This adequate series should have led Conover (if not Hellmayr) to revise the statement that *grayi* represents only the female or immature stage of *nattereri*.

Hellmayr did not examine enough specimens of both sexes in his first

study (1908). The only specimens of *grayi* that he had seen at that time were the type from "Peru," which was not sexed, one male from Paraguay, and one male and one female from Brazil that had been collected by Natterer. This last female is one of the two specimens from Sangrador that were examined by Pelzeln and on which *grayi* was actually based. But Hellmayr, who has also examined the other specimen of Pelzeln from Sangrador, identified it as an immature male of *nattereri*, apparently because it has "a very small wattle," rather than a long caruncle. Such a difference is not conclusive, and Hellmayr ignored the fact that *grayi* and *nattereri* can be identified incontrovertibly in both sexes, adults as well as immatures, by the color of the throat and other characters that I describe above. In view of this consideration, I also cannot give any weight to Hellmayr's remark that Pelzeln's female of *grayi* "is slightly intermediate between *grayi* and *nattereri*, but nearer the former."

To accept Hellmayr's identification of the immature male as *nattereri* would be convenient because it would establish that *grayi* and *nattereri* have been collected at the same locality, but I believe it must be rejected. Nevertheless, it seems quite certain that *grayi* and *nattereri* overlap along the fifteenth and seventeenth parallels in the Mato Grosso, and probably as far south as the eighteenth parallel, because Oliveira Pinto (1938, p. 103) stated that he had examined one specimen of each from the Rio Piquiry that had been collected in July, 1930, by Lima. The locality in question is at latitude 17° 38' S. Along the fifteenth and seventeenth parallels, *nattereri* has been taken at São Luiz de Cáceres (16° 04'), Descalvados (16° 44'), and Rio das Flexas (16° 05'); *grayi*, at Sangrador (15° 39') which is 356 kilometers due east of the Rio das Flexas.

The series of *grayi* that I have examined consists of the type, which is an unsexed specimen from "Peru," two males and one female from Paraguay, and of 18 males, 16 females, and four unsexed specimens from Bolivia. Several young, immature, or subadult specimens are included. These are more than enough to refute the opinions of Peters and of Hellmayr and Conover concerning the status of *grayi*. Gyldenstolpe (1945, pp. 63-66) had remarked already that his material from Bolivia did not confirm the belief expressed by Peters.

I have seen two specimens from southeastern Peru which appear to be intermediate to some degree between *cumanensis* and *grayi*, although they are much more similar to *cumanensis* than to *grayi*. They were taken by Blake on September 27, 1958, at the mouth of the Rio Inambari. One of them has a short caruncle, and in the other the skin is merely folded, so it is impossible to determine whether it would have formed

a wattle or a caruncle. The shape of this appendage is not necessarily conclusive, but my belief that these specimens are intermediate is supported by the fact that they are slightly tinged with olive above, less greenish blue than normal for *cumanensis*, olive-green being characteristic of *grayi*.

It is possible that the eight specimens which Gyldenstolpe (*loc. cit.*) described from the region of Reyes in Bolivia are also intermediate to some degree. He wrote that "some" of these specimens have a wattle "of comparatively large size," the other having a "long, slender, pendulous caruncle," but, as he added that the crest is hirsute in all the specimens and that only one specimen is slightly bluish above, they would seem to be much more similar to *grayi* than to *cumanensis*, despite the fact that "some" have a wattle.

Reyes, which is at latitude 14° 17' S., longitude 67° 18' W., is somewhat farther north and west than the northernmost locality shown in figure 1 from which I have examined typical *grayi*. It is possible that the region of Reyes (situated very near the Rio Beni) and the lower Rio Inambari constitute the opposite extremes of a broad zone of intergradation centered, perhaps, along the upper and middle Rio Heath which forms the frontier between Bolivia and Peru.

The only record for French Guiana requires comment because *Pipile jacou* Reichenbach (1862, p. 154, pl. 271c, fig. 5056), which Salvadori (1914) considered a "*species incerta*," is based on this record. Salvadori seems to have been the only author who has discussed this form, which hitherto had not been disposed of in any synonymy.

The record is a very ancient one and was furnished by Bajon¹ (1777–1778, vol. 1, p. 398, pl. 5) who apparently discussed and illustrated a form of *Pipile*, under the name "Jacou," which he had obtained at Oyapock. Buffon² discussed Bajon's bird somewhat later under the name "L'Yacou," and Sonnini de Manoncour added further notes and a description subsequently (An IX [Sept. 23, 1800, to Aug. 19, 1801], pp. 300–306, pl. 42, fig. 1). Latham (1783, p. 681, pl. 61), in turn, discussed and illustrated this bird which he called "Yacou," saying that he obtained it from Bajon and Buffon, but disposed of the "Yacou" later (1790, p. 620) in the synonymy of *P. cumanensis* Jacquin, 1784. But Reichenbach (*loc. cit.*) was not satisfied and still thought that it was a distinct

¹ Bajon's work is not available to me. Its dates and title, "Mémoires pour servir à l'histoire de Cayenne et de la Guiane françoise," are quoted from Zimmer's catalogue (1926, p. 35); the reference to the volume, page, and plate is from Gmelin (1789, p. 734).

² The original edition of Buffon's "Histoire naturelle des oiseaux" is also not available to me. I used Sonnini de Manoncour's edition.

species which he described under the scientific name *Pipile jacou*, saying, however, that it was based on Bajon and Latham.

It is very clear, therefore, that *Pipile jacou* Reichenbach is only a synonym of *Pipile cumanensis* Jacquin and not a "*species incerta*." Salvadori (who evidently did not trace this name back to its origin) was misled, however, by Reichenbach who described and figured a bird that differs from *Pipile cumanensis* by having a completely black crest and a long white stripe on the side of the neck.

Reichenbach's plate is wretched and was undoubtedly copied from Latham's plate, which is not much better, and shows also a bird with a black crest and a long white stripe on the side of the neck. Latham's plate was, in turn, copied or adapted from Buffon's plate, which is poor also but does not show a white stripe on the neck, although the bird is shown with a black crest. However, when we refer to Sonnini de Manoncour's text we find that all the plates are inaccurate because he stated explicitly that the crest is white and that there were only a few white spots on the nape. The species has not been reported from French Guiana since Bajon, but most probably occurs in that country.

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SPECIMENS EXAMINED

Pipile pipile pipile

TRINIDAD: Platinal Valley, 1 ♂; Princetown, 1 ♂; Caparo, 1 ♀.

Pipile pipile cumanensis

SURINAM: West River, Wilhelmina Mountains, 1 ♂; Zuid River, Kaiserberg airstrip, 2 ♀.

GUYANA (FORMER BRITISH GUIANA): Courantyne River, 1 ♂, 1 ♀; Pairima camp, New River, 1 ♀; Takutu River, 1 ♂, 3 ♀; Pomeroon River, 1 ♂; no locality, 1 unsexed.

VENEZUELA: Right bank of the Rio Ocamo, 3 ♂; La Prision, 4 ♂, 1 ♀; Nericagua, 2 ♂; Nichare, 1 ♂; Munduapo, 1 ♂, 2 ♀; Mt. Duida, 1 ♀; upper Caura River, 2 ♂; Caño Mabinagui, Casiquiare, 3 ♀; Curare, Casiquiare, 1 ♂, 1 ♀.

BRAZIL: Serra do Pacu, Rio Catrimani, 1 ♀.

COLOMBIA: La Morelia, 1 ♀; Rio Duda, Macarena, 3 ♂; Rio Guapaya, Macarena, 1 ♂, 3 ♀; Rio Yerly, Macarena, 1 ♀; San Juan de Arama, Meta, 1 ♂, 1 ♀; Tres Troncos, La Tagua, Rio Caqueta, 1 ♂, 1 ♀; Loretoyacu, 1 ♂; "vicinity of Bogota," 1 unsexed; no locality, 2 unsexed.

ECUADOR: Rio Suno, 1 ♂; Sarayacu, 2 unsexed; Cerro Galera, 1 ♂; Auca Yaco, 1 ♀; Concepcion, 2 ♂, 4 ♀; San José de Sumaco, 2 ♀; Rio Suno above Avila, 1 ♂, 3 ♀; Coca, Rio Napo, 1 ♂; Rio Napo, no locality, 1 unsexed; Conambo, 1 ♂; "Ambato," 1 unsexed; Raya Yacu, 1 ♀; Raya Chigta, 1 ♂; "San José," 1 ♂; Lagarto Yacu, 1 ♂.

PERU: Puerto Indiana, 2 ♂; Orosa, 2 ♂, 1 ♀; Rio Comerciato, 3 ♂, 1 ♀; Chuchurras, 1 ♂, 1 ♀; Sarayacu, Rio Ucayali, 1 ♂; Yarina Cocha, middle Ucayali, 1 ♂; Calleria, Ucayali, 1 ♀; Yarinacocha, Ucayali, 1 ♀; Lagarto, upper Ucayali, 2 ♂, 2 ♀; Boca del Rio Curaray, 6 ♂; mouth of the Rio Urubamba, 1 ♂, 1 ♀; Balceadero, Rio Nusiniscato, 1 ♀; Tocache River, 2 unsexed; Rio Mazan, 1 ♀; Perené, Junin, 1 ♂; mouth of the Rio Inambari, Madre de Dios, 1 ♂, 1 ♀.

Pipile pipile grayi

"PERU": 1 unsexed (type of *grayi*).

BOLIVIA: *La Paz*: Suapi, 1 ♂; El Cocha, Rio Coroico, 1 ♀; Charuplaya, 1 ♀. *Cochabamba*: Mouth of the Rio Chaparé, 2 ♀; junction of the Rio Chaparé and Chimoré, 1 ♀; El Palmar, 1 ♂. *Santa Cruz*: Samaipata, 1 ♂, 1 ♀; Rio Yapacani, 1 ♂, 2 ♀, 4 unsexed; Rio Surutu, 4 ♂, 1 ♀; Provincia de Sara, 1 young; Vermejo, 4 ♂, 1 ♀; Buenavista, 5 ♂, 4 ♀.

PARAGUAY: Concurencia, 1 ♂; Cerro Amambay, 40 kilometers southwest of Capitan Bado, 1 ♀; no locality, 1 ♂.

Pipile kujubi kujubi

BRAZIL: Limoal, Rio Tapajoz, 1 ♂; Igarapé Bravo, Rio Tapajoz, 2 ♂; Caxirica-tuba, Rio Tapajoz, 3 ♂, 1 ♀; Boim, Rio Tapajoz, 2 ♂; Fordlandia, Rio Tapajoz, 1 ♂; Apacy, Rio Tapajoz, 1 ♀; Miritituba, Rio Tapajoz, 1 ♂; Villa Acara, Rio Acara, 2 ♂; Resacca, Rio Capim, Para, 1 ♂, 1 ♀, 1 young; Igarapé Assu, Para, 1 ♂; Para, 1 ♀; Lago Andira, Rio Amazonas, 1 ♂, 1 ♀; Lago Cuiteño, Rio Amazonas, 1 ♂; Serra do Parintins, 1 ♂, 1 ♀; "lower Amazon," no locality, 2 ♀, 1 unsexed.

Pipile kujubi nattereri

BRAZIL: Arima, Rio Purus, 1 ♂ (type of *naumburgae*); Rio Duvida, camp 6, 1 ♀; Descalvados, 1 ♀; falls of the Madeira, 1 young; Igarapé Auara, Rio Madeira, 1 ♂; Rio Arraguaya, Goyaz, 1 ♂, 3 ♀, 1 unsexed.

Pipile jacutinga

BRAZIL: Barraça de Cima, Rio Gongogy, Bahia, 1 ♂; Rio Parana, 1 unsexed; São Sebastião, São Paulo, 2 ♂, 2 ♀; Rio das Cinzas, São Paulo, 3 ♀; São Paulo, no locality, 1 unsexed; Rio de Janeiro, 1 ♀; no locality, 3 unsexed.

ARGENTINA: Misiones: Kilometer 10, Arroyo Urugua-i, 1 ♂, 2 ♀; kilometer 30, Arroyo Urugua-i, 1 ♀.

PARAGUAY: Cerro Amambay, 40 kilometers southwest of Capitan Bado, 1 ♂, 4 ♀.

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