
*Studies of Birds from Eastern Brazil and Paraguay, Based
on a Collection Made by Emil Kaempfer*

BY ELSIE M. B. NAUMBURG

BULLETIN

OF

THE AMERICAN MUSEUM OF NATURAL HISTORY

VOL. LXXIV, ART. III, pp. 139-205

New York

Issued December 31, 1937

**Article III.—STUDIES OF BIRDS FROM EASTERN BRAZIL
AND PARAGUAY, BASED ON A COLLECTION
MADE BY EMIL KAEMPFER**

CONOPOPHAGIDAE, RHINOCRYPTIDAE,¹ FORMICARIIDAE (PART)

BY ELSIE M. B. NAUMBURG

This is the second of a series of papers which will appear, based on the ten thousand birds collected by Emil Kaempfer in eastern Brazil and Paraguay. It treats of the families listed above because they require much more preliminary taxonomic work to determine their identity.

There is a great deal of material to be examined and it was deemed advisable to present the taxonomic problems by publishing short papers rather than wait for the completion of a large volume.

Discussions of various problems and the descriptions of new forms result in facts that will greatly help the final conclusions of an intensive study on the birds of eastern Brazil and Paraguay.

The author has already published the first paper in the form of maps and gazetteer of the localities visited by Mr. Kaempfer,² as it was found impossible to do accurate scientific work without a detailed knowledge of the geography of the localities.

There also have appeared two³ other publications on birds of the Kaempfer Collection which, however, are independent of this series about to appear in the Bulletin of The American Museum of Natural History.

The final report will discuss distributional analysis of bird-life: topography, physiography, and climate of the region visited by Mr. Kaempfer.

Conopophagidae

Conopophaga roberti Hellmayr

Conopophaga roberti HELLMAYR, 1905, Bull. B. O. C., XV, p. 54, Pará (Igarapé-Assú); idem, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., part 3, p. 28 [north-eastern Brazil, Pará district west to the right bank of the Tocantins (Baião) and adjoining parts of Maranhão]; idem, 1929, *op. cit.*, XII, p. 363 [Maranhão (Tury-assú, Alto de Alegria, Rosario, Fazenda Inhúma, Alto Parnahyba)].—SNETHLAGE, 1926, Bol. Mus. Nac. Rio de Janeiro, II, No. 6, p. 45 (Ceará).

¹ Wetmore, 1926, Bull. U. S. Nat. Mus., No. 133, p. 289.

² Naumburg, 1935, Bull. Amer. Mus. Nat. Hist., LXVIII, Art. 6.

³ Naumburg, 1932, Amer. Mus. Novit., No. 554; 1933, Amer. Mus. Novit., No. 648

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Maranhão: Santa Filomena (near Rosario), 1 ♂, April 1, 1926.—Piauhy: Bello Horizonte (90 kilom. up Therezina), 1 ♂ ad., June 16, 1926; Urussuhy, Rio Parnahyba, 1 ♂ ad., August 16, 1926.—Ceará: Viçosa (Serra Ibiapaba) (alt. 2500 ft.), 1 ♀ ad., November 4, 1926.

RANGE.—Northeastern Brazil, Pará district, west to right bank of the Rio Tocantins (Baião) and adjoining parts of Maranhão (Tury-assú, Santa Filomena, Rosario, Fazenda Inhúma, Alto Parnahyba); Piauhy (Bello Horizonte, Urussuhy) and western Ceará (Viçosa, Serra de Ibiapaba).¹

Measurements²

	SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL				
Maranhão: Santa Filomena	♂ ad.	71.5	37.0	12.5
Piauhy: Bello Horizonte	♂ ad.	71.5	39.0	11.0
“ Urussuhy	♂ ad.	71.0	41.5	11.0
Ceará: Viçosa, Serra Ibiapaba	♀ ad.	69.5	41.5	11.0

Other Specimens Examined²

	SEX	WING	TAIL	EXPOSED CULMEN	COLL.
BRAZIL					
Rio Tocantins: Baião	♂ ad.	68.5	34.5	11.5	Snethlage
Pará Dist.: Quatipurú, Flor do Prado	♀ ad.	67.5	34.5		“

A specimen from Urussuhy and another from Bello Horizonte, on the Piauhy shore of the Rio Parnahyba, differ from two birds collected by Mme. Snethlage in the Pará district in having larger wings and decidedly longer tails. In the color of the upperparts, the Piauhy skins differ from those from the Pará district in that they are ochraceous tawny (Ridgway XV) instead of amber brown (Ridgway III). An adult male from Santa Filomena on the Rio Itapecurú, Maranhão, is intermediate. In the length of tail it approaches the Piauhy birds but in the color of the upperparts it is buckthorn brown (Ridgway XV), a color intermediate between ochraceous tawny and amber brown. One female from Viçosa, Serra Ibiapaba, Ceará, agrees in the buckthorn color of the upperparts with the

¹ 1926, Bol. Mus. Nac. Rio de Janeiro, II, No. 6, p. 45.

² Measurements refer to birds in the Kaempfer collection unless otherwise stated.

specimen from Maranhão and in the length of the tail with the bird from Urussuhy, Piauhy.¹

Conopophaga lineata lineata (Wied)

Myiagrus lineatus WIED, 1831, 'Beitr. Naturg. Bras.,' III (2), p. 1064 (Arrayal [= Cidade] da Conquista, s. Bahia, descr. ♀).

Conopophaga lineata PELZELN, 1869, 'Orn. Bras.,' II, p. 92 [part, Matto Grosso (Sangrador)].—W. A. FORBES, 1881, Ibis, XXIII, p. 345, Pernambuco (Quipapá).—ALLEN, 1889, Bull. Amer. Mus. Nat. Hist., II, p. 256 (Wied's type in Amer. Mus.).—MÉNÉGAUX AND HELLMAYR, 1905, 'Bull. Mus. Hist. Nat. Paris,' XI, p. 375 (part specie., Goyáz).—IHERING,² 1907, 'Cat. Faun. Braz.,' I, p. 193 (part, Bahia, Goyáz, and Matto Grosso).—HELLMAYR, 1908, Nov. Zool., XV, p. 73, Goyáz (Fazenda Esperança); idem, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3 (part, Pernambuco, southern Bahia, Goyáz, and Matto Grosso).—NAUMBURG, 1930, Bull. Amer. Mus. Nat. Hist., LX, p. 190, Matto Grosso (Sangrador).

Conopophaga lineata rubecula NEUMANN, 1921, Mitt. Zool. Mus. Berlin, XVII, p. 444 [type from Goyáz (Veadeiros)].³

Conopophaga lineata hellmayri O. PINTO, 1936, Rev. Mus. Paul., XX, p. 81, type from Goyáz (Rio das Almas, Jaraguá).

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Bahia: Ituassú (alt. 2600 ft.), 1 ♂ ad., 1 (?),⁴ July 4, 1926.—Pernambuco: Brejó (alt. 2500 ft.), 3 ♂ ad., 3 ♀ ad., February 9–12, 1927.

RANGE.—North central Brazil from Pernambuco (Brejó, Quipapá) and southern Bahia (Cidade da Conquista Ituassú) west to Goyáz (Fazenda Esperança, Veadeiros, Volta da Serra, Rio das Almas, Jaraguá), and eastern Matto Grosso (Sangrador).

Measurements

	SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL				
Bahia: Ituassú	♂ ad.	72.0	43.5	12.0
" "	? ad.	70.0	42.5	12.5
Pernambuco: Brejó	4 ♂ ad.	73.5	43.3	12.1
" "	♀ ad.	71.0	43.0	12.5
" "	♀ ad.	70.5	43.5	12.5
" "	♀ ad.	71.0	42.5	12.5
Bahia: Arrayal [Cidade] da Conquista ⁵	♀ ad.	72.5	43.5	11.0

¹ I am not including *Conopophaga aurita aurita* (Gmelin) in the main text but merely mention it here stating that Ménétries' [1835, Mém. Acad. Sci. St. Pétersbourg, (6th Ser.) III, part 2 (Sci. Nat.), p. 532 ("Bahia")] locality "Bahia" must be erroneous, since *Conopophaga aurita aurita* is clearly restricted to the Guianas and a portion of eastern Brazil north of the Amazon.

² I am quoting Ihering only in the synonymy when he has specimens and says "Museum."

³ Now in Field Museum.

⁴ Most likely a female, judging from the lack of the silky-white postocular tuft, this region being pale cinereous like the superciliary stripe.

⁵ Wied's type, No. 6777 A. M. N. H. (1888, Bull. Amer. Mus. Nat. Hist., II, p. 256).

Other Specimens Examined¹

BRAZIL	SEX	WING	TAIL	EXPOSED	
				CULMEN	MUSEUM
Goyáz: Veadeiros	1 ♂ ad.	75.5	52	12.5	Field
“ “	1 ♂ ad.	76.0	45	14.0	“
“ Volta da Serra	1 ♂ ad.	71.0	45	13.5	“

Other Specimens Examined¹

Conopophaga lineata vulgaris.—BRAZIL.—Minas Geraës: Fazendinha Emerick (alt. 3200 ft.), 1 ♂ ad., Rio Caparaó (alt. 3200 ft.), 1 ♂ ad., 1 ♀ ad., Fazendinha (alt. 3500 ft.), 1 ♂ ad., Cachoeira da Fumaça (alt. 6000 ft.) 1 (?), Casa Queimada (alt. 7000 ft.), 1 ♀ ad., Kaempfer Coll.—Rio de Janeiro: Serra do Itatiaya, Macieiras (alt. 6100 ft.), 1 ♂ ad., 2 ♀ ad., Alto Itatiaya, Serra do Itatiaya (alt. 6900 ft.), 1 ♂ ad., Monte Serrat, Serra do Itatiaya (alt. 3000 ft.), 1 ♀ ad., Holt Coll., Therezopolis, Organ Mts. (alt. 3200 ft.), 2 ♂ ad., 2 ♀ ad., Chapman and Miller Coll., 1 ♂ ad., Wied's Coll. (not a type).—São Paulo: Ituverava, 1 ♂ ad., 1 ♀ ad., A. M. N. H. Coll., São Paulo: Ipanemá, 1 ♀ ad., Natterer Coll.—Paraná: Guayra, Rio Alto Paraná (alt. 600 ft.), 3 ♂ ad., Corvo, Serra da Graciosa (alt. 2000 ft.), 1 ♂ ad., Rio Iguassú; Porto Almeida (alt. 2000 ft.), 1 ♂ ad., Fazenda do Iguassú (alt. 3000 ft.), 1 ♂ ad., 1 ♀ ad.; Rio Paraná, Porto Britania (alt. 400 ft.), 1 ♂ ad., 2 ♀ ad.—Santa Catharina: Palmitos (alt. 1500 ft.), 1 ♀ ad., Salto Pirahy (alt. 450 ft.), 2 ♀ ad., Palmital (sea level), 1 (?) ad., Ouro Verde, Serra de Lucindo (alt. 2500 ft.), 1 ♂ ad.—Rio Grande do Sul: Nonohay (alt. 2000 ft.), 1 ♂ ad., 1 ? ad., Passo da Entrada (alt. 2000 ft.), 2 ♀ ad., Santa Cruz (alt. 300 ft.), 2 ♂ ad., Sapyranga (alt. 200 ft.), 2 ♂ ad., 1 ♀ ad., Sananduva (alt. 2000 ft.), 1 ♀ ad., Hamburgo Velho (alt. 400 ft.), 1 ♀ ad.—Southeastern Matto Grosso: Rio Amambahy (alt. 650 ft.), 1 ♂ ad., Kaempfer Coll.

EASTERN PARAGUAY.—East of Gaaguazú (alt. 1000 ft.), 1 ♂ ad., Colonia Independencia, east of Villarica (alt. 800 ft.), 2 ♂ ad., 1 (?).

Two skins from southern Bahia (Ituassú), which are topotypical, agree with a series from Pernambuco. They have the throat and chest decidedly deeper rufous and the upperparts slightly more rufescent brown than a large series from southeastern Brazil and Paraguay which should be known henceforth as *Conopophaga lineata vulgaris* Ménétrière.²

Securing specimens at Ituassú in southern Bahia is of considerable value since it permits final identification of what *Myiagrus lineatus* exactly is. Wied's type was taken at Arrayal (now Cidade da Conquista, a little farther south but in the same general region as Ituassú. My birds may therefore be regarded practically as topotypes. Neumann and Pinto named the Goyáz form *Conopophaga lineata rubecula* and *Cono-*

¹ Unless otherwise stated, all specimens are in the A. M. N. H.

² *Conopophaga vulgaris* Ménétrière, 1835, Mém. Acad. Sci. St. Pétersb., (6th Ser.) III, part 2 (Sci. Nat.), p. 534, Pl. xiv, fig. 1 (= ♂) (Rio de Janeiro and Minas Geraës).

pophaga lineata hellmayri. It now appears that they simply renamed typical *lineata* whereas it is the birds ranging from Minas Geraës, south to Rio Grande do Sul, Misiones, Paraguay, and southeastern Matto Grosso (Rio Amambahy), that require another subspecific designation (*Conopophaga lineata vulgaris*).

Conopophaga lineata lineata approaches *Conopophaga cearae* by the more rufescent pileum, but differs by light brownish-olive (instead of rufous brown) dorsal surface, deeper rufous throat and chest, gray (not blackish) frontal edge, broader white postocular tuft, and finally by a conspicuous gray loreal and superciliary stripes.

Ceraphanes anomalus Bertoni is simply *vulgaris* redescribed, since Misiones skins¹ agree with those of São Paulo and Rio de Janeiro.

"*Conopophaga lineata rubecula*" from Goyáz (Field Museum) differs from a southern series (Minas Geraës, Paraná, etc.) by deep tawny (instead of sayal brown to buckthorn brown) color of throat, chest, cheeks, and auriculars, deeper (clay color to buckthorn brown instead of tawny olive to buffy brownish) sides and under tail-coverts, and more rufescent crown. In order to make the identity of typical *Conopophaga lineata* absolutely certain, I borrowed and examined *Conopophaga lineata rubecula* (Nos. 75124, 75125, and 75126) from the Field Museum in Chicago. Neumann lays much stress on the absence or presence of a white spot on the foreneck for distinguishing *rubecula* (= *lineata*) and "*lineata*" (= *vulgaris*) and I believe there is a good deal in this character. This white marking appears to be very constant and is entirely absent in the series from Bahia and Pernambuco.

It is interesting to note that *Conopophaga lineata lineata* ranges into eastern Matto Grosso (Sangrador), whereas the southeastern section of the state (Rio Amambahy) is inhabited by *Conopophaga lineata vulgaris*.

Conopophaga lineata vulgaris Ménétrière

Conopophaga vulgaris MÉNÉTRIÈRE, 1885, Mém. Acad. Sci. St. Pétersb., (6th Ser.) III, part 2 (Sci. Nat.), p. 534, Pl. XIV, fig. 1 (= ♂) [Rio de Janeiro and Minas Geraës].

Conopophaga lineata BURMEISTER, 1856, 'Syst. Übers. Th. Bras.,' III, p. 52 (Neu Freiburg).—SCLATER, 1858, P. Z. S. London, XXVI, p. 285, (descr., s. e. Brazil).—PELZELN, 1868, 'Ornith. Bras.,' II, p. 92 (part São Paulo, Mugy das Cruzes, Casa Pintada, Ypanemá).—REINHARDT, 1870, 'Vidensk. Medd. Naturhist. Foren. Kjøben.,' p. 362, Minas Geraës (Paracatú) (the bird from Paracatú [it is the place on the Rio São Francisco south of São Romão] is possibly *C. l. lineata*. It is in the Copenhagen Museum); Rio de Janeiro (Nova Friburgo, Macahé, S. Clemente); São

¹ Field Museum skins, which I have seen, are nowise different from those of Rio de Janeiro and São Paulo.

Paulo (Hytú).—PELZELN, 1874, 'Numquam otiosus,' II, p. 291 (Nova Friburgo).—CABANIS, 1874, Journ. Ornith., p. 85, Rio de Janeiro (Cantagallo).—BERLEPSCH AND IHERING, 1885, Zeits. ges. Ornith., II, p. 152, Rio Grande do Sul (Taquara).—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 333 (s. e. Brazil).—IHERING, 1898, Rev. Mus. Paul., III, p. 247 (São Paulo); idem, 1899, Anuario Estado Rio Grande do Sul, XVI, p. 131 (Rio Grande do Sul); idem, 1900, Rev. Mus. Paul., IV, p. 158, Rio de Janeiro (Cantagallo, Nova Friburgo).—MÉNÉGAUX AND HELLMAYR, 1905, Bull. Mus. Paris, XI, p. 375 (part spec. a-d, Rio de Janeiro and Rio Grande do Sul).—MIRANDA, 1906, Arch. Mus. Nac. Rio de Janeiro, XIII, p. 184 (Itatiaya).—IHERING, 1907, Cat. Faun. Braz., I, p. 193 (part, São Paulo, Rio de Janeiro, Minas Geraës, Santa Catharina, and Rio Grande do Sul).—BERTONI, 1914, 'Faun. Parag.,' p. 50, Paraguay (Iguassú).—CHROSTOWSKI, 1921, Ann. Zool. Mus. Pol. Hist. Nat., I, p. 27, Paraná (Affonso Penna near Curityba).—HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., part 3, p. 31 [part, Rio de Janeiro; São Paulo (Faz. Cayoá, Salto Grande do Rio Paranapanema)].—SZTOLCMAN, 1926, Ann. Zool. Mus. Pol. Hist. Nat., V, p. 141, Paraná (Rio Claro, Fazenda Concordia, and Vermelho).—HOLT, 1928, Bull. Amer. Mus. Nat. Hist., LVII, p. 294, Rio de Janeiro (Serra do Itatiaya).—PINTO, 1932, Rev. Mus. Paulista, XVII (2), p. 749, São Paulo (Valparaízo).

Ceraphanes anomalus BERTONI, 1901, Anal. Cient. Parag., I, No. 1, p. 115, Paraguay (Puerto Bertoni, Alto Paraná).

Conopophaga anomala CHUBB, 1910, Ibis, p. 517, Paraguay (Sapucay).

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Minas Geraës: Fazendinha Emerick (alt. 3300 ft.), 1 ♂ ad., September 13, 1929, Rio do Caparaó (alt. 3200 ft.), 1 ♂ ad., 1 ♀ ad., July 24, August 3, 1929, Fazendinha (alt. 3500 ft.), 1 ♂ ad., September 8, 1929, Cachoeira da Fumaça (alt. 6000 ft.), 1 (?), September 4, 1929, Casa Queimada (alt. 7200 ft.), 1 ♀ ad., September 1, 1929.—Paraná: Guayra, Rio Alto Paraná (alt. 600 ft.), 3 ♂ ad., 1 (?), April 14, 16, 23, 1930, Corvo, Serra da Graciosa (alt. 2700 ft.), 2 ♂ ad., 1 ♀ ad., 4 ad. (?), 2 juv. (?), February 7, 15, 16, 18, 20, 21, 22, 1930, Rio Iguassú, Porto Almeida (alt. 2000 ft.), 1 ♂ ad., March 26, 1930, Foz do Iguassú (alt. 3000 ft.), 1 ♂ ad., 1 ♀ ad., May 22, 1930, Rio Paraná, Porto Britania (alt. 400 ft.), 1 ♂ ad., 2 ♀ ad., May 7, 9, 1930, Tibagy, Fazenda Monte Alegre (alt. 1804 ft.), 2 (?) ad., March 4, 12, 1930.—Santa Catharina: Ouro Verde (Serra de Lucindo, alt. 2500 ft.), 1 ♂ ad., May 7, 1929, Palmitos (alt. 1500 ft.), 1 ♀ ad., January 17, 1929, Palmital (São Francisco, sea level), 1 (?), June 20, 1929, Salto Pirahy (alt. 450 ft.), 2 ♀ juv., May 24, June 1, 1929.—Rio Grande do Sul: Hamburgo Velho (alt. 400 ft.), 1 ♀ ad., July 29, 1928, Sananduva (alt. 2000 ft.), 1 ♀ ad., January 7, 1929, Nonohay (alt. 2000 ft.), 1 ♂ ad., 2 ♀ ad., 1 (?), Feb. 24, 28, 1929, Sapyranga (alt. 100 ft.), 2 ♂ ad., 1 ♀ ad., August 3, 6, 1929, Santa Cruz (alt. 300 ft.), 2 ♂ ad., September 18, 22, 1928.—Southeastern Matto Grosso: Rio Amambahy (alt. 650 ft.), 1 ♂ ad., June 22, 1930.

PARAGUAY.—East of Villarica (Colonia Independencia) (alt. 800 ft.), 3 ♂ ad., 1 (?), October 1, 15, 1930, Caaguazú (alt. 1000 ft.), 1 ♂ ad., November 22, 1930.

RANGE.—Southeastern Brazil from southern Minas Geraës (Serra do

Caparaó) and Rio de Janeiro (Cantagallo, Nova Friburgo, Macahé, S. Clemente, Serra do Itatiaya, Alto do Itatiaya, Macieiras, Monte Serrat, Therezopolis, Organ Mts.) through São Paulo (Mugy das Cruzes, Casa Pintada, Ypanemá; Fazenda Cayoá, Salto Grande do Rio Paranapanema); Paraná (Guayra [Rio Alto Paraná], Corvo, Serra da Graciosa, Rio Iguassú [Porto Almeida], Fazenda do Iguassú, Rio Paraná [Porto Britania], Tibagy [Fazenda Monte Alegre], Curityba, Alfonso Penna [near Curityba], Rio Claro, Fazenda Concordia, Vermelho); south-eastern Matto Grosso (Rio Amambahy), and Santa Catharina (Ouro Verde [Serra de Lucindo], Palmitos, Palmital [Rio São Francisco], Salto Pirahy [near Joinville]) to Rio Grande do Sul (Taquara do Mundo Novo, Hamburgo Velho, Sananduva, Nonohay, Sapyranga, Santa Cruz); Paraguay (east of Villarica [Colonia Independencia], Caaguazú, Iguassú Puerto Bertoni, Sapucay); and Misiones (Santa Ana, Puerto Segundo, Eldorado).

Measurements

		SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL					
Minas Geraës:	Fazendinha Emerick	♂ ad.	71.0	49.5	12.0
"	" Rio Caparaó	♂ ad.	73.0	49.0	11.5
"	" Fazendinha	♂ ad.	73.5	49.0	12.0
"	" Rio Caparaó	♀ ad.	68.5	44.0	9.5
"	" Cachoeira da Fumaça	?	67.0	40.5	12.0
"	" Casa Queimada	♀ ad.	69.0	45.0	10.5
Paraná:	Guayra	♂ ad.	71.0	47.0	12.0
"	"	♂ ad.	70.0	46.0	11.0
"	"	♂ ad.	70.0	45.0	10.0
"	Corvo	♂ ad.	73.0	¹	12.5
"	"	♂ ad.	76.0	51.5	²
"	Rio Iguassú, Porto Almeida	♂ ad.	75.0	49.0	11.5
"	Foz do Iguassú	♂ ad.	70.0	46.0	11.5
"	" " "	♀ ad.	69.0	43.0	10.5
"	Rio Paraná, Porto Britania	♂ ad.	71.0	50.5	11.5
"	" " " " "	♀ ad.	69.0	44.0	12.0
"	" " " " "	♀ ad.	70.0	45.0	10.5
Santa Catharina:	Ouro Verde	♂ ad.	73.5	50.0	10.5
"	" Palmitos	♀ ad.	72.5	49.0	10.5
"	" Palmital	?	69.0	42.5	12.0
"	" Salto Pirahy	♀ juv.	62.5	28.0	11.5
"	" " "	♀ juv.	61.5	23.0	12.0

¹ Tail missing.² Culmen broken.

Measurements

				SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL							
Rio Grande do Sul:	Hamburgo	Velho		♀ ad.	71.0	49.0	11.0
"	"	"	Sananduva	♀ ad.	71.0	48.0	12.5
"	"	"	Nonohay	♂ ad.	70.0	47.5	11.5
"	"	"	"	♀ ad.	73.0	48.5	12.5
"	"	"	"	♀ ad.	69.5	52.5	11.5
"	"	"	Sapyranga	♂ ad.	72.0	46.5	11.0
"	"	"	"	♂ ad.	69.5	45.0	11.0
"	"	"	"	♀ ad.	66.5	47.0	11.0
"	"	"	Santa Cruz	♂ ad.	75.5	52.5	10.0
"	"	"	"	♂ ad.	71.5	51.0	11.5
Southern Matto Grosso:	Rio Amambahy			♂ ad.	70.5	45.0	12.5
PARAGUAY							
Colonia Independencia				♂ ad.	68.0	46.0	11.5
"	"			♂ ad.	72.5	46.5	11.0
"	"			♂ ad.	72.5	49.5	11.5

Other Specimens Examined

BRAZIL.—São Paulo: Ituverava, 1 ♂ ad., 1 ♀ ad. (A. M. N. H.), Ipanemá, 1 ♀ ad. (Natterer Coll.).

Conopophaga lineata cearae Cory

Conopophaga lineata cearae CORY, 1916 (August), Field Mus. Nat. Hist., Orn. Ser., I, p. 337, Ceará (Serra de Baturité).

Conopophaga cearae HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 32, northeastern Brazil (State of Ceará); idem, 1929, *op. cit.*, XII, p. 363, Ceará (Serra de Baturité).

No specimens collected.

RANGE.—Northeastern Brazil, State of Ceará (Serra de Baturité).

Specimens Examined

BRAZIL	SEX	WING	TAIL	EXPOSED	
				CULMEN	MUSEUM
Ceará: Serra de Baturité	♂ ad. ¹	69	²	13	Field

Conopophaga melanops melanops (Vieillot)

Platyrynchos melanops VIEILLOT, 1818, 'Nouv. Dict. d'Hist. Nat.,' Nouv. éd., XXVII p. 14 ("l'Amerique méridionale"; the type examined by C. E. Hellmayr in the Paris Museum is a male obtained by Delalande, Jr., in the vicinity of Rio de Janeiro).

Conopophaga nigrogenys LESSON, 1830, 'Traité d'Orn.,' V, p. 393, ("Brésil,

¹ Type = No. 47264 in Field Museum.

² Tail missing.

Ménétrières; the type examined by C. E. Hellmayr in the Paris Museum was secured by Ménétrières near Rio de Janeiro; = ♂).—MÉNÉTRIÈRES, 1835, Mém. Acad. Sci. St. Pétersbourg, (6th Ser.) III, part 2 (Sci. Nat.), p. 536, Pl. xv, fig. 1 (Rio de Janeiro).

Conopophaga dorsalis MÉNÉTRIÈRES, 1835, Mém. Acad. Sci. St. Pétersbourg, (6th Ser.) III, part 2 (Sci. Nat.), p. 533, Pl. xiv, fig. 2 (= ♀), near Rio de Janeiro (Sumidório).

Myioturmus perspicillatus (not of Lichtenstein) WIED, 1831, 'Beitr. Naturg. Bras.,' III (2), p. 1042, Espirito Santo (Rio Itabapuaana, descr. ♂ certè).

Conopophaga perspicillatus BURMEISTER, 1856, 'Syst. Übers. Th. Bras.,' III, p. 54 (Rio de Janeiro).

Conopophaga melanops SCLATER, 1858, P. Z. S. London, XXVI, p. 286 (descr. ♂, ♀, Rio de Janeiro).—CABANIS, 1874, Journ. Ornith., p. 85 (Cantagallo).—IHERING, 1900, Rev. Mus. Paul., IV, p. 159 (Cantagallo); idem, 1907, 'Cat. Faun. Braz.,' I, p. 193, São Paulo (Iguapé, São Sebastião, Ubatuba, and Alto da Serra).

Conopophaga maximiliani CABANIS AND HEINE, 1859, 'Mus. Hein.,' II, p. 8 (s. Brazil).—PELZELN, 1868, 'Orn. Bras.,' II, p. 92, Rio de Janeiro (Registo do Sai).

Conopophaga nigrigenys SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 334 (Rio de Janeiro, São Paulo).¹—IHERING, 1898, Rev. Mus. Paul., III, p. 248 (Iguapé).

Conopophaga melanops melanops HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XII, part 3, p. 32, southeastern Brazil, from southern Espirito Santo (Rio Itabapuaana) and Rio de Janeiro (Registo do Sai, Cantagallo, Petropolis, etc.) to São Paulo (Iguapé, Ubatuba, Alto da Serra, São Sebastião).

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Minas Geraês²: São Benedicto (Rio Manhuassú, alt. 600 ft.), 1 ♂ ad., January 17, 1930.—Espirito Santo: Baixo Guandú, 2 ♂ ad., 1 juv. (?), December 21, 23, 26, 1929, Lagôa Juparanã (alt. 400 ft.), 1 ♂ ad., 1 ♀ ad., November 13, 14, 1929.

RANGE.—Southeastern Brazil, from southeastern Minas Geraês (São Benedicto, Rio Manhuassú) and southern Espirito Santo (Baixo Guandú, Lagôa Juparanã, Rio Itabapuaana) through Rio de Janeiro (Registo do Sai, Cantagallo, Petropolis, etc.) to São Paulo (Iguapé, Ubatuba, Alto da Serra, São Sebastião).

Measurements

BRAZIL	SEX	WING	TAIL	EXPOSED
				CULMEN
Minas Geraês: São Benedicto	♂ ad.	66	30.5	12.0
Espirito Santo: Baixo Guandú	♂ ad.	66	30.5	12.5
“ “ “ “	♂ ad.	64	29.0	12.0
“ “ Lagôa Juparanã	♂ ad.	67	29.5	13.5
“ “ “ “	♀ ad.	63	28.0	13.0

¹ According to Hellmayr, the locality, Rio Grande do Sul, is unquestionably erroneous.

² The specimen from Minas Geraês is the first record of the species from that state.

Other Specimens Examined

BRAZIL.—?	SEX	WING	TAIL	EXPOSED	
				CULMEN	COLL.
	♀ ad.	65	30	11	Cassin

The specimen in juvenal plumage from Espírito Santo (Baixo Guandú) is argus brown above with cinnamon edges to the feathers of the back; head the same color as the back, possibly slightly darker but with no distinct cap; broad front and whole sides of the head, argus brown, with a few feathers tipped with ochraceous buff in the super-auricular region. Throat, middle of abdomen, flanks, and crissum light ochraceous buff. The under wing-coverts are not yet developed, each feather still in its sheath; breast cinnamon brown, primaries dark brown, secondaries same color as the primaries with pale ochraceous buff margins to each feather; bill black, feet pale yellow.

Conopophaga melanops perspicillata (Lichtenstein)

Myiothera perspicillata LICHTENSTEIN, 1823, 'Verz. Doubl. Berliner Mus.,' p. 43 (Bahia).

Conopophaga dorsalis (not of Ménétrières) BURMEISTER, 1856, 'Syst. Übers. Th. Bras.,' III, p. 53 (Bahia).—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 333 (part descr. "♂," Bahia).

Conopophaga melanops (not of Vieillot) PELZELN, 1868, 'Orn. Bras.,' II, p. 92 ("Brasilien" = Bahia).—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 334, (Bahia).

Conopophaga melanops perspicillata MÉNÉGAUX AND HELLMAYR, 1905, Bull. Mus. Paris, XI, p. 377 (Bahia, characters of ♀).—IHERING, 1907, 'Cat. Faun. Braz.,' I, p. 193 (Bahia).—LIMA, 1920, Rev. Mus. Paul., XII (2), p. 98, Bahia [Ilhéos (Fazenda Pontal), Itabuna (Fazenda Ditosa), Belmonte (Fazenda Santiago)].—HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 34, eastern Brazil (State of Bahia).

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Bahia: Baixão (alt. 1100 ft.), 1 ♂ ad., September 22, 1927, Cajazeiras (Rio Grungogy, alt. 1000 ft.), 1 ♂ ad., June 21, 1928.

RANGE.—Eastern Brazil, State of Bahia [Baixão, Cajazeiras, Rio Grungogy, Verruda, Rio Pardo, Ilhéos (Fazenda Pontal)].

Measurements

BRAZIL	SEX	WING	TAIL	EXPOSED
				CULMEN
Bahia: Baixão	♂ ad.	67	29.5	13
" Cajazeiras	♂ ad.	65	29.0	13

Other Specimens Examined

BRAZIL.—Bahia: 2 ♂ ad. (A. M. N. H.), Verruda, Rio Pardo, 1 ♀ ad. (G. E. Holt).

The black frontal band is a conspicuous character in the male of this northern race.

Corythopsis delalandi (Lesson)

Muscicapa delalandi LESSON, 1830, 'Traité d'Orn.,' V, p. 392 (the types examined by C. E. Hellmayr in the Paris Museum were obtained by Delalande, Jr., in the vicinity of Rio de Janeiro, Brazil).

Myiothera calcarata WIED, 1831, 'Beitr. Naturg. Bras.,' III (2), p. 1101 (no locality given; the type in the Amer. Mus. Nat. Hist. is from s. e. Brazil).

Hylacentrites ambulator BERTONI, 1901, Anal. Cient. Parag., I, No. 1, p. 126, Paraguay (Djaguaraspá, Alto Paraná).

Corythopsis calcarata BURMEISTER, 1856, 'Syst. Übers. Th. Bras.,' III, p. 58 (s. e. Brazil).—SCLATER, 1858, P. Z. S. London, XXVI, p. 287 (s. e. Brazil).—PELZELN, 1868, 'Orn. Bras.,' II, p. 92, Rio de Janeiro (Sapitiba); São Paulo (Ypanemá).—REINHARDT, 1870, 'Vidensk. Medd. Naturhist. Foren. Kjoben.,' p. 361, Minas Geraës (Paracatú, Lagôa Santa).—ALLEN, 1889, Bull. Amer. Mus. Nat. Hist., II, p. 256 (Wied's type).—SALVADORI, 1900, Boll. Mus. Zool. Torino, XV, No. 378, p. 18, Paraguay (Tebicuari).—IHERING, 1907, 'Cat. F. Braz.,' I, p. 194, São Paulo (Itapura, Rio Feio).—CHUBB, 1910, Ibis, p. 518, Paraguay (Sapucay).

Carythopsis [sic] *calcarata* BERTONI, 1914, 'Faun. Parag.,' p. 50, Paraguay (Iguassú).

Corythopsis delalandi HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 34, southern Brazil (in states of Bahia, Minas Geraës, Matto Grosso, Rio de Janeiro, São Paulo), eastern Bolivia (Chiquitos), Paraguay, and northeastern Argentina (Misiones); idem, 1929, *op. cit.*, XII, No. 18, pp. 255, 364, Bahia, São Paulo, Maranhão (Tranqueira).—SZTOLCMAN, 1926, Ann. Zool. Mus. Pol. Hist. Nat., V, p. 141, Paraná (Salto do Cobre and Barra do Rio Bom, Rio Ivahy).—PINTO, 1932, Rev. Mus. Paul., XVII (2), p. 749, São Paulo (Valparaizo); idem, 1936, *op. cit.*, XX, p. 82, Goyáz [Rio das Almas (Jaraguá) and Rio Meia Ponte (Inhúmas)].

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Minas Geraës: Resplendor, Rio Doce (alt. 400 ft.), 1 ♂ ad., January 9, 1930.—Espírito Santo: Baixo Guandú, (alt. 400 ft.), 2 ♂ ad., 1 (?), December 23, 24, 1929, January 1, 1930.—Paraná: Fazenda do Iguassú (alt. 300 ft.), 4 ♂ ad., May 17, 21, 30, 1930, Tibagy (Fazenda Monte Alegre) 2 (?) ad., March 3, 9, 1930.—Santa Catharina: Cascalho, Uruguay shore¹ (alt. 750 ft.), 1 ♂ ad., February 3, 1929.

PARAGUAY.—East of Villarica, Colonia Independencia (alt. 800 ft.), 2 ♂ ad., 1 ♀ ad., October 1, 4, 16, 1930.

EASTERN PARAGUAY.—Upper Iguassú River (alt. 1000 ft.), 2 ♀ ad., 1 (?) ad., November 30, 1930, January 12, 1931.

¹ On the right bank.

RANGE.—From southern Maranhão (Tranqueira) to southern Brazil, in states of Bahia, Matto Grosso (Chapada, San Lorenzo River, Abrilongo), Minas Geraês (Resplendor, Paracatú, Lagôa Santa), Espirito Santo (Baixo Guandú), Rio de Janeiro (Sapitiba), São Paulo (Ypanemá, Itapura, Rio Feio), Santa Catharina (Cascalho, Uruguay shore); Paraguay (Djaguaraspá, Villarica, Colonia Independencia, Upper Iguassú, Caaguazú, Tebicuari, Sapucay); and Argentina [Misiones (Santa Ana, Villa Lutetia)]; also in eastern Bolivia (Chiquitos).

Measurements

	SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL				
Minas Geraês: Resplendor	♂ ad.	64.5	48.0	14.0
Espirito Santo: Baixo Guandú	♂ ad.	64.0	50.0	15.0
“ “ “ “	♂ ad.	65.0	50.0	14.5
“ “ “ “	♀ ad.	63.5	50.0	15.0
“ “ “ “	?	65.0	45.0	13.5
“ “ “ “	♀ ad.	65.0	48.0	14.0
Paraná: Fazenda do Iguassú	4 ♂ ad.	66.5	52.2	13.1
“ Tibagy	?	63.5	48.0	13.0
“ “	?	65.0	51.0	14.0
Santa Catharina: Cascalho	♂ ad.	66.0	54.0	14.0
PARAGUAY				
East of Villarica, Colonia Independencia	♂ ad.	69.0	54.0	13.0
“ “ “ “ “	♂ ad.	65.0	49.5	13.5
EASTERN PARAGUAY				
Upper Iguassú River	♀ ad.	64.0	48.5	13.5
“ “ “	?	65.5	54.0	14.0
Caaguazú	♀ ad.	62.5	46.5	12.5
“	♂ ad.	68.5	50.0	14.5

Other Specimens Examined

BRAZIL.—Matto Grosso: Chapada, 5 ♂ ad., 4 ♀ ad., Abrilongo, 1 ♀ ad., São Lourenço River, 1 ♀ ad. (Smith and Roosevelt Coll.).

Mr. Kaempfer brought no material from northeast Brazil, but Tranqueira, in Maranhão, from which locality the Field Museum has three adults, signifies a considerable northward extension of the range of this southern species.

Paraguayan birds (*ambulator*) are nowise different from the Brazilian ones.

Corythopsis torquata anthoides (Pucheran)

Muscicapa anthoides (Cuvier Ms.) PUCHERAN, 1855, 'Arch. Mus. d'Hist. Nat.,' Paris, VII, p. 334 (Cayenne; type in Paris Museum).

Corythopsis anthoides PELZELN, 1868, 'Orn. Bras.,' II, p. 92 (part; [Barra do Rio Negro] = Manaós).

Corythopsis torquata anthoides HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 37, French, Dutch, and British Guiana, north bank of lower Amazon (Obidos, Manaós) and Pará district; idem, 1929, *op. cit.*, XII, p. 364, Maranhão (Tury-assú).—SNETHLAGE, 1926, Bol. Mus. Nac. Rio de Janeiro, No. 6, p. 65, Maranhão (Tury-assú).

No specimens collected.

RANGE.—Amazonia to Maranhão (Tury-assú), French, Dutch, and British Guiana, north bank of lower Amazon (Obidos, Manaós) and Pará district.

Mr. Kaempfer did not secure any specimens of this northern form which is represented in the drier, more arid, districts by *Corythopsis delalandi*.

Rhinocryptidae**Merulaxis ater** Lesson

Merulaxis ater LESSON, 1830, 'Traité d'Orn.,' livr. V, p. 397 ("Mexique," errore Hellmayr substitutes Rio de Janeiro; descr. ♂).

Myiothera rhynolopha WIED, 1831, 'Beitr. Naturg. Bras.,' III (2), p. 1051 ("Am Flusse Belmonte," southern Bahia; descr. ♀).

Merulaxis rhynolopha ALLEN, 1889, Bull. Amer. Mus. Nat. Hist., II, p. 257 (Rio Belmonte; Wied's type).

Merulaxis ater HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 9, southeastern Brazil, from southern Bahia (Rio Belmonte to São Paulo).

No specimens collected.

RANGE.—Southeastern Brazil, from southern Bahia (Rio Belmonte) to São Paulo.

There are several specimens of this genus in The American Museum of Natural History, including Wied's type of *Myiothera rhynolopha*, without sex or date.

Scytalopus speluncae (Ménétriès)

Malacorhynchus speluncae MÉNÉTRIÈS, 1835, Mém. Acad. Sci. St. Pétersb., (6th Ser.) III, part 2 (Sci. Nat.), p. 527, Pl. XIII, fig. 1 (near São João del Rey, State Minas Geraës; type in Petrograd Museum, examined by C. E. H.).

Scytalopus speluncae BURMEISTER, 1856, 'Syst. Übers Th. Bras.,' III, p. 63 (São João del Rey, ex Ménétriès).—REINHARDT, 1870, 'Vidensk. Medd. Naturhist. Foren Kjoben.,' p. 374 (São João del Rey, ex Ménétriès).—SCLATER, 1874, Ibis, p. 193, ex Ménétriès; idem, 1890, 'Cat. B. Brit. Mus.,' XV, p. 339, ex Ménétriès.—HELLMAYR, 1907, Bull. B. O. C., XIX, p. 76, Rio de Janeiro (Serra do Itatiaia),

São Paulo (Alto da Serra).—IHERING, 1907, 'Cat. Faun. Braz.,' I, p. 191, São Paulo (Alto da Serra).—LÜDERWALDT, 1909, Zool. Jahrb. (Syst.), XXVII, p. 348, Rio de Janeiro (Campo Itatiaya).—BERTONI, 1919, El Hornero, I, p. 258, Misiones (Puerto León).—HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 13 [mountain districts of southeastern Brazil in states of Minas Geraës (near São João del Rey), Rio de Janeiro (Serra do Itatiaya) and São Paulo (Alto da Serra); Argentina (Misiones).—SZTOLCMAN, 1926, Ann. Zool. Mus. Pol. Hist. Nat., V, p. 141, Paraná (Fazenda Concordia, Fazenda Ferreira, Fazenda Durski, and Candido de Abreu).—HOLT, 1928, Bull. Amer. Mus. Nat. Hist., LVII, p. 252, Rio de Janeiro (Serra do Itatiaya).

No specimens collected.

RANGE.—Mountain districts of southeastern Brazil, in states of Minas Geraës (near São João del Rey), Rio de Janeiro (Serra do Itatiaya), São Paulo (Alto da Serra), Paraná (Fazenda Concordia, Fazenda Ferreira, Fazenda Durski, Candido de Abreu); also in Argentina (Misiones).

Other Specimens Examined

	SEX	WING	MUSEUM
ARGENTINA			
Misiones: Eldorado	♂ ad.	49	Field
“ “	♀ ad.	49	“
BRAZIL			
Rio de Janeiro: Alto Itatiaya	♂ ad.	53	A. M. N. H.
“ “ “ “	♂ ad.	53	“ “ “ “
“ “ “ Itatiaya	♀ ad.	50	“ “ “ “
“ “ “ “	♀ ad.	53	“ “ “ “

Two specimens, male and female, in the Field Museum, were collected by Juan Mogensen at Eldorado, Misiones, on Nov. 5 and Oct. 29, 1925. Though both have uniform mouse-gray upper primary and wing-coverts, as is the case in fully adult males from Alto Itatiaya (No. 188964, No. 188960), the flanks and under tail-coverts are decidedly rufescent with broad black bands. In short wings they agree with specimens from Alto da Serra (São Paulo),¹ whereas birds from Serra do Itatiaya are somewhat larger, but the divergency is insignificant. Perhaps the Misiones birds are not fully adult. Ménériès' type from Minas Geraës has the long wing of Itatiaya birds. This trifling variation is undoubtedly individual, and there is only one form ranging from Minas Geraës to Misiones.

Scytalopus indigoticus (Wied)

Myiothera indigoticus WIED, 1831, 'Beitr. Naturg. Bras.,' III (2), p. 1091 ("in der Gegend von Bahia").

¹ Minas Geraës (São João del Rey), type, wing 53. São Paulo (Alto da Serra), ♂, (first annual) wing 48 1/2, ♀, (first annual) wing 47. Measurements given me by Dr. Hellmayr.

Melacorhynchus indigoticus MÉNÉTRIÈS, 1835, Mém. Acad. Sci. St. Pétersb., (6th Ser.) III, part 2 (Sci. Nat.), p. 529, ex Wied.

Myiothera indigotica LAFRESNAYE, 1851, 'Contrib. to Ornith.,' p. 147 (Bahia; ex Wied).

Scytalopus indigoticus BURMEISTER, 1856, 'Syst. Übers Th. Bras.,' III, p. 63 (Bahia to Rio de Janeiro).—ALLEN, 1889, Bull. Amer. Mus. Nat. Hist., II, p. 257 (Wied's type).—PELZELN, 1867, 'Orn. Bras.,' I, p. 46 [São Paulo (Mattodentro, Ypanemá)].—SCLATER, 1874, Ibis, p. 195 (s. e. Brazil).—BERLEPSCH AND IHERING, 1885, Zeits. Ges. Ornith., II, p. 152 [Rio Grande do Sul (Taquara)].—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 34 (s. e. Brazil).—IHERING, 1899, Rev. Mus. Paul., III, p. 249 [São Paulo (Iguapé)]; idem, 1902, *op. cit.*, V, p. 301 (Iguapé; egg descr.); idem, 1899, Anuario Est. Rio Grande do Sul, XVI, p. 131 [Rio Grande do Sul (Mundo Novo)]; idem, 1907, 'Cat. Faun. Braz.,' I, p. 192, São Paulo (Ypiranga, Iguapé, Alto da Serra, Baurú).—HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 22 (southeastern Brazil from Bahia to Rio Grande do Sul).—SZTOLCMAN, 1926, Ann. Zool. Mus. Pol., Hist. Nat., V, p. 141, Paraná (Rio Claro, Ourinho, Fazenda Ferreira, Therezina, Candido de Abreu).—HOLT, 1928, Bull. Amer. Mus. Nat. Hist., LVII, p. 293, Rio de Janeiro (Monte Serrat, Serra do Itatiaia).

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Santa Catharina: Salto Pirahy (alt. 450 ft.), 1 ♀ ad., 1 (?), May 26, June 3, 1929.—Paraná: Corvo (Serra da Graciosa, alt. 2700 ft.), 2 (?), 1 ♂ imm., February 14, 18, 19, 1930; Tibagy (Fazenda da Monte Alegre, alt. 1804 ft.), 1 (?), March 10, 1930.

RANGE.—Southeastern Brazil from Bahia to Rio de Janeiro (Itatiaia, Monte Serrat); São Paulo (Ypanemá, Mattodentro, Iguapé, Ypiranga, Alto da Serra, Baurú); Paraná (Corvo, Serra da Graciosa, Tibagy (Fazenda da Monte Alegre), Ourinho, Rio Claro, Fazenda Ferreira, Therezina, Candido de Abreu); Santa Catharina (near Joinville, Salto Pirahy); Rio Grande do Sul (Taquara, Mundo Novo).

Measurements

BRAZIL	SEX	WING	TAIL	EXPOSED
				CULMEN
Paraná: Corvo, Serra da Graciosa	♂ juv.	50.0	39.0	10.0
" " " " "	?	48.5	40.0	10.0
" " " " "	?	52.0	38.0	10.5
" " " " "	?	49.0	36.5	10.0
" (Tibagy: Fazenda da Monte Alegre)	? juv.	52.5	38.0	10.5
Santa Catharina (near Joinville)	♀	48.5	33.0	10.0

Other Specimens Examined¹

	SEX	MUSEUM
BRAZIL		
Itatiaya: Monte Serrat	1 ?	A. M. N. H.
Bahia (Wied's type)	2 ?	" " " "
.....	1 ?	" " " "

This is a bird of the campo found on "Forest Islands" which break up the undulating stretches of open country. These "Forest Islands" are most frequently found in depressions where water is easily available.

The Capões² are found about five hundred meters above sea level with vegetation consisting mostly of Brazilian pine (*Araucaria brasiliana*), other trees and considerable underbrush. Pigeons, doves, parrots, and hawks are birds of these open spaces, living in the tree tops, while the ant-birds, woodhewers, and tinamous are birds of the forest, never venturing from out of the cover of the underbrush. It would be interesting to ascertain how these birds, visibly afraid of bright, open country, ever reached the darkness of the forest.

When studying members of this genus, great care must be taken in comparing only birds of similar age.

Adult birds (of all species) have the wing coverts, including alula and primary coverts, uniform plumbeous like crown and back, only the innermost greater wing-coverts being washed with rufescent brown, while the black-buff apical markings are confined to the tertials.

Birds in first annual plumage are much more brownish or rufous brown above. This color also invades the back, hind neck, and hind crown. Alula and primary coverts, retained from the juvenal plumage, are dusky brown or reddish brown subterminally barred with blackish and tipped with bright buff. The remiges also have much more brown and more extensive apical markings.

The color differences I find between the few birds from Rio de Janeiro (Itatiaya) and Santa Catharina may possibly be due to age and not to geographic variation, although not one of six birds from São Paulo³ shows any black tip to the lower mandible. Still I do not find it advisable to

¹ Birds seen by Dr. C. E. Hellmayr at the Vienna Museum.

BRAZIL	SEX	WING	TAIL
São Paulo: Ypanemá	1 ♂ ad.	50	36
" " " (1st annual plumage)	♀ ad.	48	(Damaged)
" " " " " "	♀ ad.	49	39
" " " " " "	♂ ad.	49	41
" " Mattodentro " " "	♀ ad.	48	41

² Campo = Capão (singular), Capões (plural).

³ Seen by Dr. C. E. Hellmayr.

name the southern form, as my material is altogether insufficient for birds of this group.

Two specimens from Santa Catharina differ from the only four specimens I have seen in the American Museum from Bahia and Itatiaya. In the female from Santa Catharina (Salto Pirahy),¹ the feathers of the upper back are a lighter than Brussels brown instead of plumbeous; this Brussels brown color extending over the entire back. The plumbeous feathers of the rump are also more broadly tipped with Brussels brown than in the other unsexed bird from Santa Catharina, thus making the entire upperparts Brussels brown. The other Santa Catharina bird has less Brussels brown on the upper back, but much more than the Bahia and Itatiaya skins, and the feathers of the lower back and rump are tipped with rufous, as in the Bahia and Itatiaya skins, giving a darker plumbeous color to the upperparts. The Santa Catharina skins have the lower horn-colored mandible tipped with black, which is not the case in the Bahia and Itatiaya birds that have the lower mandible horn-colored. Santa Catharina skins average smaller in size.

As the Paraná specimens are all in juvenal plumage, it is difficult to say just where they belong, but for geographic reasons I am assuming that they are identical with Santa Catharina specimens and that São Paulo and Rio Grande do Sul might also be included in the range of this species. However, further material will have to be available before I can come to any definite conclusion. I have seen no specimens from São Paulo or Rio Grande do Sul.

*Melanopareia*² *torquata torquata* (Wied)

Synallaxis torquata WIED, 1831, 'Beitr. Naturg. Bras.,' III (2), p. 697 ("Campo Geral des innern Brasilien," sc. the campo district in the confines of the Prov. Bahia and Minas Geraës, e. Brazil; types lost, see Allen, 1889, Bull. Amer. Mus. Nat. Hist., II, p. 244).—REISER, 1910, Denkschr. Math.-Naturw. Kl. Ak. Wiss. Wien, LXXVI, p. 69, southern Piauhy (Oro, on the way from S. Antonio to S. Philomena, Serra of Philomena).

Melanopareia torquata BURMEISTER, 1856, 'Syst. Übers. Th. Bras.,' III, p. 37 (part; Wied's reference).

Melanopareia torquata torquata HELLMAYR, 1921, Nov. Zool., XXVIII, p. 267 (crit.; n. e. Brazil, in states of Bahia and Piauhy); idem, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 166 (northeastern Brazil in states of Bahia and Piauhy); idem, 1929, *op. cit.*, XII, No. 18, p. 363, Piauhy (Oro, on the trail from Santo Antonio de Gilboez³ to Santa Philomena).

¹ Near Joinville.

² According to the late Mr. W. DeWitt Miller, the genus *Melanopareia* (see Chapman, 1926, Bull. Amer. Mus. Nat. Hist., LV, p. 374, footnote 1) is apparently referable to the Hylactidae [= Rhinocryptidae].

³ = Gilbões.

No specimens collected.

RANGE.—Northeastern Brazil in states of Bahia and Piauhy.

This form is known only from Bahia and southern Piauhy.

Melanopareia torquata rufescens Hellmayr

Melanopareia torquatus rufescens HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 167, São Paulo (Irisanga).

Synallaxis torquata (not of Wied) PELZELN, 1868, 'Orn. Bras.,' I, p. 36, São Paulo (Cimiterio do Lambari, Irisanga, Paciencia).—ALLEN, 1893, Bull. Amer. Mus. Nat. Hist., V, p. 112, Matto Grosso (Chapada).—REINHARDT, 1870, Vidensk. Medd. Naturhist. Foren., p. 385, west Minas Geraës (Lagôa Santa, Lages, near Santa Anna dos Alegres).—SCLATER, 1874, P. Z. S. Lond., p. 17 [part; São Paulo; west Minas Geraës (Lagôa Santa)]; idem, 1890, 'Cat. B. Brit. Mus.,' XV, p. 56, west Minas Geraës (Lagôa Santa).—ALLEN, 1893, Bull. Amer. Mus. Nat. Hist., V, p. 112, Matto Grosso (Chapada).—IHERING, 1907, 'Cat. Faun. Braz.,' I, p. 234, São Paulo (Rincão Batataes).—HELLMAYR, 1908, Nov. Zool., p. 60, Goyáz (Faz. Esperança).

*Melanopareia torquata bitorquata*¹ (not of Lafresnaye and D'Orbigny) HELLMAYR, 1921, Nov. Zool., XXVIII, pp. 266, 267 (part; Brazil in states of Minas Geraës, São Paulo, Goyáz, and Matto Grosso).

No specimens collected.

RANGE.—Interior of Brazil, in states of Minas Geraës (Lagôa Santa, Santa Anna dos Alegres), São Paulo (Cimiterio do Lambari, Irisanga, Paciencia, Rincão, Batataes), Goyáz (Rio São Miguel, Faz. Esperança), and Matto Grosso (Chapada, Rio do Color).

SPECIMENS EXAMINED

	SEX	MUSEUM
BRAZIL		
Goyáz: Rio São Miguel	1 ♂ ad.	Field
Matto Grosso: Rio do Color	1 ♂ ad.	A. M. N. H.
“ “ Chapada	1 ♂ ad.	A. M. N. H.

Measurements

	SEX	WING	TAIL	CULMEN
BRAZIL				
Goyáz: Rio São Miguel	♂ ad.	56.5	65	12
Matto Grosso: Rio do Color	♂ ad.	54.5	²	11
“ “ Chapada	♂ ad.	54.5	62	13

Formicariidae

Hypoedaleus guttatus guttatus (Vieillot)

Thamnophilus guttatus VIEILLOT, 1816, 'Nouv. Dict. d'Hist. Nat.,' Nouv. éd., III, p. 315 ("l'Amérique méridionale"); C. E. Hellmayr designates Rio de Janeiro, s. e. Brazil).

¹ 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 167.

² Tail worn.

Lanius meleager LICHTENSTEIN, 1823, 'Verz. Doubl. Berliner Mus.,' p. 46 (São Paulo).

Thamnophilus guttatus PELZELN, 1868, 'Orn. Bras.,' II, p. 75, Rio de Janeiro (Registo do Sai), São Paulo (Ipanemá, Porto do Rio Paraná).—REINHARDT, 1870, 'Vidensk. Medd. Naturhist. Foren. Kjoben.,' p. 373, Minas Geraës¹ (Lagôa Santa,¹ Sete Lagoas); São Paulo (Campinas, Araraquara) and Rio de Janeiro.

Thamnophilus meleager BURMEISTER, 1856, 'Syst. Übers. Th. Bras.,' III, p. 91, part, São Paulo and Minas Geraës.

Hypodaleus guttatus IHERING, 1907, 'Cat. Faun. Braz.,' I, p. 195, part, São Paulo (Rio Mogy Guassú, Ubatuba, Iguapé, Itapura, Baurú, Rio Feio, São Sebastião) and Paraná (Ourinho).—HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 40, part, southeastern Brazil from Minas Geraës, south to Santa Catharina ranging west to Prov. Misiones (northeastern Argentina), and Paraguay.—PINTO, 1932, Rev. Mus. Paul., XVII (2), p. 749, São Paulo (Valparaízo).

Hypodaleus guttatus apucaranae SZTOLCMAN, 1926, Ann. Zool. Mus. Pol. Hist. Nat., V, p. 145, Paraná [Candide de Abreu (type), Salto do Cobre, and Salto Guayra].

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Santa Catharina: Salto Pirahy, Joinville (alt. 450 ft.), 1 ♂ ad., June 3, 1929.

PARAGUAY.—East of Villarica, Colonia Independencia (alt. 800 ft.), 1 ♂ ad., October 3, 1930.

RANGE.—Southeastern Brazil, from Rio de Janeiro and São Paulo, south to Santa Catharina² (Salto Pirahy near Joinville) ranging west to northeastern Argentina (Prov. Misiones), and Paraguay (Villarica, Sapucay, Ibitimi).

Measurements

	SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL				
Santa Catharina: Salto Pirahy	♂ ad.	82	92.5	22.0
PARAGUAY				
East of Villarica	♂ ad.	89	101.5	23.5

Other Specimens Examined

BRAZIL.—São Paulo: Ituverava, 1 ♂ ad., 3 ♀ ad. (A. M. N. H.).

¹ Without examining the specimens it is impossible to allocate these places with certainty. According to Pinto, 1932, Rev. Mus. Paul., XVII (2), p. 749, a specimen from Minas Geraës (Rio Matipó: a tributary of the Rio Doce) has a whitish abdomen and crissum, being therefore *leucogaster*.

² The alleged occurrence of the bird in "Rio Grande do Sul" requires corroboration. Cf. Ihering, 1899, Anuario Est. Rio Grande do Sul, XVI, p. 130, "Rio Grande do Sul (Lagôa dos Patos)."

Hypoedaleus guttatus leucogaster Pinto

Hypoedaleus guttatus leucogaster PINTO, 1932, Rev. Mus. Paul., XVII (2), p. 749 (in text), Espirito Santo and Minas Geraës (Rio Matipó).

Thamnophilus guttatus (not of Vieillot) WIED, 1831, 'Beitr. Naturg. Bras.,' III (2), p. 1019, part, Espirito Santo (Aracatiba and Coroaba, Rio Espirito Santo), Minas Geraës, and Bahia.

Thamnophilus meleager (not *Lanius meleager* Lichtenstein) BURMEISTER, 1856, 'Syst. Übers. Th. Bras.,' III, p. 91, part, Bahia.

Hypoedaleus guttatus IHERING, 1907, 'Cat. Faun. Braz.,' I, p. 195, part, Espirito Santo.—HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 40, part, Espirito Santo.

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Bahia: Jaguaquara (alt. 2500 ft.), 1 ♂ ad., 1 ♀ ad., September 2, 6, 1927.—Espirito Santo: Segrado do Veado, Serra do Caparaó (alt. 3000 ft.), 1 ♂ ad., 1 (?) ad., October 8, 1929, Lagôa Juparanã (alt. 400 ft.), 1 ♂ ad., November 2, 1929, Baixo Guandú (alt. 400 ft.), 3 ♂ ad., 2 ♀ ad., December 22, 28, 30, 1929.

RANGE.—Brazil: Bahia (Jaguaquara); Minas Geraës (Rio Matipó); Espirito Santo (Segrado do Veado, Serra do Caparaó, Lagôa Juparanã, Baixo Guandú, Aracatiba and Coroaba, Rio Espirito Santo).

Measurements

	SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL				
Bahia: Jaguaquara	♂ ad.	82.0	93.0	22.0
" "	♀ ad.	82.0	88.5	21.5
Espirito Santo: Lagôa Juparanã	♂ ad.	86.5	87.0	93.0
" " Baixo Guandú	♂ ad.	86.5	96.0	21.5
" " " "	♂ ad.	87.0	97.5	23.5
" " " "	♂ ad.	86.5	98.5	23.5
" " " "	♀ ad.	88.5	106.0	22.0
" " " "	♀ ad.	86.5	97.0	23.5

Pinto (*loc. cit.*) had the new race, which I was about to describe, in mind when provisionally suggesting the name *leucogaster* for two specimens from Espirito Santo and one from Minas Geraës (Rio Matipó).¹ He states that out of fifteen from São Paulo, two had the abdomen and crissum nearly white ("quase perfeitamente branco") like one from Espirito Santo and one from Rio Matipó, while a second specimen from Espirito Santo hardly differed from those of São Paulo. These were exactly my own conclusions before Mr. Pinto's observations reached me.

¹ The Rio Matipó is a tributary of the Rio Doce starting about 20° 30' south latitude and flowing north until it enters the Rio Doce about 19° 45' south latitude and between 42° 25' 30" west longitude.

Though this is a fairly common bird throughout the country, there seems to be a great deal of individual variation, and now, with new material at hand, there is need of more discussion, and detailed work on the geographic distribution of the species seems more in order.

In 1823, Lichtenstein¹ described *Lanius meleager* from São Paulo as having the crissum a deep ferruginous color. He says he doubts that there is any difference in the sexes. The American Museum has a female from Ituverava, São Paulo, which fits Lichtenstein's description as it has the abdomen and crissum a deep ferruginous color.

In 1825, Such² describes *Thamnophilus maculatus* as having the crissum fulvous. He says "I find a specimen in Mr. MacLeay's collection which, although it differs in some points from my bird, appears to belong to the same species. Its chief difference consists in the pectus and abdomen being less white and more of a lead color than those of my bird. The spots also on the head are white without any fulvous appearance and the mandibles are also altogether black."

All the birds described by Such in this volume are from "that part of Brazil where it rises from the low plains of Goaytacazes to the elevated surface of the Province of Minas Geraës." Goaytacazes is now called Campos, the city in the province of Rio de Janeiro. Such clearly describes the male sex and calls the lower abdomen and under tail-coverts fulvous. The plate corresponds well to a male from Rio de Janeiro in the Vienna Museum—making *Thamnophilus maculatus* a synonym of *Thamnophilus guttatus guttatus* (Vieillot). Numerous specimens at the Vienna Museum from Rio de Janeiro to Santa Catharina have the under tail-coverts buffy or ochraceous (never white), although the intensity of that color is subject to some variation.

Dr. Hellmayr (in litt.) says of the male: "It is palest (about cream color of Ridgway, PL. xvi) in a male from Rio de Janeiro and practically confined to crissum and anal region. In birds from São Paulo to Santa Catharina, while somewhat variable in tone, this color is brighter (nearest to, but rather paler than, 'buffy yellow' of Ridgway, Pl. iv) and extends up the middle of the abdomen and the flanks. The barring of the longest uropygial feathers is slightly less buffy in the Rio bird, though one from São Paulo is similar."

Two females from Rio de Janeiro are less buffy underneath than five from São Paulo and Paraná (in the Vienna Museum), especially the breast which is paler. Tipping of uropygial feathers not different. It

¹ 1823, 'Vers. Doubl. Berliner Mus.,' p. 46 (São Paulo).

² 1825, Zool. Journ., I, No. 4, p. 557, Suppl. Pl. vi (= male), January.

would thus seem that Rio birds (topotypical *guttatus*) are not so "extremely" colored and form the transition to the northern race from Espírito Santo and Bahia. They are, however, too near the inhabitants of São Paulo and southward to justify the retention for the latter of the name *rodriguezianus* Bertoni,¹ of which *H. guttatus apucaranae* Sztolcman (1926, Ann. Zool. Mus. Pol. Hist. Nat., V, p. 145) from Paraná is certainly a synonym since the width of the black tail-bars alluded to by the describer is of no importance.

For the present I am therefore inclined to regard as one race (*Hy-poedaleus guttatus guttatus*) specimens from Rio de Janeiro, São Paulo, Paraguay, and Santa Catharina, though there is a great deal of variation found in the extent of fulvous color on the abdomen and under tail-coverts, as well as in the intensity of the fulvous edges to the uropygial feathers, and to consider as a different subspecies the specimens from Bahia and Espírito Santo, for which Pinto's term *leucogaster* becomes available.

Batara cinerea cinerea (Vieillot)

Thamnophilus cinereus VIELLOT, 1819, 'Nouv. Dict. d'Hist. Nat.,' Nouv. éd., XXXV, p. 200 (= ♂) ("Brésil," = Rio de Janeiro).

Lanius undulatus MIKAN, 1820, 'Del. Faun et Flor.,' Pl.—(Brasília; the types in the Vienna Museum were taken by Natterer at Ypanemá, São Paulo).

Batara striata LESSON, 1830, 'Traite d'Orn.,' p. 347 (Mandiocca, Prov. Mandiocca, Rio de Janeiro).

Thamnophilus undulatus BURMEISTER, 1856, 'Syst. Übers. Th. Bras.,' III, p. 89, Rio de Janeiro (Nova Friburgo).

Batara cinerea SCLATER, 1858, P. Z. S. London, XXVI, p. 207 (monogr.; "Minas," São Paulo, Rio Grande do Sul).—PELZELN, 1868, 'Orn. Bras.,' II, p. 74, São Paulo (Ypanemá) and Paraná (Curytiba).—BERLEPSCH AND IHERING, 1885, Zeitschr. Ges. Ornith., II, p. 147, Rio Grande do Sul (Taquara, Arroio Grande, Linha Pirajá).—IHERING, 1899, Rev. Mus. Paul., III, p. 234, São Paulo (Iguapé, Piracicaba); idem, 1900, *op. cit.*, IV, p. 158, Rio de Janeiro (Nova Friburgo); idem, 1900 (1899), Anuario Est. Rio Grande do Sul, XVI, p. 130 (Taquara do Mundo Novo); idem, 1907, 'Cat. Faun. Braz.,' I, p. 194, São Paulo (Itararé) and Rio Grande do Sul (Novo Hamburgo).—CHROSTOWSKI, 1912, Compt. Rend. Soc. Scient. Varsovie, V, pp. 477-496, Paraná (Vera Guáraný).

Batara cinerea cinerea HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 41, southeastern Brazil, from Rio de Janeiro south to Rio Grande do Sul, west to northeastern Argentina (Prov. Misiones).—HOLT, 1928, Bull. Amer. Mus. Nat. Hist., LVII, p. 294 (Serra do Itatiaya).

Batara chrostowskii SZTOLCMAN, 1926, Ann. Zool. Mus. Pol. Hist. Nat., V, p. 142, Paraná (Fazenda Durski and Rio Ubasinho).

¹ 1901, Anal. Cient. Parag., p. 137, Paraguay (Alto Paraná).

SPECIMENS COLLECTED
(Kaempfer Collection)

BRAZIL.—Rio Grande do Sul: Santa Cruz (alt. 300 ft.), 1 ♂ ad., 1 ♀ ad., September 16, 17, 1928.—Santa Catharina: Joinville, 1 ♂ ad., 1 ♀ ad., June 18, 1929.

RANGE.—Southeastern Brazil, from Rio de Janeiro (Nova Friburgo, Mandiocca, Serra do Itatiaya) to São Paulo (Ypanemá, Iguapé, Piracicaba, Itararé), Paraná (Curytiba, Vera Guáraný), Santa Catharina (Joinville), and Rio Grande do Sul (Taquara, Arroio Grande, Linha Pirajá, Taquara do Mundo Novo, Novo Hamburgo, Santa Cruz) to northeastern Argentina (Prov. Misiones).

Measurements

	SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL				
Santa Catharina: Joinville	♂ ad.	121.5	171.0	33.5
“ “ “	♀ ad.	121.5	175.5	33.0
Rio Grande do Sul: Santa Cruz	♂ ad.	132.0	185.0	36.5
“ “ “ “ “	♀ ad.	131.0	185.0	36.0
“ “ “ “ Taquara do Mundo Novo	♂ ad.	130.0	179.0	35.0
“ “ “ “ Taquara do Mundo Novo	♀ ad.	124.5	181.5	33.5

Other Specimens Examined

BRAZIL.—Serra do Itatiaya: Pontemaromba, 1 ♂ ad., 1 ♀ ad. (A. M. N. H.).—São Paulo: Itararé, 1 ♂ ad. (A. M. N. H.).—Rio de Janeiro: 1 ♂ ad., 1 ♀ ad. (A. M. N. H.).

ARGENTINA.—Santa Ana (Misiones), 3 ♂ ad., 3 ♀ ad. (A. M. N. H.).

Sztołcman separated *Batara chrostowskii* from Paraná on the basis of certain characters in the female sex (more rufous on the crown and broader, less closely set bars on the rectrices). With eleven specimens from Serra do Itatiaya and other Rio de Janeiro skins as well as some from São Paulo and Misiones, I am unable to see any local variations. However, Sztołcman had only one female from “Brazil” for comparison with one male and one female from Paraná.¹ If there are two races (which I do not believe) as claimed by Sztołcman, the Kaempfer birds from Santa Catharina and Rio Grande do Sul, as well as the Misiones series, should pertain to it.

¹ Dr. Hellmayr has seen a series of fourteen specimens from Rio de Janeiro, São Paulo (Ipanemá), Paraná (Curytiba), and Misiones and is unable to find any variations.

Mackenziaena leachii (Such)

Thamnophilus leachii SUCH, 1825, Zool. Journ., I, No. 4 (January), p. 558 (= ♂), vicinity of Goaytacazes (= Campos), Prov. Rio de Janeiro.—BURMEISTER, 1856, 'Syst. Übers. Th. Bras.,' III, p. 90, Rio de Janeiro (Nova Friburgo).

Thamnophilus ruficeps SUCH, 1825, Zool. Journ., I, No. 4 (January), p. 559 (= ♀), Rio de Janeiro (vicinity of Campos).

Lochites leachi CABANIS AND HEINE, 1859, 'Mus. Hein,' II, p. 19, Brazil and "Montevideo" (erroré).

Thamnophilus leachi PELZELN, 1868, 'Orn. Braz.,' II, p. 74 (São Paulo, Mattodentro, Marmeleiro, Ypanemá); Paraná (Curytiba, Campo Comprido).—BERLEPSCH AND IHERING, 1885, Zeitschr. Ges. Ornith., II, p. 147, Rio Grande do Sul (Taquara, Arroio Grande).—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 181, Rio de Janeiro; Minas Geraës (Santa Fé); São Paulo; Rio Grande do Sul.—IHERING, 1899, Rev. Mus. Paul., III, p. 235, São Paulo (Iporanga); idem, 1900 (1899), Anuario Est. Rio Grande do Sul, XVI, p. 130 (Mundo Novo); idem, 1907, 'Cat. Faun. Braz.,' I, p. 195, São Paulo (Iporanga, Itararé, Itatiaya); Minas Geraës.—CHROSTOWSKI, 1912, Compt. Rend. Soc. Scient., Varsovie, V, pp. 477–496, Paraná (Vera Guáraný).—BERTONI, 1907, Rev. Inst. Parag., p. — (Sep. p. 6), Paraguay.

Mackenziaena leachii HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 43, southeastern Brazil, from Rio de Janeiro and southern Minas Geraës to Rio Grande do Sul and northeastern Argentina (Misiones).—HOLT, 1928, Bull. Amer. Mus. Nat. Hist., LVII, p. 294 (Serra do Itatiaya).

Mackenziaena leachi perlata SZTOLCMAN, 1926, Ann. Zool. Mus. Pol. Hist. Nat., V (4), p. 143, Paraná (Marechal Mallet and Rio Claro).

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Paraná: Guayra, Rio Paraná (alt. 600 ft.), 1 ♂ ad., 1 (?), April 15, 18, 1920, Corvo, Serra da Graciosa (alt. 2700 ft.), 1 ♂ ad., 1 (?), February 7, 20, 1930, Porto Britania, Rio Paraná (alt. 400 ft.), 1 ♂ ad., May 7, 1930.—Rio Grande do Sul: Sananduva (alt. 2000 ft.), ♂ ad., January 7, 1927, Erebangó (alt. 2500 ft.), 2 (?), March 26, April 3, 1929, Nonohay, Passo da Entrada (alt. 2000 ft.), 3 (?), February 28, March 2, 1929.—Minas Geraës: Casa Queimada, Serra do Caparaó (alt. 7200 ft.), 1 (?), August 29, 1929, Fazendinha, Serra do Caparaó (alt. 3500 ft.), 1 ♀ ad., September 8, 1929.

RANGE.—Southeastern Brazil, from Rio de Janeiro and Serra do Itatiaya and southern Minas Geraës (Serra do Caparaó) through São Paulo and Paraná (Guayra, Corvo, Porto Britania) to Rio Grande do Sul (Sananduva, Erebangó, Nonohay) and northeastern Argentina (Misiones).

Measurements

	SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL				
Paraná: Guayra	♂ ad.	97.0	146.0	21.5
“ “	? (♂) ad.	99.5	144.5	20.0
“ Porto Britania	♂ ad.	100.0	137.0	21.0

		SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL					
Paraná	Corvo	♂ ad.	95.5	137.0	21.0
"	"	? (♂) ad.	96.5	145.0	18.5
Rio Grande do Sul:	Sananduva	♂ ad.	95.0	141.0	20.5
"	" " " "	? ("♂ ad.")	98.5	149.0	22.0
"	" " " "	? ("♂")	98.0	139.5	21.0
"	" " " "	? ("♀")	99.0	146.0	20.0
"	" " " "	? ("♀")	91.0	1	20.0
Minas Geraës:	Casa Queimada	? ("♂")	90.0	136.0	22.0
"	" Fazendinha	♀ ad.	94.0	136.5	21.0

Other Specimens Examined

BRAZIL.—Rio de Janeiro: Serra do Itatiaya, Macieiras (alt. 6200 ft.), 1 ♂ ad. 1 ♂ juv. (E. G. Holt, A. M. N. H.).

I have seen no specimens from the type locality Rio de Janeiro. Two specimens from the Serra do Itatiaya agree in coloration and measurements with specimens from Paraná, Rio Grande do Sul, and Minas Geraës. All specimens show only slight individual variation and there is no doubt that they should be referred to *Mackenziaena leachii*. I consider *Mackenziaena leachi perlata* Sztolcman a synonym of *Mackenziaena leachii*, as I cannot see that specimens from Paraná differ from those of other localities. Sztolcman draws particular attention to the markings of the abdomen, which I consider only a very unimportant and slight variation. However, I have seen no females from Paraná, which according to Sztolcman² show the important subspecific differences in the buff instead of ferruginous color of the markings of the lower parts.

Mackenziaena severa (Lichtenstein)

Lanius severus LICHTENSTEIN, 1823, 'Verz. Doubl. Berliner Mus.,' pp. 45-46 (São Paulo).

Thamnophilus niger SUCH, 1825, Zool. Journ., I, No. 4, p. 559 (= ♂) [vicinity of Goaytacazes (= Campos), Prov. Rio de Janeiro].

Thamnophilus swainsonii SUCH, 1825, Zool. Journ., I, No. 4, p. 556, Suppl. Pl. v (= female) vicinity of Goaytacazes (= Campos), Rio de Janeiro.

Thamnophilus severus BURMEISTER, 1856, 'Syst. Übers. Th. Bras.,' III, p. 90 (descr. and range).—SCLATER, 1858, P. Z. S. London, XXVI, p. 208 (descr. and range).—PELZELN, 1868, 'Orn. Bras.,' II, p. 75, São Paulo (Mattodentro, Ypanemá).—BERLEPSCH, 1873, Journ. Ornith., p. 254, Santa Catharina (Blumenau).—BERLEPSCH AND IHERING, 1885, Zeitschr. ges. Orn., II, p. 147, Rio Grande

¹ Tail missing.

² 1926, Annales Zoologici Musei Polonici Historiae Naturalis, V, p. 143. Dr. Hellmayr says: "a female from Paraná (Curitiba) in the Vienna Museum, thus nearly topotypical of *Mackenziaena leachi perlata*, does not differ in the least from São Paulo birds of the same sex."

do Sul (Arroio Grande).—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 183 (descr.; s. e. Brazil).—IHERING, 1899, Rev. Mus. Paul., III, p. 236, São Paulo (Piracicaba, Yporanga); idem, 1899, Anuario Est. Rio Grande do Sul, XVI, p. 130 (Rio Grande do Sul); idem, 1907, 'Cat. Faun. Braz.,' I, p. 195, São Paulo (Piracicaba, Botucatu, Alto da Serra, Yporanga, Itararé, Itapura, Ubatuba, Rio Feio).

Lochites severus CABANIS, 1874, Journ. Ornith., p. 236 (Cantagallo).—BERTONI, 1914, 'Faun. Parag.,' p. 59 (Alto Paraná).

Thamnophilus Lohilleanus BERTONI, 1901, Anal. Cient. Parag., I, No. 1, January, p. 135, East Paraguay (Alto Paraná).

Mackenziaena severa HELLMAYR, 1924, Field. Mus. Nat. Hist. Publ., Zool. Ser. XIII, part 3, p. 44, southeastern Brazil from Rio de Janeiro to Rio Grande do Sul and adjoining parts of Paraguay (Alto Paraná) and Argentina (Misiones).—HOLT, 1928, Bull. Amer. Mus. Nat. Hist., LVII, p. 294 (Serra do Itatiaya).

Mackenziaena severa humulata SZTOLCMAN, 1926, Ann. Zool. Mus. Pol. Hist. Nat., V, p. 145, State of Paraná (Therezina).

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Paraná: Guayra, Rio Paraná (alt. ?), 4 ♂ ad., 5 ♀ ad., April 15, 16, 23, 24, 26, May 1, June 10, 1930.—Minas Geraës: Rio Caparaó, Serra do Caparaó (alt. 3500 ft.), 1 ♂ ad., August 4, 1929, Fazendinha, Serra do Caparaó (alt. 3500 ft.), 1 ♂ ad., September 18, 1929.

RANGE.—From Minas Geraës (Rio Caparaó, Serra do Caparaó, Fazendinha) through southeastern Brazil; Rio de Janeiro (Cantagallo, Ponte Maromba, Serra do Itatiaya; Campos); São Paulo (Mattodentro, Ypanemá, Piracicaba, Yporanga, Botucatu, Alto da Serra, Itararé, Itapura, Ubatuba, Rio Feio); Paraná (Guayra, Foz do Iguassú, Porto Britania, Rio Paraná, Therezina); Santa Catharina (Blumenau); Rio Grande do Sul (Arroio Grande); Paraguay (Alto Paraná); and Misiones (Santa Ana, Villa Lutetia).

Measurements

	SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL				
Paraná: Guayra	4 ♂ ad.	93.7	114.3	20.5
“ “	5 ♀ ad.	91.9	112.7	19.4
“ Fazenda do Iguassú	♂ ad.	92.5	115	20.0
“ Porto Britania	♂ ad.	98.0	120	20.0
Minas Geraës: Rio Caparaó	♂ ad.	92.0	108	21.5
“ “ Fazendinha	♂ ad.	93.0	105	20.0

Other Specimens Examined

BRAZIL.—Rio de Janeiro: Serra do Itatiaya (Ponte Maromba, alt. 3800 ft.), 2 ♂ ad.,¹ 1 ♀ immature (G. E. Holt, A. M. N. H.).

Two males from Minas Geraës (Rio Caparaó and Fazendinha in the Serra do Caparaó) are the first specimens discovered in Minas Geraës proper. They are identical with specimens from other parts of southeastern Brazil except that the tail measurements are shorter than those of birds found in Paraná and Rio de Janeiro. They seem to have the same length as the tails of two females from Guayra in Paraná. We have no authentic record of this species from Goyáz and the locality "Rio Claro, Goyáz" is evidently erroneous.

I do not recognize *Mackenziaena severa lunulata* from Paraná. Sztolcman² based the distinction on certain markings on the breast which I believe to be individual variation. He had only 1 male and 1 female from São Paulo (Ipanemá) for comparison.

Taraba major major (Vieillot)

Thamnophilus major VIEILLOT, 1816, 'Nouv. Dict. d'Hist. Nat.,' Nouv. éd., III, p. 313 (based on Azara, No. 211, "Batara mayor," Paraguay).—D'ORBIGNY, 1838, 'Voyage Amér. Mérid.,' Ois., p. 166, Argentina (Corrientes, Santa Fé); Bolivia (Yungas, Cochabamba, Santa Cruz, Chiquitos).—PELZELN, 1868, 'Orn. Bras.,' II, p. 75, Goyáz (Abrantes), Matto Grosso (Cuyabá, São Vicente).—SALVIN, 1880, Ibis, p. 359, Argentina (Tucumán, Salta).—WHITE, 1882, P. Z. S. London, p. 614, Argentina (Orán, Salta).—BERLEPSCH, 1887, Journ. Ornith., XXXV, p. 16, Paraguay (Lambaré).—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 186 (part), Matto Grosso (Abrilongo, Chapada); Bolivia; Salta, Tucumán.—ALLEN, 1893, Bull. Amer. Mus. Nat. Hist., V, p. 115, Matto Grosso (Corumbá, Abrilongo, Chapada).—SALVADORI, 1895, Boll. Mus. Torino, X, No. 208, p. 13, Paraguay (Colonia Risso); Matto Grosso (Corumbá); Argentina (S. Pablo, Tucumán); idem, 1897, *op. cit.*, No. 292, p. 21, Argentina (Campo Santo, Salta; S. Lorenzo, Jujuy).—KERR, 1901, Ibis, p. 227 (Paraguayan Chaco).—C. B. GRANT, 1911, Ibis, 135, Argentina (Riacho Ancho, Terr. del Chaco, Goya, Corrientes); Paraguay (Desaguadero, Villa Pilar, Curuzú Chica); southwest Matto Grosso (below Boca de Homiguera).—IHERING, 1905, Mus. Paul., VI, p. 352, part; north São Paulo (Avanhandava)³; idem, 1907, 'Cat. Faun. Braz.,' I, p. 196, north São Paulo (Itapura, Barretos, Avanhandava).³—BERTONI, 1914, Faun. Parag., p. 51, Paraguay (Asunción).

Thamnophilus major major HELLMAYR, 1908, Nouv. Zool., XV, p. 66, Goyáz (Faz. Esperança, Rio Araguaya).—HARTERT AND VENTURI, 1909, *op. cit.*, XVI, p. 220, Santa Fé (Mocoví, Chaco), Argentina (Los Vasquez, Tucumán; San Lourenço, Jujuy).

Thamnophilus magnus "Wied" LESSON, 1830, 'Traité d'Orn.,' V (end of 1830),

¹ 1 tail, 1 culmen defective.

² 1926, Ann. Zool. Mus. Pol. Hist. Nat., V, p. 145.

³ Zimmer, 1933, Amer. Mus. Novit., No. 668, p. 8, refers a single male from São Paulo (Avanhandava) to *Taraba major stagurus*; Pinto, 1935, Rev. Mus. Paul., XIX, p. 171, says birds from western São Paulo are *Taraba major major* (see my description, farther on, of birds from São Paulo).

p. 375 (based on "Le Grand Batara" in Walckenaer's edition of Azara, III, p. 419, Paraguay).

Thamnophilus stagurus (not of Lichtenstein) BURMEISTER, 1860, Journ. Ornith., VIII, p. 251, Argentina (Tucumán); Paraná; idem, 1861, 'Reise La Plata St.,' II, p. 471, Argentina (Tucumán, "Montevideo"); Paraná.

Thamnophilus rohdei BERLEPSCH, 1887, Journ. Ornith., XXXV, p. 16, Pl. 1, Paraguay (Lambaré).—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 187 (Paraguay).

Taraba major virgultorum CHERRIE, 1916, Bull. Amer. Mus. Nat. Hist., XXXV, p. 391 (part; descr. ♂ from Todos Santos, Rio Chaparé, Bolivia; type in Amer. Mus., examined by E. M. B. N.).¹

Taraba major major HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 46, eastern Bolivia (Yungas of Cochabamba; Santa Cruz de la Sierra, Prov. del Sara; Chiquitos); Argentina (south to Prov. Santa Fé, Corrientes and northern Entrerios); Paraguay; Goyáz; Matto Grosso south to northern São Paulo (Paraná-Tieté region).—NAUMBURG, 1930, Bull. Amer. Mus. Nat. Hist., LX, p. 191, western Brazil, in states of Goyáz and Matto Grosso (Cuyabá, São Vicente, Chapada, Corumbá, Abrilongo, Boca de Homiguera, Descalvados, Urucúm, Rio São Lourenço, Tapirapoan, Fazenda do São João, south to northern São Paulo (Paraná-Tieté region).—PINTO, 1932, Rev. Mus. Paul., XVII (2), p. 749, Matto Grosso (Aquidauana); idem, 1936, *op. cit.*, XX, p. 82, Goyáz (Rio das Almas and Rio Meia Ponte).

SPECIMENS COLLECTED

BRAZIL.—Southern Matto Grosso: Rio Amambahy (alt. 650 ft.), 1 ♂ ad., June 26, 1930 (Kaempfer Coll.).—Espírito Santo: Lagôa Juparanã (alt. 400 ft.), 3 ♂ ad., 2 ♀ ad., October 30, November 4, 8, 11, 18, 1929 (Kaempfer Coll.).¹

PARAGUAY.—Makthlawaiya, Chaco (alt. 400 ft.), 2 ♂ ad., 1 ♀ ad., March 11, 18, 1931, Chaco, "Front" of Concepción (alt. 500 ft.), 2 ♂ ad., 1 ♀ ad., Feb. 21, 23, 1931.

RANGE.—From eastern Bolivia (Yungas of Cochabamba; Santa Cruz de la Sierra, Prov. del Sara; Chiquitos; Todos Santos) through northwestern Argentina, south to Prov. Santa Fé [Corrientes, and northern Entrerios (Embarcación), Perico (Jujuy); Suncho Corral, Avia Terai, General Pinedo, Rosario de Lerma, Sarmiento, Riacho Ancho, Terr. del Chaco, Goya, Corrientes]; Paraguay (Makthlawaiya Mission, Chaco, Trinidad, "Front" of Concepción, Lambaré, Colonia Rizzo; Desaguadero, Villa Pilar, Curuzú Chica); western Brazil in states of Matto Grosso (Rio Amambahy, Cuyabá, São Vicente, Chapada, Corumbá, Abrilongo, Boca de Homiguera, Descalvados, Urucúm, Rio São Lourenço, Tapirapoan, Fazenda do São João); Minas Geraës (Rio Grande); Espírito Santo (Lagôa Juparanã); São Paulo (Avanhandava), etc.

¹ Zimmer, 1933, Amer. Mus. Novit., No. 668, p. 3.

Measurements¹

				SEX	WING	TAIL	EXPOSED CULMEN	COLL.
BRAZIL								
South	Matto Grosso:	Rio	Amambahy	♂ ad.	94.5	83.5	24.5	Kaempfer
Espirito	Santo:	Lagôa	Juparanã	♂ ad.	90.0	81.5	23.0	"
"	"	"	"	♂ ad.	94.5	88.0	25.0	"
"	"	"	"	♂ ad.	92.5	83.5	24.5	"
"	"	"	"	♀ ad.	90.0	81.5	24.5	"
"	"	"	"	♀ ad.	90.0	82.0	23.5	"
PARAGUAY								
Makthlawaiya	Mission,	Chaco		♂ ad.	95.5	88.5	22.0	"
"	"	"		♂ ad.	89.0	89.0	20.5	"
"	"	"		♀ ad.	88.0	83.5	22.5	"
"Front"	of	Concepción,	"	♂ ad.	88.5	80.5	23.0	"
"	"	"	"	♂ ad.	90.5	84.0	22.0	"
"	"	"	"	♀ ad.	89.0	83.0	22.0	"

Other Specimens Examined

BRAZIL.—Minas Geraës: Rio Grande, 1 ♀ ad. (A. M. N. H.).—Goyáz: Rio Araguaya, 2 ♂ ad., 1 ♂ ad., Fazenda Esperança, 1 ♂ ad., Goyáz, (Rothschild Coll.).—Matto Grosso: 6 ♂ ad., 3 ♀ ad., São Lourenço, 1 ♂ ad., 1 ♀ ad., Tapirapoan, 1 ♂ ad., Fazenda do São João, 1 ♂ ad., Descalvados, 1 ♀ ad. (Roosevelt Coll.), Chapada, 11 ♂ ad., 6 ♀ ad. (Smith Coll.).—São Paulo: Avanhandava, 1 ♂ ad., 1 ♀ ad. (Mus. Paulista).

PARAGUAY.—Trinidad, 1 ♂ ad. (Roosevelt Coll.).

BOLIVIA.—Todos Santos, 3 ♂ ad. (incl. type of "*virgultorum*"), Reyes, 2 ♂ ad. (A. M. N. H.).

ARGENTINA.—Embarcación, 8 ♂ ad., 9 ♀ ad., Perico (Jujuy), 6 ♂ ad., Suncho Corral, 1 ♂ ad., 2 ♀ ad., Avia Terai, 1 ♂ ad., 1 ♀ ad., General Pinedo, 1 ♂ ad., 1 ♀ ad., Rosario de Lerma, 1 ♀, Sarmiento, 1 ♀ ad. (A. M. N. H.).

I would, in the case of *Taraba major major*, be glad to consider this subspecies as ranging from Maranhão in the extreme north down to northwest Argentina. Birds from this large and extensive area agree in all characters, except the pattern and color of the tail. A series of birds from all the intermediate localities show the existence of much individual or intermediary variation as to the extent of white markings of the rectrices. One finds the birds from the extreme north (Maranhão) almost indistinguishable from birds of northwest Argentina, and one stops to consider whether the racial characters of any single specimen, or even of any series of specimens, warrant even one subspecific form.

¹ These birds have been carefully examined and agree with the typical bird from Paraguay. The females are clear cinnamon brown above instead of ferruginous brown as are those of *Thamnophilus major stagurus*.

For practical purposes I will, however, admit one subspecies from northeast Brazil (*Taraba major stagurus*) and one from southwest Brazil (*Taraba major major*).

I have had difficulty in identifying single specimens, particularly as I believe the variation in the extent of white on the tail is frequently an adult or an immature character.

From Bahia, north to Maranhão, there is a decided tendency toward the tail being more broadly banded with white, and the median tail-feathers distinctly marked with white in the male sex.

Birds from Bolivia show much variation, though they must be assigned to *T. major major*, and birds from northern Argentina, too, are inseparable from typical *major* from Paraguay. Birds from Goyáz appear to be typical *Thamnophilus major major* though I have seen only four males and no females in the Rothschild collection. I feel as though I must cast doubt on the advisability of further subdividing the inhabitants of eastern Brazil. Still it cannot be denied that birds from the extreme northern section of the range (Bahia to Ceará, Piauí and Maranhão) in the male sex have more numerous as well as larger white tail-markings, and, in spite of the extreme area of intergradation, it is hard under present-day standards to call them by the same name as the specimens from eastern Bolivia, Argentina, and Matto Grosso, particularly as there are also some slight differences in the female sex as pointed out by Mr. Zimmer.¹ Without a full series from various parts of the range, I am, however, doubtful where the (more or less arbitrary) line between *major* and *stagurus* should be drawn.

I notice certain discrepancies between mine and Mr. Zimmer's allocation of some specimens. Mr. Zimmer¹ refers the female (Rio Grande) Minas Geraes, and the Espírito Santo skins to *Taraba major stagurus*, whereas I call the same specimens *Taraba major major*.

A female from Minas Geraes (Rio Grande) is not typical *major* or *stagurus*, (possibly an intergrade) and I am referring it for the time to *Taraba major major*. Mr. Zimmer, whose reference to the specimens from this locality is merely provisional, and Mr. Pinto both state that the specimens from Rio Grande² and Pirapora³ both belong to *Taraba major stagurus*. Mr. Zimmer⁴ refers a single male from northern Goyáz (Philadelphia) to *Taraba major stagurus*, which is undoubtedly right. The birds from southern Goyáz (Fazenda Esperança, Rio Araguaia) in the Rothschild

¹ Zimmer, 1933, Amer. Mus. Novit., No. 668, p. 8.

² Zimmer, 1933, *op. cit.*, p. 4.

³ Pinto, 1935, Rev. Mus. Paul., XIX, p. 171.

⁴ Zimmer, 1933, *op. cit.*, p. 8.

collection in the Amer. Mus. of Nat. Hist., which Mr. Zimmer did not see at the time but which are now available for study, are *Taraba major major*.¹

I find it impossible to consider the "regular occurrence"² of black on the sides of the head of the females and black below the gape in the males as any subspecific characters in eastern Brazilian birds. This condition does not seem to exist to any marked racial degree in any of the specimens examined by me. It is seen only in relationship to the distinctly darker or lighter hue of rufous of the upperparts; that is, in each case of variation of this color, the sides of the head of the females agree with the upperparts.²

In Matto Grosso for the first time we find a bird with two median and two lateral tail-feathers entirely black, only faintly edged with white in some specimens and not tipped with white at all. This differs from the Bahia skins which already have the white markings at edge and tip of rectrices less conspicuously developed in contrast to birds from Maranhão, Piauhy, and Ceará. It seems to appear that certain subspecies from eastern Brazil have come from the Bahia form which has in all probability adapted itself to its changing environment. From this point the form has moved north, west, and south. In Maranhão, Piauhy, and Ceará, it has perhaps been able to remain true to its original state due to suitable conditions, and the same appears to be the case in northern Argentina, where we find specimens to explain the fact that the bird from the extreme northern range and the bird from the extreme southern range are so much alike in their characters, especially in the coloration and pattern of the tail.

A series of females from Matto Grosso average somewhat lighter above than a series of females from Espirito Santo and Paraguay, which agree inter se in the rufous color of the head and upperparts. A discussion of the series examined follows.

ESPIRITO SANTO.

I can find no difference in a series of four males when compared to our series from Matto Grosso, but these skins differ from birds from Piauhy and Maranhão in having less white on the median and lateral tail-feathers; and the two females are darker above and more rufescent than skins from Maranhão and Piauhy.

PARAGUAY.

Our series from Paraguay agrees with specimens from Espirito Santo. A male, No. 320827, from Chaco, "Front" of Concepción, agrees with skins from Lagôa

¹ Pinto (1936, Rev. Mus. Paul., XX, p. 82) calls birds from southern Goyáz (Rio das Almas) and western São Paulo *Taraba major major*, with which I agree.

² "In this I agree"—C. E. Hellmayr.

Juparanã, Espírito Santo, in having the median rectrices spotted with white at intervals along the outer edge of the tail-feathers. Another male, No. 320826, from the same locality, "Front" of Concepción, has the median as well as two pairs of lateral rectrices entirely brownish black without the slightest trace of black on these feathers at all. This is a juvenal bird which bears out my belief¹ that the juvenal bird has the rectrices frequently without any white markings on the median or lateral tail-feathers.

SÃO PAULO.

An adult male from Avanhandava has the median tail-feathers entirely blackish brown with only the faintest indication of white along the inner edge of the distal half of the median rectrices.²

MINAS GERAËS.

I have seen only one female from Rio Grande which agrees with other specimens from Matto Grosso and Espírito Santo and it is not typical *major* nor *stagurus*.³

ARGENTINA.

A large series from Embarcación, Perico (Jujuy), and single specimens from Suncho Coral, Avia Terai, General Pinedo, and Rosario de Lerma, all show the tail as distinctly marked with white as specimens from Bahia. It is very interesting to note that the birds from the extreme northern localities, Maranhão and Ceará, are almost indistinguishable from the Argentine form.

Taraba major stagurus (Lichtenstein)

Lanius stagurus LICHTENSTEIN, 1823, 'Verz. Doubl. Berliner Mus.,' p. 45 (Bahia; cotypes in Berlin Museum).

Thamnophilus albiventer SPIX, 1825, Av. Bras., II, p. 23, Pl. xxxii (Rio São Francisco = Joazeiro, Bahia; cotypes in Munich Museum, examined by E. M. B. N.).—HELLMAYR, 1906, Abhandl. II, Kl. Bayr. Ak. Wiss., XXII, No. 3, p. 654 (erroneously identified with *T. m. major*).

Thamnophilus bicolor SWAINSON, 1825, Zool. Journ., II, No. 5, April, p. 86 (= ♂) (caatinga woods of Humildez, Prov. Bahia).

Thamnophilus cinnamomeous SWAINSON, 1825, Zool. Journ., II, No. 5, April, p. 87 (= ♀) (Urupé, Bahia); idem, 1840, Ornith. Drawings, part 5, Pl. LX.

Thamnophilus stagurus WIED, 1831, 'Beitr. Naturg. Bras.,' III (2), p. 990 (Rio Belmonte, s. Bahia).

Thamnophilus major SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 186 (part; spec. n.t., Pernambuco, Bahia).—REISER, 1910, Denkschr. math. naturw. Kl. Akad. Wiss. Wien, LXXVI, p. 65 (Faz. Riacho on the Rio Grande and Santa Rita do Rio Preto, n. w. Bahia); Piahy (Pedrinha, Lake of Missão, Therezina; spec. examined by E. M. B. N.).—LIMA, 1920, Rev. Mus. Paul., XII (2), p. 98; Bahia (Ilhéos to Belmonte).

Taraba major approximans CORY, 1919, Auk, XXXVI, Jan., p. 88, Ceará (Serra Baturité).

¹ Mentioned again farther on in this paper.

² This certainly speaks for its being *major* and not *stagurus*.

³ See *Taraba major stagurus*, above.

Taraba major stagurus HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 47; eastern and northeastern Brazil, from southern Bahia (Belmonte) north to Ceará, Piauí, and Maranhão; idem, 1929, *op. cit.*, XII, No. 18, p. 364; Maranhão (Tury-assú, São Bento, Barra da Corda, Codó, Cocos, São Francisco, Carolina); Piauí (Arará); Goyás (Philadelphia, Santo Antonio, Bõa Vista).—PINTO, 1935, Rev. Mus. Paul., XIX, p. 170, Bahia (Aratuhype, Rio Grungogy, Corupeba, Bomfim, Belmonte).

Thamnophilus maior SNETHLAGE, 1926, Bol. Mus. Nac. Rio de Janeiro, II, No. 6, p. 45, Ceará.

SPECIMENS COLLECTED
(Kaempfer Collection)

BRAZIL.—Maranhão: As Mangueras (Flores, alt. 50 meters), 1 ♂ ad., March 18, 1926, Flores "1 ♀" = ♂ ad., October 2, 1926, Kelrú (Rosario) (alt. 13 meters), 2 ♂ ad., 1 (?) juv., 1 ♀ ad., March 20–24, 1926, Santa Filomena (Rosario), (alt. 13 meters), 4 ♂ ad., March 27–28, 1926, São João dos Patos (Tabocas), (alt. 700 ft.), 2 ♂ ad., Jan. 29, 1926, Pastos Bons (alt. 500 ft.), 1 ♀ ad., Aug. 5, 1926, Frecheiras (alt. 350 ft.), 1 ♂ ad., 1 ♀ ad., November 20, 21, 1926.—Piauí: Therezina (Catharina) (alt. 50 meters), 3 ♂ ad., 1 ♀ ad., April 28, June 1, 2, 3, 1926, Corrente (alt. 1500 ft.), 1 ♂ ad., 2 ♀ ad., May 30, 31, June 6, 1927, Florianópolis (alt. 400 ft.), 3 ♀ ad., July 5, 7, 1926, Sept. 2, 1926, Santa Maria (Urussuhy), 1 ♀ ad., August 11, 1926, Gilbúes, Pindahyba (alt. 1300 ft.), 1 ♂ ad., July 11, 1927.—Ceará: Viçosa, Serra da Ibiapaba (alt. 2500 ft.), 1 ♂ ad., Oct. 31, 1926, Quixada (alt. 650 ft.), 1 ♂ ad., Dec. 12, 1926.—Bahia: Barra do Rio Grande (alt. 1400 ft.), 1 ♂ ad., 1 ♀ ad., April 21–22, 1927, Santa Rita do Rio Preto (alt. 1600 ft.), 3 ♂ ad., 1 ♀ ad., May 7, 8, 13, 16, 1927, Iracema (alt. 2300 ft.), 1 ♂ ad., Oct. 9, 1927, Bõa Nova (alt. 2600 ft.), 1 ♂ ad., June 1, 1928, Orobó (385 meters), 1 ♂ ad., 1 ♀ ad., Oct. 25, 26, 1927, Morro do Chapeó (alt. 3600 ft.), 2 ♂ ad., 2 ♀ ad., April 25–27, May 12, 1928.

RANGE.—Eastern and northeastern Brazil from southern Bahia (Ilhéos, Joazeiro, Macaco Secco near Andarahy, woods of Humildez, Urupé Faz. Riacho on the Rio Grande, Santa Rita do Rio Preto, Verruga do Rio Pardo, Aratuhype, Rio Grungogy, Corupeba, Bomfim, Belmonte) north to Pernambuco, Piauí (Parnaguá, Pedrinha, Lake of Missão, Therezina), Ceará (Serra Baturité, Juá near Iguatú), Maranhão (Tury-assú, Bõa Vista, Miritiba, São Bento, Barra da Corda, Cocos, São Francisco, Carolina) and northern Goyás (Philadelphia, Santo Antonio, Bõa Vista).

Measurements

BRAZIL	SEX	WING	TAIL	EXPOSED
				CULMEN
Maranhão: As Mangueras (Flores)	♂ ad.	92.5	82.0	24.5
“ Flores	♂ ad.	94.0	87.0	24.5
“ Kelrú (Rosario)	♂ ad.	94.5	79.5	23.5
“ “ “	♂ ad.	97.0	87.0	25.0

		SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL					
Maranhão:	Kelrú (Rosario)	? juv.	93.0	79.5	23.0
"	" "	♀ ad.	94.5	82.5	24.5
"	Santa Philomena (Rosario)	4 ♂ ad.	93.8	80.3	24.3
"	São João dos Patos	♂ ad.	92.5	82.0	24.0
"	" " " " (Tabocas)	♂ ad.	91.5	82.5	24.5
"	Ilha São Luiz (San José)	♂ ad.	98.0	85.0	25.0
"	Pastos Bons	♀ ad.	91.5	86.0	22.0
"	Frecheiras	♂ ad.	95.0	83.5	25.0
"	" "	♀ ad.	91.0	86.0	25.0
Piauhy:	Therezina	♂ ad.	94.0	83.0	24.5
"	" " (Catharina)	♂ ad.	92.0	84.0	23.5
"	" " "	♂ ad.	91.0	82.0	24.0
"	" " "	♀ ad.	88.0	83.0	22.0
"	Corrente	♂ ad.	92.0	85.0	25.0
"	" "	♀ ad.	91.0	86.5	23.0
"	" "	♀ ad.	87.5	79.5	24.5
"	Floriano	♀ ad.	90.0	87.0	23.0
"	" "	♀ ad.	92.0	82.0	22.0
"	" "	♀ ad.	94.0	84.0	25.0
"	Santa Maria (Urussuhy)	♀ ad.	94.0	85.5	23.0
Ceará:	Viçosa (Serra da Ibiapaba)	♂ ad.	90.5	82.0	24.0
"	Quixada	♂ ad.	95.5	89.5	23.0
Bahia:	Barra do Rio Grande	♂ ad.	92.0	86.0	25.0
"	Santa Rita	♂ ad.	95.5	92.0	23.0
"	" " "	♂ ad.	92.0	85.0	23.5
"	" " "	♂ ad.	95.5	91.0	24.0
"	" " "	♀ ad.	90.5	89.0	23.5
"	Iracema	♂ ad.	91.5	83.5	23.0
"	Bôa Nova	♂ ad.	89.0	90.0	24.5
"	Orobó	♀ ad.	92.5	86.5	25.0
"	" "	♂ ad.	94.5	88.5	23.5
"	Morro do Chapeó	♂ ad.	94.0	97.5	24.0
"	" " "	♂ ad.	96.0	89.5	24.5
"	" " "	♀ ad.	89.0	88.0	23.5
"	" " "	♀ ad.	89.0	92.0	23.0
"	Verruga, Rio Pardo	♂ ad.	95.0	90.0	23.5
"	" " "	♀ ad.	93.0	88.5	23.5
"	(Beck Coll.)	♂ ad.	95.5	85.0	23.5
"	" " "	♂ ad.	92.0	78.5	24.0
"	" " "	♀ ad.	89.5	87.0	23.0

Other Specimens Examined

BRAZIL.—Bahia: Verruga, Rio Pardo, 1 ♂ ad., 1 ♀ ad., Holt Coll., A. M. N. H., 2 ♂ ad., 1 ♀ ad., Beck Coll., A. M. N. H.

Birds from the various localities of Maranhão vary considerably in the white markings of the median tail-feathers. A young bird (No. 242863) from Kelrú (Rosario) has only the faintest indication of white on the extreme outer edges of the two median tail-feathers, and no white at all on the tip; and one adult male from Santa Philomena (No. 242859) has a completely black median tail-feather, except for three small white marks on the extreme basal part of the median feather under the upper tail-feathers. No. 242868, from São João dos Patos, an adult male, has clear white markings along the outer and inner edge of the two median tail-feathers. These marks extend more deeply on the inner edge of the median feather than on the outer edge.

One adult male from the Ilha São Luiz,¹ No. 242866, has a broad white tip to the median tail-feathers, whereas all specimens from the mainland (Maranhão) have the tip of the median tail-feathers either faintly marked with white or are entirely without white markings.

The two females from Maranhão vary in the color of the upperparts. One from Pastos Bons, No. 242869, is much paler in the rufous color of the head, upperparts and tail than a female from Kelrú (Rosario), No. 242862, which is more chestnut in the color of the upperparts. All the other tail-feathers are deeply marked with clear white on the inner edge and also less on the outer edge, where the marks do not extend as deeply toward the central shaft of the feathers but the marks are a distinct, clear white.

On comparing the series of six specimens from Piauhý to the series from Maranhão, I should say there are no apparent differences in the extent of white on the median tail-feathers. A specimen with a moulting median tail-feather has no white mark on this feather at all and agrees in this respect with the juvenal from Maranhão (Kelrú, Rosario). However, all the other tail-feathers of the Piauhý birds show an average of broader and whiter banding on the feathers, and one specimen has the inner edge of the distal half of the two outer tail-feathers entirely white, slightly banded with black (No. 242877). A series of eight females show individual variation in the cinnamon-brown color of the upperparts, No. 242882, from Correntes (alt. 1500 ft.), being considerably paler on the upperparts than a female from Floriano (Parnahyba, alt. 400 ft.). However, the crown and nape in a series of eight females do not vary in the

¹ Possibly an intergrade to *Taraba major semifasciata*. The only record of this form from "our region" appears to be Mme. Snethlage's indefinite listing from Maranhão (1907, Journ. Ornith., p. 283; idem, 1914, Bol. Mus. Goeldi, VIII, p. 269). As the inhabitants of northern Maranhão are not *Taraba major semifasciatus* Cabanis, this form has to be dropped from this manuscript.

chestnut-brown color, though the tail-feathers show the same variation in the cinnamon-brown color as do the upperparts.

Two males from Ceará, when compared to males from Piauí, have the same amount of white on the two median tail-feathers, the lateral rectrices with numerous bars of white on the inner webs and the outer rectrices barred on both webs with broad bands of clear white. There are no specimens from Ceará that have the distal half of the two outer tail-feathers entirely white, so it might be well to say that birds from Maranhão and Ceará have less white on the tail-feathers of the adult male bird than have birds from Piauí.

Birds from Bahia have the median tail-feathers on an average less white, the markings of the edge of the rectrices are more obscure. Although all the lateral rectrices and the outermost tail-feathers are marked with numerous bars of white, the pattern seems reversed, the black bars on the rectrices in birds from Bahia are wider than those on the tail-feathers of specimens from Maranhão and Piauí. In specimens from Maranhão and Piauí the white bars are the wider ones, giving the tail a whiter appearance. A female from Orobó, Bahia (alt. 1500 ft.), is as light cinnamon-brown above as one from Correntes (alt. 1500 ft.), Piauí, while another female, No. 242848, from Morro do Chapeó, Bahia (alt. 3600 ft.), is as dark cinnamon above as one from Kelrú (Rosario), which is as dark as *T. m. semifasciatus*.¹

Sakesphorus cristatus (Wied)

Thamnophilus cristatus WIED, 1831, 'Beitr. Naturg. Bras.,' III (2), p. 1002 ("Campo Geral in Sertão des Innern von Bahia," Brazil).—BURMEISTER, 1856, 'Syst. Übers. Th. Bras.,' III, p. 97 (part).—SCLATER, 1858, P. Z. S. London, XXVI, p. 215 (diag. ♂ from spec. in Paris Museum).—BERLEPSCH, 1881, Ibis, p. 245 (crit.).—ALLEN, 1889, Bull. Amer. Mus. Nat. Hist., p. 249 (crit. on Wied's type).—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 203 (descr. ♂).—MÉNÉGAUX AND HELLMAYR, 1906, Bull. Soc. Philom. Paris, (9th Ser.) VIII, p. 26 (crit.).

Thamnophilus atricapillus (not of Vieillot) SCLATER, 1855, Edinb. New Phil. Journ., (N. S.) I, p. 240 (part; Bahia).

Sakesphorus cristatus HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 57 (Campo districts of eastern Brazil in states of Bahia and Ceará); idem, 1929, *op. cit.*, XII, No. 18, p. 365, Piauí (Araras) and Ceará (Varzea Formosa).—SNETHLAGE, 1926, Bol. Mus. Nac. Rio de Janeiro, II, No. 6, p. 45 (Ceará).

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Bahia: Santa Rita do Rio Preto (alt. 1600 ft.), ♂ ad., May 16, 1927, Iracema (alt. 2300 ft.), 2 ♂ ad., 1 ♀ ad., October 6, 7, 1927, Gigny (alt. 2000 ft.),

¹ Possibly an intergrade.

4 ♀ ad., October 13, 15, 17, 1927, Morro do Chapeó (alt. 3600 ft.), 2 ♂ ad., 1 "♂" ad., May 1, 2, 6, 1928, Bõa Nova (alt. 2600 ft.), 2 ♂ ad., May 30, 31, 1928.

RANGE.—Campo districts of eastern Brazil, in the states of Bahia (Bõa Nova, Giguy, Iracema, Morro do Chapeó, Santa Rita); Ceará (Varzea Formosa), and Piauhý (Aráras).²

Measurements

	SEX	WING	TAIL	CULMEN
BRAZIL				
Bahia: Santa Rita	["♂"] ad.	69.0	55.0	15.0
" Iracema	["♂"] ad.	66.5	57.0	14.0
" "	♂ ad.	70.0	60.0	14.0
" "	♀ ad.	65.5	67.0	13.0
" Giguy	5 ♂ ad.	67.8	57.5	14.9
" Morro do Chapeó	♂ ad.	68.5	58.0	15.5
" " " "	♂ ad.	70.5	60.5	15.0
" " " "	["♂"] ad.	68.0	58.5	15.0
" Bõa Nova	♂ ad.	66.5	60.0	15.5
Brazilian (Wied's type) in A. M. N. H.	♂ ad.	71.0	60.0	13.5

Other Specimens Examined

Thamnophilus torquatus.—BRAZIL.—Matto Grosso: Rio do Color, 1 ♂ ad., 1 ♀ ad., Chapada, 1 ♀ ad., A. M. N. H.—Bahia: 2 ♂ ad., [1 "♂" ad.], A. M. N. H.

Thamnophilus ruficapillus cochabambae.—BOLIVIA.—Tujma (Prov. Cochabamba), 1 ♂ ad. A. M. N. H.

Sakesphorus canadensis canadensis.—FRENCH GUIANA.—Cayenne, 2 ♂ ad., 2 ♀ ad., Approuague, 1 ♂ ad., A. M. N. H. DUTCH GUIANA.—Paramaribo, 1 ♂ ad., 1 ♀ ad.

Sakesphorus canadensis intermedius.—8 ♂ ad., 7 ♀ ad., A. M. N. H.; 7 ♂ ad., 4 ♀ ad., A. M. N. H.²

Sakesphorus canadensis pulchellus.—16 ♂ ad., 8 ♀ ad., A. M. N. H.²

Up to the time of writing, a single male, a single adult female ("♂" = ♀), and an immature female collected by Wied were the only examples of this species in The American Museum of Natural History. Kaempfer's series of fourteen skins from the highlands of Bahia includes only one adult female which is therefore a most valuable addition to the American Museum collection.

I was at first inclined to refer *cristatus* to the genus *Rhopochares* but, according to Hellmayr,³ "the resemblance in smallness of bill to '*Rhopochares*' is mere parallelism of development." Style of coloration, mark-

¹ The species doubtless ranges into the northern districts of Minas Geraés since the specimen which subsequently became the type of *Lanius poecilurus* Pucheran was secured by the botanist Auguste de Saint-Hilaire, who did not visit any of the northern states (Bahia, Ceará, or Piauhý) but traveled extensively in Minas Geraés.

² It is not important to list localities, as these specimens were examined for the culmen only.

³ In a letter to me.

ings on the wing-coverts, and geographical distribution prove convincingly that our bird was derived from *canadensis*. If one attaches much importance to structure, the only course is to unite *Sakesphorus* with *Thamnophilus* rather than break up the natural group formed by *canadensis* and *cristatus* by putting one member into another genus. That is what might be called violating nature.

Sakesphorus differs from *Thamnophilus* in having the bill stronger and more hooked, though it has approximately the same length, and the feathers of the head form a much more pronounced crest. I do not recognize the genus *Rhopochares*¹ on the character of its slender bill, as there is such a tremendous variation in the culmen of the *Thamnophilus* group. It might be considered a subgenus, but I will regard *Rhopochares*, for the time being, as inseparable from *Thamnophilus*.

A single adult female from Iracema, Bahia (alt. 2300 ft.), has the crown auburn or burnt sienna forming a distinct cap, slightly crested. The lores are dark fulvous brown, auriculars pale buffy brown. The post-orbital region and sides of the nape are the same dark fulvous brown as the lores. This color extends over the entire upperparts but is strongly washed with cinnamon rufous on the back and rump, the upper tail-coverts being burnt sienna or auburn like the crown. The remiges are dark brown edged with rufous, the wing-coverts marked and edged with buffy white, as in *Sakesphorus canadensis*. This particular edging of the wing-coverts is slightly paler auburn than the crown, the rectrices being marked on either web with indistinct bands and tipped with dark brown.

The bill agrees in size, strength, and hook of the maxilla with *torquatus*, *ruficapillus*, and *cochabambae*.

This is a bird of the caatinga region and is found among cactus, wild pineapple, dwarf palms, and in low, thorny forest regions which are very dry.

In Morro do Chapeó where the forests consist of low bushes and low trees, it is called Geraês in Portuguese. These forests are most common in Minas Geraês and, generally speaking, bird life is poor in this type of country.

***Biatas nigropectus* (Lafresnaye)**

Anabates nigro-pectus LAFRESNAYE, 1850, 'Rev. Mag. Zool.,' (2d Ser.) II, p. 107, Pl. I, fig. 3 (= ♂). ("In America meridionale," Hellmayr suggests vicinity of Rio de Janeiro as type locality.)

Biatas nigropectus BURMEISTER, 1856, 'Syst. Übers. Th. Bras.,' III, p. 84

¹ Cabanis and Heine, 1859, Mus. Hein., II, p. 18.

(Nova Friburgo, Rio).—PELZELN, 1868, 'Orn. Bras.,' II, p. 74, São Paulo (Ypanemá); descr. ♀.

Biatas nigropectus SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 215 (s. e. Brazil; descr. ♂, ♀).—IHERING, 1899, Rev. Mus. Paul., III, p. 238, São Paulo (Piracicaba); idem, 1900, *op. cit.*, IV, p. 158, Rio de Janeiro (Cantagallo, Nova Friburgo).

Biatas nigripectus IHERING AND IHERING, 1907, 'Cat. Faun. Braz.,' I, p. 201. São Paulo (Conceição dos Guarulhos).

Biatas nigropectus HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, southeastern Brazil from Rio de Janeiro to Santa Catharina (Blumenau). No specimens collected.

RANGE.—Southeastern Brazil, from Rio de Janeiro (Nova Friburgo, Cantagallo), through São Paulo (Ipanemá, Piracicaba, Conceição dos Guarulhos) to Santa Catharina (Blumenau).

The genus is represented in the study collection in The American Museum of Natural History by four specimens:

1 ♂ ad.	Rio de Janeiro	Rothschild Collection
1 ♂ ad.	"South Brazil"	" "
2 ♂ ad.	"Brazil"	Maximilian Verreaux Collection

***Thamnophilus doliatus difficilis* Hellmayr**

Thamnophilus nigricristatus difficilis HELLMAYR, 1903, Verh. Zool. Bot. Ges. Wien, LIII, p. 216 (Rio Claro [type], Rio Araguaya, Goyáz, central Brazil; excl. Obidos).—IHERING, 1907, 'Cat. Faun. Braz.,' I, p. 200 (part; Goyáz).

Thamnophilus capistratus (not of Lesson) PELZELN, 1868, 'Orn. Bras.,' II, p. 78 (part; Rio Araguaya and Rio Claro, Goyáz).

Thamnophilus doliatus difficilis HELLMAYR, 1908, Nov. Zool., XV, p. 68 (Rio Araguaya, Goyáz; crit.); idem, 1921, *op. cit.*, XXVIII, p. 195 (Goyáz); idem, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 68, central Brazil, Province Goyáz (on the banks of the Rio Claro and Araguaya) and apparently also in northern Piauhy (União and Queimadas, Rio Parnahyba); idem, 1929, *op. cit.*, XII, No. 18, p. 367, Maranhão (Grajahú; Pedreiras [Rio Mearim]), and Goyáz (Philadelphia).—PINTO, 1936, Rev. Mus. Paul., XX, p. 84, Rio Meia Ponte (Inhúmas), Goyáz.

Thamnophilus radiatus (not of Vieillot), REISER, 1910, Denschr. math. naturw. Kl. Ak. Wiss. Wien, LXXXVI, p. 65, part, Piauhy (União and Queimadas, Rio Parnahyba).

SPECIMENS COLLECTED
(Kaempfer Collection)

BRAZIL.—Maranhão: Kelrú near Rosario (alt. 13 meters), 1 ♂ ad., March 24, 1926, Pastos Bons (alt. 500 ft.), 1 ♂ ad., August 3, 1926, São João dos Patos (alt. 700 ft.) [1 ♂ ad.], 1 ♀ ad., July 16, 17, 1926, Tabocas (alt. 800 ft.), 1 ♂ ad., July 25, 1926.—Piauhy: Os Morros [Parnahyba Delta, Os Morros Delta (alt. sea level)], 1 ♂ ad., October 20, 1926, Therezina (alt. 50 meters), 2 ♂ ad., May 5, 23, 1926.

RANGE.—Central Brazil, Province of Goyáz (on the banks of the Rio Claro, Rio Meiaponte, and Rio Araguaya, Philadelphia) and north

through Maranhão (Kelrú near Rosario, Grajahú, Pedreiras [Rio Mearim]), Pastos Bons, São João dos Patos, Tabocas, east to the Rio Parnahyba; Piauhý boundary (Os Morros [Parnahyba Delta], Queimadas, Therezina, União).

Measurements

	SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL				
Maranhão: Kelrú near Rosario	1 ♂ ad.	74.5	61.5	16.0
“ Pastos Bons	1 ♂ ad.	78.0	64.0	18.0
“ São João dos Patos	1 ♂ ad.	78.0	65.0	17.5
“ “ “ “	1 ♀ ad.	79.5	62.0	17.0
“ Tabocas	1 ♂ ad.	78.0	63.0	18.0
Piauhý: Os Morros (Parnahyba Delta)	1 ♀ ad.	79.5	62.0	17.5
“ Therezina	1 ♂ ad.	76.5	63.0	16.0
“ “	1 ♂ ad.	76.0	64.0	18.0

Other Specimens Examined

Thamnophilus doliatus doliatus.—DUTCH GUIANA: Paramaribo, 1 ♂, 1 ♀.—FRENCH GUIANA: Approuague, 1 ♂, 1 ♀.—BRAZIL: Rio Surumú, Frechal, 3 ♂, Rio Branco, Caracahy, 17, Ilha Marajó, Chaves, 1 ♂, 1 ♀.

Thamnophilus doliatus difficilis.¹—BRAZIL: Goyáz (Rio Araguaya), 1 ♂, 1 ♀, Philadelphia, 1 ♂.

Thamnophilus doliatus radiatus.—BRAZIL.—Matto Grosso: Chapada, 8 ♂, 8 ♀, Urucúm, 5 ♂, 3 ♀, Tapirapoan, 5 ♂, 3 ♀.

Thamnophilus doliatus subradiatus.—BRAZIL.—Teffé, 2 ♂, 1 ♀.

Birds from Maranhão and Piauhý agree with the few specimens I have seen from Goyáz. A specimen from Philadelphia (Goyáz) is somewhat darker below than the series from Maranhão, though one male from Piauhý (Therezina), No. 242815, is even darker than the male from Goyáz. It is difficult to determine what variations are constant and, in view of lack of sufficient material, I refer the series from Maranhão and Piauhý to *Thamnophilus doliatus difficilis*.

A series of males from northwestern Matto Grosso agree very well with the males from Maranhão and Piauhý but must be referred to *Thamnophilus doliatus signatus*, to which the females more closely agree, even though they do not appear to form a distinct group of their own.²

The fact in distribution to be emphasized is the identity of the birds found in the Parnahyba Valley (from the delta region up to the Serra do

¹ Specimen from Field Museum collected by H. Sneathlage.

² Pinto, 1932, Rev. Mus. Paul., XVII (2), p. 783, describes *T. d. novus*, from Sant' Anna do Parnahyba, boundary of s. e. Matto Grosso and northern São Paulo. Also cf. Zimmer, 1933, Amer. Mus. Novit., No. 646, p. 5.

Valentim) with those of Maranhão and Goyáz. The Rio Parnahyba seems to form the limit of the range of *difficilis*. In the extreme east of Piauhy (foot of the Serra do Ibiapaba) as well as in the southern section around Parnaguá the allied *Thamnophilus doliatus capistratus* takes its place. The two races cannot by any means be confused in the male and female sexes.

This species is found in humid valleys with large lagôas, in areas covered by fruit trees, also in slightly hilly country crossed by small streams, and at sea level.

Thamnophilus doliatus radiatus Vieillot

Thamnophilus radiatus VIEILLOT, 1816, 'Nouv. Dict. d'Hist. Nat.,' Nouv. éd., III, p. 315 (based on 'Batara listado' Azara, No. 212: Paraguay).—PELZELN, 1868, 'Orn. Bras.,' II, p. 78, Matto Grosso (Arica, Estiva, Cuyaba).—BERLEPSCH, 1887, Journ. Ornith., XXXV, p. 17, Paraguay (Lambaré).—ALLEN, 1889, Bull. Amer. Mus. Nat. Hist., II, p. 94, Bolivia (Yungas, "Reyes," and "falls of the Madeira"); idem, 1893, Bull. Amer. Mus. Nat. Hist., V, p. 115, Matto Grosso (Chapada).—SALVADORI, 1895, Boll. Mus. Zool. Torino, X, No. 208, p. 13, Paraguay (Colonia Risso, Paraguari); Matto Grosso (Corumbá); idem, 1900, *op. cit.*, XV, No. 378, p. 9, Matto Grosso (Urucúm).—CHUBB, 1910, Ibis, p. 520, Paraguay (Sapucay).—GRANT, 1911, Ibis, p. 136, Matto Grosso (Boca de Homiguera), Paraguay (Cabo Emma).—BERTONI, 1914, 'Faun. Parag.,' p. 51, Paraguay (Asunción).—MÉNÉGAUX, 1917, Rev. Franç. d'Orn., No. 96, p. 55, Matto Grosso (S. Luis de Caceres).

Thamnophilus doliatus (not of Linnaeus) IHERING, 1905, Rev. Mus. Paul., VI, p. 353 (part; ♀, São Paulo (Avanhandava); idem, 1907, 'Cat. Faun. Braz.,' I, p. 199, São Paulo (Avanhandava).

Thamnophilus nigricristatus (not of Lawtence) IHERING, 1902, Rev. Mus. Paul., V, p. 274, São Paulo (Jaboticabal); idem, 1907, 'Cat. Faun. Braz.,' I, p. 200, São Paulo (Jaboticabal).

Thamnophilus doliatus radiatus HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 69, Paraguay; Bolivia; southwestern Brazil in states of Matto Grosso and in the northern districts of São Paulo (Jaboticabal, Avanhandava).—Pinto, 1932, Rev. Mus. Paul., XVII (2), p. 753, Matto Grasso (Aqui-dauana).

SPECIMENS COLLECTED

(Kaempfer Collection)

PARAGUAY.—Chaco (near Concepción), alt. 500 feet, 1 ♂ ad., 5 ♀ ad., February 21, 23, 24, 26, 27, 1931.

RANGE.—Paraguay [Paraguari, Colonia Risso, Sapucay, Cabo Emma, Asunción, Chaco (near Concepción)]. Southwestern Brazil in states of Matto Grosso and in the northern districts of São Paulo (Jaboticabal, Avanhandava); Bolivia.

Pinto (*loc. cit.*, p. 753), furthermore, describes as new, from a single pair taken at Matto Grosso (Sant^a Anna do Parnahyba), *Thamnophilus*

doliatus novus, said to be near *Thamnophilus doliatus difficilis* Hellmayr. This locality must be in another section of the state, since the occurrence of two races side by side is an impossibility.

Thamnophilus doliatus capistratus Lesson

Thamnophilus capistratus LESSON, 1840, 'Rev. Zool.,' III, p. 226 ("Brésil").—SCLATER, 1855, Edinb. New Phil. Journ., (N. S.) I, p. 236 (crit.); idem, 1858, P. Z. S. London, XXVI, p. 218 (Brazil; descr. of ♂ only); idem, 1890, 'Cat. B. Brit. Mus.,' XV, p. 209 (Bahia; "Rio de Janeiro").—HELLMAYR, 1905, Verh. Zool. Bot. Ges. Wien, LIII, p. 217 (diag. ♂; Bahia); idem, 1906, Abhandl. 2, Kl. Bayr. Ak. Wiss., XXII, No. 3, p. 655 (crit.; Lamarão, Bahia; descr. ♀).—MÉNÉGAUX AND HELLMAYR, 1906, Bull. Soc. Philom., Paris, (9th Ser.) VIII, p. 27 (crit. on ♀ type of *L. ruficeps* Pucheran).—REISER, 1910, Denkschr. math. naturw. Kl. Ak. Wiss. Wien, LXXVI, p. 65 (Lamarão, Bahia; Fazenda da Serra, Rio Grande, northwest Bahia; Parnaguá, Pedrinha, Lake of Parnaguá, s. Piauhy).

Thamnophilus radiatus (not of Vieillot) SPIX, 1825, 'Av. Bras.,' II, p. 24, Pl. xxxv, fig. 2 (= ♂), Pl. xxxviii, fig. 1 (= ♀) ("in sylvis Brasiliae"; ♂ examined in Munich Museum).—SNETHLAGE, 1926, Bol. Mus. Nac. Rio de Janeiro, I, No. 6, p. 45 (Ceará).

Thamnophilus doliatus (not of Linnaeus) WIED, 1831, 'Beitr. Naturg. Bras.,' III, p. 995 ("Campos Geraës").

Lanius ruficeps (Cuvier Ms.) PUCHERAN, 1855, 'Arch. Mus. d'Hist. Nat.,' Paris, VII, livr. 3, p. 332 ("Brésil, Coll. Aug. de Saint-Hilaire"); type in Paris Museum examined, = ♀ ad.).

Thamnophilus doliatus capistratus HELLMAYR, 1921, Nov. Zool., XXVIII, p. 196 (range); idem, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 70 (eastern Brazil), in states of Bahia, Ceará and southern Piauhy, Lake of Parnaguá).—REISER, 1925, Denkschr. math. naturw. Kl. Ak. Wiss. Wien, LXXVI, p. 142, Bahia (Fazenda da Serra, Rio Grande) and Piauhy (near Parnaguá).—HELLMAYR, 1929, Field. Mus. Nat. Hist. Publ., Zool. Ser., XII, No. 18, p. 367, Piauhy (Arára); Ceará (Varzea Formosa).

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Piauhy: Parnaguá (alt. 1000 ft.), 3 ♂ ad., 3 ♀ ad., June 15, 16, 17, 20, 1927.—Ceará: Joazeiro (alt. 1850 ft.), 1 ♂ ad., December 17, 1926.—Pernambuco: Rio Branco (alt. 2000 ft.), 5 ♂ ad., 1 ♀ ad., February 22, 23, 24, 1927.—Bahia: Barra do Rio Grande (alt. 1400 ft.), 3 ♂ ad., 2 ♀ ad., April 14, 15, 20, 23, 24, 1927, Bôa Nova (alt. 2600 ft.), 1 (?) = [♀], May 31, 1928, Giguy (alt. 2000 ft.), 1 ♀ ad., October 15, 1927, Jequié (alt. 800 ft.), 1 ♀ ad., September 10, 1927, Orobó (alt. 1500 ft.), 2 ♂ ad., 1 ♀ ad., October 25, 1927, Santa Rita do Rio Preto (alt. 1600 ft.), 4 ♂ ad., 6 ♀ ad., May 5, 6, 11, 16, 19, August 13, 1927, Sincora (alt. 1500 ft.), 1 ♂ ad., October 12, 1927, Tambury (alt. 1500 ft.), 2 ♂ ad., October 19, 22, 1927.

RANGE.—Eastern Brazil, in states of Piauhy (Arára, foot of Serra do Ibiapaba, Paraguá, Pedrinha, Lake of Parnaguá); Ceará (Joazeiro, Varzea Formosa); Pernambuco (Rio Branco); Bahia (Santa Rita do Rio

Preto, Fazenda da Serra, Rio Grande, Barra do Rio Grande, Bõa Nova, Lamarão, Orobó, Macaco Secco near Andarahy, Giguy, Sincora, Tambury, Jequié).

Measurements

	SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL				
Piauhý: Parnaguá	♂ ad.	84	72	18.0
" "	♂ ad.	85	72	18.0
" "	♂ ad.	83	70	16.0
" "	♀ ad.	82	68	16.0
" "	♀ ad.	80	67	17.0
" "	♀ ad.	76	67	16.5
Ceará: Joazeiro	♂ ad.	77.0	66.0	18.0
Pernambuco: Rio Branco	5 ♂ ad.	78.4	70.5	17.2
" " "	♀ ad.	78.0	66.0	16.0
" " "	♀ ad.	84.0	73.0	17.0
Bahia: Barra do Rio Grande	♂ ad.	82.5	75.0	17.5
" " " " "	♂ ad.	81.0	71.5	19.0
" " " " "	♂ ad.	87.0	74.0	18.5
" " " " "	♀ ad.	79.0	67.0	18.5
" Santa Rita do Rio Preto	4 ♂ ad.	81.0	68.6	17.5
" " " " "	6 ♀ ad.	77.5	67.3	16.9
" Orobó	♂ ad.	79.5	71.0	17.0
" "	♂ ad.	79.5	72.0	16.5
" "	♀ ad.	80.0	75.5	16.5

Other Specimens Examined

Thamnophilus doliatus capistratus.—BRAZIL.—Bahia: Giguy, 1 ♀ ad., Jequié, 1 ♀ ad., Sincora, 1 ♂ ad., Tambury, 3 ♂ ad., 1 ♀ ad.

The males have the white margins on the rectrices restricted to the outer web, the median pair showing sometimes only a few spots along the inner side of the feathers. This character shows extreme individual variation and is sometimes entirely absent. When compared with specimens of *Thamnophilus doliatus difficilis*, the middle line of the abdomen is unbarred. The feathers of the crest both in males and females of *Thamnophilus doliatus capistratus* appear more elongated and in the males show no white at all, whereas in *Thamnophilus doliatus difficilis* there is a large basal patch of white.

The females have narrow black crossbars on the breast, but this character is also very variable and entirely absent in some specimens (1 ♀ from Rio Branco, No. 242828, 1 ♀ from Barra, No. 242807, 1 ♀ from Santa Rita, No. 242788), showing only occasional dusky spots on the tips.

The throat is whiter and more heavily striped with blackish than in *Thamnophilus doliatus difficilis* which has a fulvous white throat without black striations and has nape and sides of head fulvous white more heavily streaked with black than *Thamnophilus doliatus difficilis*; the female of *Thamnophilus doliatus capistratus* is rufous above instead of a clear ferruginous as in *Thamnophilus doliatus difficilis*.

In males from Pernambuco (Rio Branco) the black bands on the breast are more predominant than the white ones, when compared to the remaining series of *Thamnophilus doliatus capistratus* examined by me, giving the underparts a more dusky appearance. In *Thamnophilus doliatus capistratus* the black and white parts of the breast are about equal, whereas in the typical bird one might say the lower parts are black with numerous white crossbars, giving the breast a blacker color and with the middle line of the abdomen barred like the breast. Birds from Pernambuco have the breast more heavily streaked with black, but have the middle line of the abdomen unbarred. A series of five males average slighter and shorter in the length of the wing.

Thamnophilus doliatus capistratus is found in the caatinga or light forest country. It inhabits a low, thorny forest where many cacti, wild pineapple, and dwarf palms are found and where the region is exceedingly dry.

Its range comprises nearly the whole of Bahia State, except the forested coastal strip, extends north through Pernambuco to Ceará and penetrates Piauí in its extreme east on the western slope of the Serra do Ibiapaba (Arára) and again in the south around Parnaguá. Compared with the distributional area occupied by *Thamnophilus doliatus difficilis*, the range of *Thamnophilus doliatus capistratus* is thus seen to be more easterly.

Thamnophilus palliatus palliatus (Lichtenstein)

Lanius palliatus LICHTENSTEIN, 1823, 'Verz. Doubl. Berliner Mus.,' p. 46, Bahia.
Thamnophilus palliatus WIED, 1831, 'Beitr. Naturg. Bras.,' III (2), p. 1010 (s. e. Brazil).—PELZELN, 1868, 'Orn. Bras.,' II, p. 78, part, Pará.—SCLATER AND SALVIN, 1867, P. Z. S. London, p. 576, Pará.—LAYARD, 1873, Ibis, p. 386, Pará.—FORBES, 1881, Ibis, p. 347, Parahyba; Pernambuco (Garanhuns, Macuca).—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 212, Pará; Pernambuco; Bahia.—HELLMAYR, 1906, Nov. Zool., XIII, p. 366, Pará (Santo Antonio do Prata).—SNETHLAGE, 1907, Journ. Ornith., p. 283, Rio Mojú; Pará (Prata, Ourém); idem, 1908, *op. cit.*, p. 510, Rio Tapajóz (Villa Braga).—IHERING, 1907, 'Cat. Faun. Braz.,' I, p. 201, part, Bahia.—SNETHLAGE, 1914, Bol. Mus. Goeldi, VIII, p. 273, Pará (Quatipurú, Santo Antonio do Prata, Bragança; Rio Guamá; Rio Mojú; Rio Tocan-

tins).—PINTO, 1935, Rev. Mus. Paul., XIX, p. 173, Bahia (Aratuhype, Engenho da Ponté [Rio Grungogy]).

Thamnophilus palliatus palliatus HELLMAYR, 1912, Abhandl. Bayr. Ak. Wiss., Math. phys. Kl., XXVI, No. 2, p. 92, Pará localities.

Thamnophilus fasciatus SWAINSON, 1825, Zool. Journ., II, No. 5, April, p. 88, Bahia (Urupé).

Thamnophilus palliatus HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 75, eastern Brazil, north to Pará, west to the Tapajóz; idem, 1929, *op. cit.*, XII, No. 18, p. 367, Maranhão (Tury-assú, Rosario).

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Maranhão: Kelrú (Rosario) (alt. 13 meters), 1 [♂] ad., 1 (?), March 22, 1926, Rosario (alt. 13 meters), 1 ♂ ad., April 17, 1926, Santa Filomena (Rosario) (alt. 13 meters), 1 ♀ ad., May 30, 1926.—Bahia: Cajazeiras on the Rio Grungogy (alt. 1000 ft.), 5 ♂ ad., 1 ♀ ad., June 13, 16, 18, 22, 23, 1928.

RANGE.—Eastern Brazil north to Pará (Prata, Ourém, Quati-purú, Santo Antonio do Prata, Bragança); Rio Mojú; Rio Guamá; Rio Tocantins (Baião, Mocajatuba); Rio Tapajóz (Villa Braga); Maranhão (Rosario, Kelrú, Santa Filomena, Tury-assú); Parahyba; Pernambuco (Macuca, Garanhuns); Bahia (Aratuhype, Engenho da Ponté; Cajazeiras on the Grungogy, Urupé).

Measurements

	SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL				
Maranhão: Kelrú (Rosario)	♂ ad.	74.0	¹	18.0
“ “ “	?	72.5	61.0	18.0
“ Santa Filomena	♂ ad.	70.0	62.0	17.5
Bahia: Cajazeiras	5 ♂ ad.	73.3	68.3	17.8
“ “	♀ ad.	69.0	65.0	19.0

Other Specimens Examined

Thamnophilus palliatus vestitus.—BRAZIL.—Minas Gerais: Resplendor, Rio Doce (north shore), 1 ♂ ad., São Benedicto, Rio Manhuassú, 1 [♀].—Espírito Santo: Lagôa Juparanã, 3 ♂ ad., 5 ♀ ad.—Rio de Janeiro: 1 ♂, La Raiz, foot Organ Mts., 3 ♂, 2 ♀. “Brazil,” 2 ♂.

Birds from Maranhão agree with the series from southern Bahia, the type-locality, in the dark chestnut color of the upperparts of the females, in the black pileum often dotted all over with white and in the lower parts, which are black with narrow transverse bars of white in the males. The intensity of black of the lower parts of the males shows much indi-

¹ Tail incomplete.

vidual variation, a male from Rosario (Maranhão), and one from Cajazeiras (Bahia), No. 242838 and No. 242835, being much blacker below than the rest of the skins from Maranhão and Bahia.

***Thamnophilus palliatus vestitus*¹ (Lesson)**

Lanius vestitus LESSON, 1830, 'Traité d'Orn.,' V, p. 375 (new name for *Thamnophilus lineatus* Spix, Pl. XXXIII: "Brésil").—PUCHERAN, 1855, 'Arch. Mus. d'Hist. Nat., Paris,' VII, livr. 3, p. 328 (Brésil; type examined by C. E. Hellmayr in Paris Mus.; = ♂).

Thamnophilus palliatus BURMEISTER, 1856, 'Syst. Übers. Th. Bras.,' III, p. 99, Rio de Janeiro (Aldea da Pedra).—PELZELN, 1868, 'Orn. Bras.,' II, p. 78, part, Rio de Janeiro (Registo do Sai, Rio Sapitiba).—EULER, 1868, Journ. Ornith., p. 159, Rio de Janeiro (Cantagallo).—CABANIS, 1874, *op. cit.*, p. 86, Rio de Janeiro (Cantagallo).—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 212, Brazil (Nova Friburgo).—IHERING, 1900, Rev. Mus. Paul., IV, p. 158, Rio de Janeiro (Nova Friburgo); idem, 1907, 'Cat. Faun. Braz.,' I, p. 201, part, Espirito Santo (Rio Doce).—HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 75, part, Rio de Janeiro and Espirito Santo; idem, 1929, *op. cit.*, XII, No. 18, part, Rio de Janeiro.

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Minas Geraës: Resplendor, Rio Doce (north shore, alt. 400 ft.), 1 ♂ ad., January 9, 1930, São Benedicto, Rio Manhuassú (alt. 400 ft.), 1 ♀ ad.—Espirito Santo: Lagôa Juparanã (alt. 400 ft.) 1 ♀ ad., October 30, 1929, 3 ♂ ad., 2 ♀ ad., November 10, 11, 18, 20, 1929.

RANGE.—Southern Brazil: Minas Geraës (Resplendor, Rio Doce, São Benedicto, Rio Manhuassú), Espirito Santo (Lagôa Juparanã), Rio de Janeiro (Cantagallo, Aldea da Pedra, Nova Friburgo, Registo do Sai, Rio Sapitiba).

Measurements

	SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL				
Minas Geraës: Resplendor	1 ♂ ad.	72.5	²	18.0
“ “ São Benedicto	[1 ♀ ad.]	69.0	74.0	17.0
Espirito Santo: Lagôa Juparanã	1 ♂ ad.	72.0	69.0	19.0
“ “ “ “	1 ♂ ad.	74.0	66.0	19.0
“ “ “ “	1 ♂ ad.	69.5	73.0	16.5
“ “ “ “	1 ♀ ad.	71.0	66.5	18.0
“ “ “ “	♀ ad.	71.0	66.0	17.0
“ “ “ “	♀ ad.	70.5	67.0	17.0

¹ Based on *Thamnophilus lineatus* Spix (nec Vieillot). See 1933, Amer. Mus. Novit., No. 646, 10.

² Tail incomplete.

Other Specimens Examined

BRAZIL.—Bahia: Cajazeiras, 5 ♂, 1 ♀; "Bahia," 1 ♂, 1 ♀.—Maranhão: Santa Filomena, 1 ♀, Rosario, 1 ♂, Kelrú, 1 ♂, 1 (?).—Pará: Rio Tocantins (Baião), 5 ♂, 3 ♀, Mocajatuba (near Pará), 2 ♂.

Thamnophilus palliatus vestitus has the upper- and underparts lighter in tone than the typical bird from Bahia. This form is called *vestitus* Lesson, based on *Thamnophilus lineatus* Spix (nec Vieillot). The type male was examined by C. H. Hellmayr¹ and was said by him to be less blackish below than the Bahia skins. As I believe these paler birds to be distinct from topotypes of *palliatus*, I am recognizing this new subspecies as *Thamnophilus palliatus vestitus* Lesson.² However, No. 317496, an adult male from Lagôa Juparanã, Espírito Santo, and No. 318127 from Resplendor, Minas Geraës, are very much more blackish below than the rest of the series, approaching the intensity of black of the lower parts of the northern bird, *Thamnophilus palliatus palliatus*, from Maranhão and Bahia.

Thamnophilus aethiops incertus Pelzeln

Thamnophilus incertus PELZELN, 1868, 'Orn. Bras.,' II, p. 78, 149, Pará (type in Vienna Museum examined = female).—IHERING AND IHERING, 1907, 'Cat. Faun. Braz.,' I, p. 197 (Pará).—SNETHLAGE, 1914, Bol. Mus. Goeldi, VIII, p. 271 (part; Pará, Mocajatuba, Providencia, Ananindeuba, Santa Isabel, Santo Antonio do Prata; Rio Guamá [São Miguel], Rio Capim [Resacca]).

Thamnophilus aethiops incertus HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 83 (northeastern Brazil, Pará district, west to the Tocantins); idem, 1929, *op. cit.*, XII, No. 18, p. 368, Maranhão (Tury-assú).

No specimens collected.

Kaempfer Collection.

RANGE.—Northeastern Brazil, from the right bank of the Rio Tocantins (Baião) through Pará [Santo Antonio do Prata, Mocajatuba, Providencia, Ananindeuba, Santo Isabel, Igarapé-Assú, Vigia, Peixe-Boi, Utinga, Rio Guamá (São Miguel), Rio Capim (Resacca)], to northern Maranhão (Tury-assú).

Thamnophilus aethiops incertus is an endemic species of the Pará region. It is found along the coastal forests to western Maranhão (Tury-assú).

Specimens Examined

Thamnophilus aethiops incertus, 1 ♂, 1 ♀, Utinga near Pará, A. M. N. H.

¹ 1906, Abh. Bayr. Akad. Wiss., 2 Kl., XXII, No. 3, p. 655.

² 1933, Amer. Mus. Novit. No. 646, p. 10.

Thamnophilus punctatus sticturus Pelzeln

Thamnophilus sticturus PELZELN, 1868, 'Orn. Bras.,' II, p. 76, 144 [descr. ♂, ♀, from w. Matto Grosso (Engenho do Gama)].

Thamnophilus ambiguus sticturus HELLMAYR, 1908, Nov. Zool., XV, p. 66 [part; w. Matto Grosso (Engenho do Gama, Corumbá, Urucúm)].—IHERING, 1907, 'Cat. Faun. Braz.,' I, p. 199 (part; west Matto Grosso).

Thamnophilus punctatus sticturus HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 95 (same as range below).—PINTO, 1932, Revista do Museu Paulista, XVII (2), p. 752, Bolivia, Rio Paraguay; Rio Guaporé.

SPECIMENS EXAMINED

(Kaempfer Collection)

BRAZIL.—Southern Matto Grosso: Rio Amambahy (alt. 650 ft.), 2 ♂ ad., June 22–24, 1930, Campeiro (alt. 1100 ft.), 2 ♂ ad., June 17, 20, 1930.

RANGE.—Southwestern Brazil, in western Matto Grosso, Urucúm near Corumbá, Belvedere de Urucúm (on the headwaters of the Rio Paraguay), Engenho do Gama (on the Rio Guaporé), Rio Amambahy, Campeiro; eastern Bolivia.

Measurements

	SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL				
Southern Matto Grosso: Rio Amambahy	♂ ad.	72	65	15
“ “ “ “ “	♂ ad.	72	64	15
“ “ “ Campeiro	♂ ad.	68	65	15
“ “ “ “	♂ ad.	69	65	15

Other Specimens Examined

BRAZIL.—Matto Grosso (Urucúm near Corumbá): 5 ♂ ad., 5 ♀ ad., Belvedere de Urucúm de Corumbá, 2 ♂ ad.

BOLIVIA.—Prov. Santa Cruz: Vermejo, 2 ♂ ad., 1 ♀ ad., A. M. N. H.

I refer the four males from southern Matto Grosso to *Thamnophilus punctatus sticturus*, type-locality Engenho do Gama. Mr. Kaempfer collected no females of this subspecies.

The males from the Rio Amambahy and Campeiro agree with five males from Urucúm near Corumbá (Matto Grosso, Roosevelt collection) in the pale cinereous color below, passing into an extensive white area on the abdomen.

The specimens collected by Mr. Kaempfer have only the outer edge of the outer pair of rectrices marked with white; all the other median pairs of tail-feathers (3–4 pairs) are marked with white at the tip only. The very central pair of rectrices in each one of the four specimens col-

lected have only a very faint white mark at the tip. Upon close examination of this character in other specimens of *T. p. sticturus* from Brazil, Matto Grosso (Urucúm near Corumbá), and three specimens from Bolivia (Vermejo, Prov. Santa Cruz.), I find the white markings on the rectrices very variable. The white markings are either present or absent in from one to four pairs of median rectrices, in certain specimens of the other races of this species.

Thamnophilus punctatus pelzelni Hellmayr

Thamnophilus sticturus (not of Pelzeln) PELZELN, 1868, 'Orn. Bras.,' II, p. 76, 144 (part; "var." from Goyáz).

Thamnophilus ambiguus (not of Swainson) IHERING, 1902, Rev. Mus. Paul., V, p. 274, São Paulo (Rincão, Jaboticabal); idem, 1907, 'Cat. Faun. Braz.,' I, p. 199, São Paulo (Avanhandava, Bebedouro, Rincão, Itapura, Baurú, Jaboticabal).—REISER, 1910, Denkschr. math. naturw. Kl. Akad. Wiss. Wien, LXXVI, p. 65, Bahia (Santa Rita do Rio Preto) and Piauhy (Lake of Missão, Parnaguá).—SNETHLAGE, 1926, Bol. Mus. Nac. Rio de Janeiro, II, No. 6, p. 45, Ceará.

Thamnophilus punctatus pelzelni HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 96, interior of Brazil, from eastern Matto Grosso (plateau of Chapada) and northern São Paulo (Tieté-Paraná district) through State of Goyáz east to western and central Bahia (Macaco Secco near Andarahy), Ceará, Piauhy, and Maranhão (Miritiba); idem, 1929, *op. cit.*, XII, No. 18, p. 368, Maranhão (Miritiba, Barra da Corda, Grajahú, Tranqueira, Fazenda Inhúma), Piauhy (Arára, Deserto, Parnaguá, Lagôa Missão), and Ceará (Varzea Formosa, Juá, near Iguatú).—PINTO, 1932, Rev. Mus. Paul., XVII (2), p. 750, São Paulo (Valparaizo) and s. e. Matto Grosso (Sant' Anna do Paranahyba); idem, 1936, *op. cit.*, XX, p. 84, Goyáz (Rio das Almas and Rio Meia Ponte).

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Maranhão: As Mangueiras (near Flores) (alt. 50 meters), 5 ♂ ad., 3 ♀ ad., May 10, 11, 12, 13, 14, 1926.—Piauhy: Corrente (alt. 1500 ft.), 2 ♂ ad., 2 ♀ ad., May 20, 28, June 1, 1927, Floriano (alt. 400 ft.), 1 ♂ ad., 1 ♀ ad., July 6, 1926, Gilbúes (alt. 1300 ft.), 1 ♂ ad., 1 ♀ ad., July 7, 1927, Parnaguá (alt. 1300 ft.), 1 ad., June 19, 1927, Santa Maria (near Urussuhy) (alt. 43 meters), 1 ♀ ad., August 11, 1926, Therezina (alt. 50 meters), 1 ♂ ad., 2 ♀ ad., April 30, May 1, 1926.—Ceará: São Pedro do Cariry (alt. 2400 ft.), 1 ♂ ad., 1 ♀ ad., December 18, 1926, Viçosa (alt. 2500 ft.), October 27, November 1, 1926.—Bahia: Bôa Nova (alt. 2600 ft.), 1 ♀ ad., 2 (?), May 30–June 1, 3, 1928, Iracema (alt. 2300 ft.), 1 ♂ ad., October 7, 1927, Ituassú (alt. 2600 ft.), 1 ♂ ad., July 4, 1928, Jaguaquara (alt. 2500 ft.), 3 ♂ ad., September 1, 2, 6, 1927, Morro do Chapeó (alt. 3600 ft.), 3 ♂ ad., 1 ♀ ad., April 26, 27, 1928, Orobó (alt. 1800 ft.), 1 ♂ ad., October 28, 1927, Santa Rita do Rio Preto (alt. 1600 ft.), May 3, 10, 16, 19, 1926, August 9, 12, 1927, Sincora (alt. 1500 ft.), 2 ♂ ad., 1 ♀, October 10, 11, 1927, Tambury (alt. 1100 ft.), 1 ♂ ad., October 3, 1927.

RANGE.—Interior of Brazil (central tableland) from eastern Matto Grosso (plateau of Chapada) and northern São Paulo (Tieté-Paraná district), through State of Goyáz east to western and central Bahia (Macaco Secco, near Andarahy, Iracema, Ituassú, Jaguaquara, Orobó, Tambury, Sincora, Santa Rita do Rio Preto, Bõa Nova); Ceará (Varzea Formosa, Juá near Iguatú, São Pedro do Cariry, Viçosa); Piahy [Arára, Deserto, Corrente, Floriano, Gilbúes, Parnaguá (Lagõa Missão), Santa Maria (near Urussuhy), Therezina]; Maranhão (Miritiba, Barra do Corda, Grajahú, Tranqueira, Fazenda Inhúma, As Mangueras near Flores).

Other Specimens Examined

Thamnophilus punctatus pelzelni.—BRAZIL.—Matto Grosso: Abrilongo, 1 ♂ ad. (type). Chapada, 10 ♂ ad., 12 ♀. São Paulo: Itapura, 1 ♂ ad., 1 ♀ ad.

I refer all the specimens listed above to *Thamnophilus punctatus pelzelni* and do not believe they intergrade with the coastal form *ambiguus*. However, one female from Morro do Chapeó and a female from Sincora seem to belong to either form though they have the underparts darker and duller and more of a deep brownish-buff, without any distinct white in the middle. Four females from Bõa Nova have the underparts a deeper ochraceous color, extending over the entire lower parts with the exception of the throat and without the white median line, that abdominal area being slightly paler buff than the rest of the underparts.

These specimens show a wide range of individual variation but I do not feel that they should be subdivided.

These birds are found in the high plateau, slightly hilly chapada country. The plateau is covered by low bushes, cacti, and spiny plants. Only where the water is plentiful and where small streams flow across country, thickets of higher trees are found.

Thamnophilus punctatus ambiguus Swainson

[*Thamnophilus naevius*] var. a? *T. ambiguus* SWAINSON, 1825, Zool. Journ., II, No. 5, p. 91 (descr. ♂ ad.; "two birds brought to England from Minas Geraës by Dr. Such...") As type-locality we have to consider the vicinity of Campos, on the confines of the states of Minas Geraës and Rio de Janeiro, s. e. Brazil). [*Thamnophilus naevius*] var. b. *T. pileatus*, idem, 1825, *op. cit.*, p. 91 (caatinga woods of Bahia; descr. of ♂ in first annual plumage).

Thamnophilus ferrugineus, SWAINSON, 1825, *op. cit.*, p. 92 (caatinga woods of Bahia; = ♀).

Thamnophilus nigricans WIED, 1831, 'Beitr. Naturg. Bras.,' III (2), p. 1006 (s. e. Brazil, no locality specified).—BURMEISTER, 1856, 'Syst. Übers Th. Bras.,' III, p. 96 (s. e. Brazil).

Thamnophilus pileatus SCLATER, 1855, Edinb. New Philos. Journ., (N. S.) I, p. 245 (Bahia, ex Swainson).

Thamnophilus ambiguus PELZELN, 1868, 'Orn. Bras.,' II, p. 76, Rio de Janeiro (Sapitiba, Registo do Sai).—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 201 (part; Bahia, Rio de Janeiro).—HELLMAYR, 1906, Abhandl. II, Kl. Bayr. Ak. Wiss., XX, No. 3, p. 660 (diag. ♂, ♀; east Brazil from Bahia to Rio de Janeiro; excl. São Paulo).—IHERING, 1907, 'Cat. Faun. Braz.,' I, p. 199 (part; Bahia; Espirito Santo [Porto Cachoeira]).

Thamnophilus ambiguus ambiguus HELLMAYR, 1908, Nov. Zool., XV, p. 67 [Bahia; Rio de Janeiro; s. Minas Geraës (ex Such)].—LIMA, 1920, Rev. Mus. Paul., XII (2), p. 98, southern Bahia (Ilhéos, Itabuna, Belmonte).

Thamnophilus punctatus ambiguus HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 97 (coast region of southeastern Brazil from the environs of the city of Bahia to Rio de Janeiro).—PINTO, 1932, Revista do Museu Paulista, XVII, p. 752 (Zona littoral sul do Brasil, da Bahia do Rio de Janeiro).

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Minas Geraës: Resplendor, Rio Doce (alt. 92 meters), 3 ♂ ad., 3 ♀ ad., January 10–11, 13, 1930.—Espirito Santo: Baixo Guandú (Rio Guandú, alt. 400 ft.), 1 ♂ ad., 1 ♀ ad., December 27–30, 1929, Lagôa Juparanã (alt. 400 ft.), 4 ♂ ad., 3 ♀ ad., November 4, 9, 10, 11, 15, December 1, 1929.

RANGE.—Coast regions of southeastern Brazil; the environs of the city of Bahia [Santo Amaro, Ilhéos, Itabuna, Verruga (Rio Pardo), Belmonte]; Minas Geraës (Resplendor, Rio Doce); Espirito Santo (Baixo Guandú, Lagôa Juparanã, Porto Cachoeira); Rio de Janeiro (Sapitiba, Registo do Sai, La Raiz, foot of Organ Mts.).

Measurements

				SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL							
Minas Geraës: Resplendor				♂ ad.	66.0	59.0	15.0
"	"	"		♂ ad.	72.0	61.0	16.0
"	"	"		♂ ad.	69.0	57.0	16.0
"	"	"		♀ ad.	68.0	55.0	15.5
"	"	"		♀ ad.	67.0	55.0	15.0
"	"	"		♀ ad.	69.0	57.0	15.5
Espirito Santo: Lagôa Juparanã				4 ♂ ad.	70.2	59.8	16.3
"	"	"	"	♀ ad.	71.0	58.0	15.0
"	"	"	"	♀ ad.	70.0	61.0	15.0
"	"	"	"	♀ ad.	70.0	60.0	17.0
"	"	Baixo Guandú		♀ ad.	68.5	60.0	16.0
"	"	"	"	♂ ad.	66.0	59.0	15.5

Other Specimens Examined

BRAZIL.—Bahia: Verruga, Rio Pardo, 1 ♂, 1 ♀, A. M. N. H. (Holt Coll.).—Rio de Janeiro: 1 ♂, La Raiz, foot of Organ Mts., 1 ♀.

BRAZIL (no locality given), 2 ♂, 2 ♀ (cotypes of *nigricans* Wied); Bahia, 10 ♂, 8 ♀.

In this species all the rectrices are marked on either web with a very distinct white stripe.

I cannot see any intergradation between *Thamnophilus p. pelzelni* and *Thamnophilus p. ambiguus*¹ as the male of *ambiguus* differs from *pelzelni* by darker slate-gray underparts with very little white along the middle of the abdomen. In both these subspecies the rectrices are marked on either web with a very distinct white marginal stripe.

The female has the underparts much darker and duller deep brownish-buff without any white in the middle.

Thamnophilus amazonicus paraensis Todd

Thamnophilus amazonicus paraensis TODD, 1927, Proc. Biol. Soc. Wash., XL, p. 154, Pará (Benevides).—HELLMAYR, 1929, Field Mus. Nat. Hist. Publ., Zool. Ser., XII, No. 18, p. 369, Maranhão (Tury-assú, Rosario, near São Luiz); Goyáz (Santo Antonio, Boa Vista).

Thamnophilus amazonicus HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 98 (part; Maranhão and Pará).

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Maranhão: Kelrú (Rosario) 1 [♂] ad., March 22, 1926.

RANGE.—Brazil: Pará, through to the wooded coastal belt to Maranhão (Tury-assú, Rosario, Kelrú near São Luiz and extreme northern Goyáz [San Antonio (Boa Vista)]).

Thamnophilus caerulescens paraguayensis Hellmayr

Thamnophilus caerulescens paraguayensis HELLMAYR, 1904, Bull. Brit. Orn. Cl., XIV, p. 53, northern Paraguay (Colonia Risso, Rio Apa).—MÉNÉGAUX AND HELLMAYR, 1906, Bull. Soc. Philom. Paris, (9th Ser.) VIII, p. 26, northern Paraguay (San Salvador).

Thamnophilus caerulescens paraguayensis HELLMAYR, 1921, Nov. Zool., XXVIII, p. 200, in text (crit. n. Paraguay); idem, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 100, northern Paraguay (Colonia Risso, Rio Apa, San Salvador) and Paraguayan Chaco (Fortín Nueve, Fort Wheeler, Rio Pilcomayo).—LAUBMANN, 1933, Anzeiger Orn. Ges. Bay., II, No. 7, p. 293, northern Paraguay (Zanja Moroti and San Luis de la Sierra, Apa highlands; Nueva Germania; Santa Casilda and Puerto Sastre, Chaco).

Thamnophilus caerulescens (not of Vieillot) SALVADORI, 1895, Boll. Mus. Zool. Torino, X, No. 208, p. 33, northern Paraguay (Colonia Risso).

Thamnophilus ambiguus (not of Swainson) KERR, 1892, Ibis, p. 134, northern Paraguay (Fortín Nueve, Fort Wheeler, Rio Pilcomayo).

¹ See 1933, Amer. Mus. Novit., No. 647, p. 12.

SPECIMENS COLLECTED
(Kaempfer Collection)

NORTHERN PARAGUAY: Chaco, Concepción (alt. 700 ft.), 1 ♂ ad., March 1, 1931, Zanja Moroti, Dept. Concepción (alt. 1000 ft.), 1 ♂ ad., September 7, 1930, Chaco (80 km. west of Puerto Pinasco) (alt. 500 ft.), 2 ♂ ad., April 18, 1931, La Froncière, San Luis de la Sierra (alt. 1000 ft.), 1 (?), May 14, 1931.

RANGE.—Northern Paraguay (Colonia Risso, Rio Apa, San Salvador, Zanja Moroti, San Luis de la Sierra, Nueva Germania) and Paraguayan Chaco (Fortín Nueve, Rio Pilcomayo, Fort Wheeler, Santa Casilda, Puerto Sastre, Concepción, Rio Negro.

Measurements

	SEX	WING	TAIL	EXPOSED CULMEN
NORTHERN PARAGUAY				
Concepción	1 ♂ ad.	65.5	62.0	14.5
Zanja Moroti	1 ♂ ad.	69.0	65.0	14.0
Chaco—west of Puerto Pinasco	1 ♂ ad.	67.0	67.0	13.5
“ “ “ “ “	1 ♂ ad.	65.0	62.5	14.5
La Froncière	1 ♂ ad.	65.5	63.0	14.5

Other Specimens Examined

	SEX	WING	TAIL	CULMEN	COLL.
NORTHERN PARAGUAY					
Colonia Risso, Rio Apa (type)	1 ♂ ad.	67.5	60.0	13.5	Roth
“ “ “ “ “	1 ♂ ad.	70.5	62.5	13.0	Roosevelt
Fort Wheeler	1 ♂ ad.	67.5	61.5	13.0	“
Rio Negro	1 ♂ ad.	67.0	66.5	12.0	“
“ “	1 ♀ ad.	65.0	62.0	14.0	“

In 1924, Hellmayr says “♀ unknown.”¹ The female of *Thamnophilus caerulescens paraguayensis* has since been described by Laubmann (*op. cit.*, p. 294). Birds from Paraguay were only listed in ‘The Birds of Matto Grosso,’² but not discussed. So, with three female specimens at hand, it is considered necessary to give the following description.

Three females from northern Paraguay are quite uniform. There is the same amount of pale ochraceous on the breast, abdomen, and lower underparts and under tail-coverts. The backs are tinged with olivaceous brown, the caps are clove-brown without any black. All three females have both black and white spots concealed on the mantle, and have the terminal parts of the feathers of the lower mantle varyingly buffed. All have the upper and median wing-coverts blackish with pure white spots at the tips. Lores, superciliaries, sides of head, throat, and upper breast are pale gray, almost whitish. In all three specimens the outer rectrices are tipped with

¹ 1924, Field Mus. Nat. Hist., Publ., Zool. Ser., XIII, part 3, p. 100.
² 1930, Bull. Amer. Mus. Nat. Hist., LX, p. 37.

white. The second, third, and fourth pairs are also tipped this way. The whitish marginal spot on the outer web of the outer rectrix is present but varies in size, being quite small in the one female (No. 126986) from the Rio Negro (Roosevelt Coll.).

Compared with females of typical *Thamnophilus caerulescens*, the differences are as follows:

Females of *Thamnophilus caerulescens paraguayensis* are lighter below, a lighter gray extending over throat, breast, and upper abdomen. The lower abdomen, flanks, crissum, and under tail-coverts are pale ochraceous instead of ochraceous tawny as in *Thamnophilus caerulescens caerulescens*. The under wing-coverts or "lining of the wing" are buff instead of ochraceous buff as in *Thamnophilus caerulescens caerulescens*. The lores, superciliaries, sides of head, throat, and breast are lighter gray and the face more whitish gray than in *Thamnophilus caerulescens caerulescens*.

While noticing the above variations in the color of the females of *Thamnophilus caerulescens paraguayensis* and *Thamnophilus caerulescens caerulescens*, I also notice that the males of *Thamnophilus caerulescens paraguayensis* average slightly smaller in the length of the wing.

Thamnophilus caerulescens caerulescens Vieillot

Thamnophilus caerulescens VIEILLOT, 1816, 'Nouv. Dict. d'Hist. Nat.,' Nouv. éd., III, p. 311 (based on "Batará negro y aplomado," Azara No. 213: Paraguay; = ♂ ad.).—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 200 (part; Paraguay; s. e. Brazil).—HELLMAYR, 1906, Abhandl. 2, Kl. Bayr. Ak. Wiss., XXII, No. 3, p. 660 (crit.; diag. ♂, ♀; Paraguay (Sapucay); São Paulo).—IHERING, 1907, 'Cat. Faun. Braz.,' I, p. 198, São Paulo (Itatiba, Ypiranga, Tieté, Ribeirão Pires, Baurú, Rio Feio).—CHUBB, 1910, Ibis, p. 520, Paraguay (Sapucay).

Thamnophilus caerulescens caerulescens HELLMAYR, 1921, Nov. Zool., XXVIII, p. 199, part, Paraguay (Sapucay, Villarica), São Paulo; idem, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 101, part, central and southern Paraguay (Villarica, Sapucay), through the yet unexplored western division of Paraná to the northern and eastern districts of São Paulo.—SZTOLCMAN, 1926, Ann. Zool. Mus. Pol. Hist. Nat., V, p. 146, Paraná (Candido de Abreu, Salto Guayra, Porto Mendes).—PINTO, 1932, Revista do Museu Paul., XVII (2), p. 749, São Paulo (Valparaizo).—LAUBMANN, 1935, Anz. Orn. Ges. Bay., II, p. 293, Paraguay (Colonia Independencia).

Thamnophilus naevius PELZELN, 1868, 'Orn. Bras.,' II, p. 76, São Paulo (Ypanemá).—REINHARDT, 1870, Vidensk. Medd. Naturhist. Foren. Kjoben., p. 367, part, São Paulo (São Carlos).—IHERING, 1898, Rev. Mus. Paul., III, p. 237, São Paulo (Ribeirão Pires and Tieté).

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Paraná: Foz do Iguassú (alt. 300 ft.), 2 ♂ ad., 2 ♀ ad., May 17, 18, 20, 28, 1930, Guayra, Rio Paraná (alt. 600 ft.), 2 ♂ ad., 2 ♀ ad., 1 (?), April 14, 21, 24, 26, 1930, Porto Britania (Rio Paraná, alt. 400 ft.), 1 ♂ ad., May 5, 1930, Porto Mendes, Rio Paraná (alt. 400 ft.), 1 ♀ ad., May 1, 1930.

EASTERN PARAGUAY.—East of Caaguazú (alt. 1000 ft.), 1 ♀ ad., December 1, 1930; east of Villarica (Colonia Independencia, alt. 800 ft.), 1 ♂ ad., east of Yhú

(Jovaty, lumber camp, alt. 1000 ft.), 2 ♂ ad., 2 ♀ ad., December 28–30, 1930, January 6, 1931.

RANGE.—Central and southern Paraguay (Sapucay, Villarica [Colonia Independencia], east of Caaguazú, east of Yhú). Brazil: Paraná (Foz do Igussú, Candido de Abreu; Salto Guayra, Rio Paraná; Porto Britania, Porto Mendes); northern and eastern districts of São Paulo (Itatiba, Ypiranga, Tieté, Ribeirão Pires, Baurú, Rio Feio, Ypanemá, Alto da Serra, Victoria, Rio Paranapanema, Valparaizo).

Measurements

		SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL					
Paraná:	Foz do Iguassú	♂ ad.	71.0	62.5	15.5
"	" " "	♂ ad.	69.0	62.0	14.5
"	" " "	♀ ad.	68.0	56.0	15.0
"	" " "	♀ ad.	66.0	61.0	14.0
"	Guayra (Rio Paraná)	♂ ad.	69.0	60.0	13.5
"	" " "	♂ ad.	70.0	55.5	15.5
"	" " "	♀ ad.	67.5	60.0	14.5
"	" " "	♀ ad.	66.5	60.0	15.0
"	" " "	♀ ad.	66.5	65.0	14.5
"	Porto Mendes (Rio Iguassú)	♀ ad.	69.0	62.0	14.0
"	" Britania (Rio Paraná)	♂ ad.	69.0	62.0	14.0
PARAGUAY					
	East of Caaguazú	♀ ad.	67.5	60.0	13.5
"	" Yhú	♀ ad.	66.0	63.0	14.0
"	" "	♀ ad.	68.0	62.0	15.0
"	" "	♂ ad.	68.0	60.0	15.0
"	" "	♂ ad.	64.0	58.0	14.5
"	" "	♂ ad.	66.0	62.5	14.5

Other Specimens Examined

		SEX	MUSEUM	
BRAZIL				
São Paulo:	Alto da Serra	1 ♂ ad.	A. M. N. H.	
"	" Lontia, Rio Feio	♂ ad.	A. M. N. H.	
"	" Victoria do Botucatu	5 ♂ ad.	Field Museum	
		6 ♀ ad.		
"	" " " "	3 ♂ ad.	A. M. N. H. (Rothschild Col.)	
"	" Ypanemá	1 ♂ ad.	A. M. N. H.	" "
"	" Itatiba	1 ♂ ad.	A. M. N. H.	" "
PARAGUAY				
Sapucay		4 ♂ ad.	A. M. N. H.	" "
		3 ♀ ad.		

Comparison of the series from western Paraná (Foz do Iguassú) to Guayra with seven skins of typical *caerulescens* from Sapucay, Paraguay, fails to reveal any difference whatsoever. Specimens from the northern and eastern parts of São Paulo state, most of which have been courteously lent by the authorities of the Field Museum of Natural History, are likewise referable to the same forms, although a few individuals, as will be mentioned under the next heading, are not satisfactorily distinguishable from *T. c. albonotatus*. The material from western Paraná thus closes the seemingly interrupted range of *caerulescens* between Paraguay and São Paulo.

Thamnophilus caerulescens albonotatus Spix

Thamnophilus albonotatus SPIX, 1825, 'Av. Bras.,' II, p. 27, Pl. xxxvii, fig. 2 (= ♂) (Brazil).—HELLMAYR, 1906, Abhandl., 2, Kl. Bayr. Ak. Wiss., XXII, No. 3, pp. 658, 661 [crit.; Rio de Janeiro (Cantagallo, Petropolis)].

Thamnophilus naevius (not of Gmelin) BURMEISTER, 1856, 'Syst. Übers. Th. Bras.,' III, p. 94, Rio de Janeiro (Nova Friburgo).—REINHARDT, 1870, Vidensk. Medd. Naturhist. Foren. Kjoben, p. 367, part, Rio de Janeiro [Nova Friburgo, Minas Geraës (Lagôa Santa)].—PELZELN, 1874, 'Nunq. otios.,' II, p. 291 (Nova Friburgo).—IHERING, 1900, Rev. Mus. Paul., IV, p. 158 (Nova Friburgo, Cantagallo).

Thamnophilus caerulescens (not of Vieillot) PELZELN, 1865, Reise Novara, Zool. I, Vögel, p. 69 (foothills of the Corcovado).—BERLEPSCH, 1885, Zeitschr. ges. Ornith., p. 148, Rio de Janeiro.

Thamnophilus caerulescens caerulescens HELLMAYR, 1921, Nov. Zool., XXVIII, p. 199, part, west Minas Geraës; idem, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 100, part, western Minas Geraës and Rio de Janeiro.—HOLT, 1928, Bull. A. M. N. H., LVII, p. 294 (Alto Itatiaya, Monte Serrat).

Thamnophilus tephrogaster OBERHOLSER, 1902, Proc. U. S. Mus., XXV, p. 59, "Bahia" = Rio de Janeiro (type in U. S. National Museum).

Thamnophilus caerulescens albonotatus IHERING, 1907, 'Cat. Faun. Braz.,' I, p. 198, part, Itatiaya.—LÜDERWALDT, 1909, Zool. Jahrb. (Syst.), XXVII, p. 350, Brazil (Campos Itatiaya, Serra Mantiqueira).—HELLMAYR, 1921, Nov. Zool., XXVIII, p. 200, mountain ranges on the confines of the Brazilian states of Rio de Janeiro and Minas Geraës.

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Minas Geraës: Serra do Caparaó, Rio Caparaó (alt. 3000 ft.), 4 ♂ ad., 6 ♀ ad., July 23-27, Aug. 4, 1929, east of Fazenda Boa Esperança, Serra do Caparaó (alt. 3500 ft.), 1 ♀ ad., Aug. 6, 1929, Gruta da Pedra, Menina (alt. 6000 ft.), 1 ♂ ad., 1 ♀ ad., Aug. 21-23, 1929, Espirito Santo, Segrado do Veado (Serra do Caparaó, alt. 3000 ft.), 1 ♀ ad., October 8, 1929.

RANGE.—Mountain ranges on the confines of the Brazilian states of Rio de Janeiro [Serra do Itatiaya] (Alto Itatiaya, Macieiras, Monte Serra Ponte Maromba), Cantagallo, Petropolis, Nova Friburgo, Therezopolis

[Organ Mts.], Minas Geraês (Serra do Caparaó, Gruta da Pedra, Menina São Francisco, Taboleira Grande, Lagôa Santa), and Espirito Santo (Serra do Caparaó).

Measurements

			SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL						
Minas Geraês: Serra do Caparaó, Rio Caparaó			4 ♂ ad.	72.1	64.1	15.0
“	“	Serra do Caparaó, Rio Caparaó	8 ♀ ad.	70.5	66.1	15.6
“	“	Serra do Caparaó, Gruta da Pedra, Menina	♂ ad.	72.0	64.5	14.5
“	“	Serra do Caparaó, Gruta da Pedra, Minina	♀ ad.	70.0	63.5	14.5

Other Specimens Examined

			SEX	WING	TAIL	EXPOSED CULMEN	MUSEUM
BRAZIL							
Minas Geraês: Lagôa Santa			♂	73.0	64	15	Field
“	“	“ “	♀	74.5	65	16	“

Other Specimens Examined

				MUSEUM	
BRAZIL					
Serra do Itatiaya: Alto Itatiaya			3 ♂, 3 ♀ ad.	A. M. N. H.	
Rio de Janeiro: Monte Serrat			1 ♂ ad., 1 ♀ imm.	“ “ “ “	
“	“	Macieiras	1 ♂ ad., 2 ♂ imm.	“ “ “ “	
“	“	“	1 ♀ ad., 1 ♀ imm.	“ “ “ “	
“	“	Ponte Maromba	1 ♀ ad.	“ “ “ “	
“	“	Therezopolis (Organ Mts.)	1 ♂ ad., 1 ♀ ad.	“ “ “ “	
“	“	Petropolis	1 ♂ ad., 1 ♀ ad.	“ “ “ “	
“	“	“	1 ♀	(Rothschild Coll.)	
Minas Geraês: São Francisco (alt. 1580 meters)			1 ♂	A. M. N. H. (Rothschild Coll.)	

There is a distinction between *T. caerulescens caerulescens*, of southern Paraguay and São Paulo, and *T. caerulescens albonotatus* which I believe to be subspecific.

¹ This female in the Rothschild collection is not the type of *T. tephrogaster*, which (a male) is in the U. S. National Museum.

The lower parts, in the male sex, of *T. c. albonotatus* are much darker slate-gray (cinereous) without any white on the middle of the belly and crissum. The cap, nape, and interscapular region are blacker, and the remaining upperparts also more cinereous slaty gray. Besides, the upper tail-coverts have only very slight white terminal spots, and in some specimens these markings are even entirely absent [No. 188994 (Macieiras Serra do Itatiaya), No. 316707 (Gruta da Pedra Menina, Serra do Caparaó), No. 316697 (Rio Caparaó¹)], while in *Thamnophilus caerulescens caerulescens* they are more broadly tipped with white. The extent of white on the rectrices of both *T. c. albonotatus* and *T. c. caerulescens* is variable, and it is of no racial importance.

In the light of the fine series now available, it appears that there is, after all, some justification in maintaining the distinctness of *T. c. albonotatus*, which was for some time advocated by E. H. Hellmayr. Taking the series from the Serra do Caparaó, Serra do Itatiaya, and the vicinity of Rio de Janeiro as a whole, we notice that the lower parts in the male sex are darker slate-gray without any white vermiculations along the abdominal line; the pileum and the interscapular region are blacker, while the tail-coverts are very slightly tipped with white or entirely devoid of such markings (No. 188994, Macieiras; No. 316707, Gruta de Pedra Menina; No. 316697, Rio Caparaó). The females may be separated by somewhat deeper greenish-olive dorsal surface, deeper ochraceous underparts, and similarly darker inner edges to the primaries.

While the above divergencies hold in most cases, it must be admitted that one of the males from Victoria do Botucatú, São Paulo, and two females from the same locality cannot satisfactorily be separated from *albonotatus*, furnishing evidence for the close relationship of the two races. Also, two specimens from western Minas Geraës (Lagôa Santa) are in need of the following remarks: The male No. 50583 (Field Mus.) is fully as dark below as Nos. 189331 (Ponte Maromba) and 188994 (Macieiras), and the female matches those from Itatiaya though it is hardly distinguishable from the darkest São Paulo female (May 2, 1902).

The range of *T. c. albonotatus*, which may be termed a dark-colored local form of *caerulescens*, appears to be restricted to the serras along the boundary line of Minas Geraës and Espírito Santo and the mountains of Rio de Janeiro south to the Serra do Itatiaya.

***Thamnophilus caerulescens cearensis* (Cory)**

Erionotus cearensis CORY, 1919, Auk, XXXVI, No. 1, p. 88, Ceará (Serra Baturité).

¹ Very slight white marking.

Thamnophilus caerulescens cearensis HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 102, northeastern Brazil, State of Ceará (Baturité); idem, 1929, *op. cit.*, XII, No. 18, p. 369, Ceará (Serra Baturité).

No specimens collected.

Kaempfer collection.

RANGE.—State of Ceará (Serra Baturité).

Measurements and Specimens Examined

	SEX	WING	TAIL	CULMEN	MUS.
N. E. BRAZIL					
Ceará: Serra Baturité	1 ♂ ad.	73	61	16.5	Field

Thamnophilus caerulescens gilviger Pelzeln

Thamnophilus gilviger PELZELN, 1868, 'Orn. Bras.,' II, p. 76, Paraná (Curytiba; types in Vienna Museum examined by me).—HELLMAYR, 1906, Abhandl. Kl. Bayr. Ak. Wiss., XX, No. 3, p. 661 (crit. Paraná, Santa Catharina, Rio Grande do Sul, s. Brazil); Argentina (Corrientes, Misiones).—IHERING, 1907, 'Cat. Faun. Braz.,' I, p. 199, São Paulo (Itararé).—CHROSTOWSKI, 1912, Compt. Rend. Soc. Scient. Varsovie, V, pp. 477-496, Paraná (Vera Guarany, lower Iguassú).

Thamnophilus maculatus BERLEPSCH AND IHERING 1885, Zeitschr. ges. Ornith., II, p. 148, Rio Grande do Sul (Taquara do Mundo Novo, Arroio Grande).—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 201, Rio Grande do Sul (Pelotas).—IHERING, 1899, Anuario Est. Rio Grande do Sul, XVI, p. 130 (Mundo Novo).

Thamnophilus caerulescens (not of Vieillot) BURMEISTER, 1861, 'Reise, La. Pl. Staat.,' II, p. 472, part, Paraná (City of Paraná; Corrientes).—WHITE, 1882, P. Z. S. London, p. 614, Argentina [Corrientes (Santo Tomé) and Misiones (San Javier, Concepción)].—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 200 (part, Uruguay, Misiones).—APLIN, 1894, Ibis, p. 185, Uruguay (Arroio Grande, Santa Elena, Prov. Soriano).

Erionotus gilviger TREMOLERAS, 1920, El. Hornero, II, p. 19 (Uruguay).

Thamnophilus caerulescens gilviger HELLMAYR, 1921, Nov. Zool., XXVIII, pp. 198, 199, Argentina (Corrientes, bounded north and west by the Rio Paraná); idem, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 102, southeastern Brazil from São Pedro de Itararé (in southwestern section of State of São Paulo) through the eastern parts of Paraná (Curytiba; Roça Nova, Serra do Mar), Santa Catharina (Laguna) and Rio Grande do Sul to Uruguay; northeastern Argentina (Corrientes, Entrerios).—SZOLCZMAN, 1926, Ann. Zool. Mus. Pol. Hist. Nat., V, p. 147, Paraná (Invernadinha, Cara Pintada, Rio Claro, Serra da Esperança, Fazenda Firmiano, Fazenda Durski, Vermelho).—PINTO, 1932, Revista do Museu Paulista, XVII (2), p. 752, Uruguay; Sul de São Paulo; Rio Grande do Sul.

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Rio Grande do Sul: Conceição do Arroio (alt. 28 meters), 1 ♂ ad., 2 ♀ ad., August 21-24, 1928, Lagôa Vermelha (alt. 3000 ft.), 1 ♂ ad., 1 ♀ ad., December 29, 30, 1928, Passo da Entrada (alt. 2000 ft.) 5 ♂ ad., Feb. 15-26, March 2,

1929, Palmares (alt. sea level), 1 ♂ ad., October 10, 1928, Quinta (alt. sea level), 2 ♂ ad., 1 ♀ ad., July 3-9, 1931, Sananduva (alt. 2000 ft.), 2 ♂ ad., 1 (?), 2 ♀ ad., January 3-6, 1929, Santa Cruz (alt. 300 ft.), 4 ♂ ad., 6 ♀ ad., August 21, September 16-23, 1928, São Francisco de Paula (alt. 3000 ft.), 2 ♂ ad., 2 ♀ ad., November 13, 14, 30, 1928, Sapyranga (alt. 100 ft.), 1 ♂ ad., 1 (?), 2 ♀ ad., August 3, 6, 7, 1928, Sinimbu (alt. 500 ft.), 3 ♂ ad., 2 ♀ ad., September 25-29, 1928, Uruguay Cattle Ranch (alt. sea level), 1 ♂ ad., 2 ♀ ad., July 16, 20, 21, 1931, Vaccaria (alt. 3000 ft.), 1 ♂ ad., December 18, 1928.—Paraná: Corvo (Serra da Graciosa, alt. 2700 ft.), 3 ♀ ad., 2 (?), Feb. 7, 20, 21, 1930, Porto Almeida (alt. 2000 ft.), 1 ♂ ad., 7 ♀ ad., March 24-26, 30, 1930, Fazenda Monte Alegre (Tibagy, alt. 1804 ft.), 2 ♂ ad., 1 (?), March 3, 5, 11, 1930.

RANGE.—Southeastern Brazil in southwestern section of State of São Paulo (São Pedro de Itararé) through the eastern parts of Paraná (Curytiba; Roça Nova, Serra do Mar; Corvo, Serra da Graciosa, Porto Almeida, lower Rio Iguassú, Tibagy, Invernadinha, Cara Pintada, Rio Claro, Serra da Esperança, Fazenda Firmiano, Fazenda Durski, Vermelho); Santa Catharina (Laguna, Palmital, São Francisco, Palmitos, Ouro Verde, Serra de Lucindo); Rio Grande do Sul (Conceição do Arroio, Lagôa Vermelha, Mundo Novo, Passo da Entrada, Palmares, Quinta, Sananduva, Santa Cruz, São Francisco de Paula, Sapyranga, Sinimbu, Uruguay Cattle Ranch, Vaccaria); Uruguay; northeastern Argentina (Corrientes and Entrerios), this latter area being bounded to the north and the west by the Rio Paraná.

Measurements

	SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL				
Paraná: Corvo	♀ ad.	70.5	70.0	15.0
“ “	♀ ad.	72.0	64.0	13.5
“ “	♀ ad.	71.0	68.0	14.5
“ Porto Almeida	♂ ad.	69.0	65.0	13.0
“ “ “ (average measurement)	6 ♀ ad.	68.7	63.8	14.2
Fazenda Monte Alegre	♂	69.0	66.0	14.0
“ “ “	♂	74.0	64.0	14.0
Rio Grande do Sul: Conceição do Arroio	♂	71.0	63.5	13.5
“ “ “ “ “ “ “	♀	62.0	59.0	12.0
“ “ “ “ “ “ “	♀	70.5	63.0	12.5
“ “ “ “ Erebangó	♂	70.0	67.0	15.0
“ “ “ “ “	♀	67.0	62.0	13.0
“ “ “ “ Lagôa Vermelha	♂	71.0	66.0	13.0
“ “ “ “ “ “	♀	70.5	65.0	13.5
“ “ “ “ Passo da Entrada	5 ♂ ¹	70.9	65.3	13.0
“ “ “ “ “ “ “	1 ♀	69.0	61.0	12.0

¹ Average measurement.

				SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL							
Rio Grande do Sul:	Palmares			♂	70.5	66.0	13.5
"	"	"	Quinta	♂	69.5	66.5	14.0
"	"	"	"	♂	71.0	67.0	13.0
"	"	"	"	♀	70.0	68.0	12.0
"	"	"	Sananduva	♂	71.0	68.0	13.0
"	"	"	"	♂	71.5	65.0	14.0
"	"	"	"	♀	70.0	63.0	14.0
"	"	"	"	♀	75.0	64.0	13.5
"	"	"	Santa Cruz (average measurements)	4 ♂	71.3	66.2	13.0
"	"	"	Santa Cruz (average measurements)	6 ♀	72.1	66.5	13.0
"	"	"	São Francisco de Paula	♂	71.5	63.5	13.5
"	"	"	" " " "	♂	71.0	68.0	14.0
"	"	"	" " " "	♂	73.0	70.0	14.0
"	"	"	" " " "	♀	72.0	66.0	14.5
"	"	"	" " " "	♀	70.0	66.0	15.0
"	"	"	Sapyranga	♂	72.0	66.0	13.0
"	"	"	"	♀	69.0	62.0	13.0
"	"	"	"	♀	68.0	67.0	13.0
"	"	"	Sinimbu	♂	67.0	65.0	14.0
"	"	"	"	♂	71.5	68.0	12.5
"	"	"	"	♂	68.0	66.0	14.0
"	"	"	"	♀	73.5	68.0	12.5
"	"	"	"	♀	70.0	65.0	13.0
"	"	"	Uruguay Cattle Ranch	♂	68.0	58.0	12.0
"	"	"	" " "	♀	74.0	70.5	18.0
"	"	"	Vaccaria	♂	73.5	72.5	14.0

The male differs from *Thamnophilus c. caerulescens* by having the flanks and under tail-coverts ochraceous buff. The female has the crown generally more rufous than *T. caerulescens*, although intermediates are often found, and one female from Paraná, Porto Almeida (alt. 2000 ft.), even agrees in the color of the crown with two females of *T. caerulescens albonotatus* from Monte Serrat (Serra do Itatiaya, alt. 3000 ft.). A single male from Porto Almeida has the lower abdomen and lower tail-coverts distinctly ochraceous buff as in the males from Corvo (Paraná) and Rio Grande do Sul. Specimens from higher altitudes average slightly darker below than those from sea level.

The amount of white on the tip of the rectrices is variable. The marginal spot on the outer web of the outer rectrices is sometimes large and

sometimes small, but never absent. The under wing-coverts average from pale buff to deep ochraceous.

The lower parts of the adult male and female are far from uniform, the buffy and gray color varying in amount. This is not a seasonal character, as specimens taken in August agree in general coloration with January birds. The back in females is olivaceous, with the crown generally rufous.

A young male, No. 318425, has the black of the crown carried over the hind neck, with the upper and lower back olivaceous as in the female. It has a black-and-white spot hidden in the mantle, and buffy spots to the tips of the greater coverts. The upper primary-coverts are blackish with white terminal spots. One juvenal specimen has small, buffy spots on the wing-coverts showing no black-and-white markings at all and it has these same buffy spots on the upper back with only the faint beginning of the black-and-white spot on the mantle.

These are birds of the pine forest where no campo is seen; they are sometimes found on deciduous trees and often in the campo country where there are patches of forest. At the Uruguay Cattle Ranch, there were six different types of country and vegetation¹ and, in all of these, *T. c. gilvigaster* is found.

It seems necessary to note here, as an important fact in distribution, that birds from the eastern (coastal district) of Paraná (Serra da Graciosa) and the upper stretches of the Rio Iguassú (Porto Almeida) pertain to *Thamnophilus caerulescens gilvigaster* (as do also those recorded by Sztolcman from various points in central Paraná), whereas the inhabitants of the western section (Foz do Iguassú, Salto Guayra, Porto Mendes, Porto Britania, all located on the banks of the Rio Paraná) prove to be the gray-bellied *Thamnophilus caerulescens caerulescens*.

***Thamnophilus caerulescens pernambucensis*, new subspecies**

Type from Brejó, Pernambuco (alt. 2500 ft.), Brazil; No. 242942, American Museum of Natural History; adult female collected by E. Kaempfer, February 11, 1927.

DIAGNOSIS AND DESCRIPTION.—The female differs from any race of *Thamnophilus caerulescens* the writer has seen. No females of *Thamnophilus caerulescens cearensis* are known and consequently could not be compared. Instead of being deep fulvous below as in *Thamnophilus caerulescens ochraceiventer* or pale fulvous as in typical *Thamnophilus c. caerulescens*, the lower parts are Isabella color passing into pale buff on middle of belly and crissum with the throat pale smoky gray. The lack of any fulvous shade on the lower parts distinguishes the females at once.

¹ Naumburg, 1935, Bull. Amer. Mus. Nat. Hist., LXVIII, Art. 6, p. 467.

Above they are grayish instead of olivaceous brown with a very distinct russet cap. Wing, 71.5; tail, 61; exposed culmen, 17.

RANGE.—Pernambuco, Brazil: Agua Preta (90 meters), Brej6, Garanhuns.

REMARKS.—The male differs from *Thamnophilus caerulescens cearensis* in having the breast darker cinereous and the abdomen grayish instead of whitish, also the terminal third of the under tail-coverts are grayish instead of pure white, and the bill is not as heavy as and shorter than that of *Thamnophilus caerulescens caerulescens*. The present race is darker above; the white interscapular blotch being mixed with black instead of with gray, while the cap, which extends to the base of the bill, and the nape, are blacker than in *Thamnophilus caerulescens cearensis*. In the type of *Thamnophilus caerulescens cearensis* the forehead (as far back of the anterior angle of the eye) is slate-gray and this, in addition to the stronger and larger bill, constitutes the most striking divergency of the type specimen in comparison to *Thamnophilus caerulescens caerulescens*.

Thamnophilus caerulescens pernambucensis, in the male sex, resembles *Thamnophilus caerulescens cearensis* in having the tertials edged with grayish white, an elongated white marginal spot on the outer web of the outer tail-feather, and broad white markings on the wing-coverts.

Brej6 is situated in the zone that is found between the forest "Matto" which extends inland from the coast and the open elevated Sert6es of the interior. The collector says it is a region of fine old trees and hills covered with coffee plantations. The three females and one male (adults) of this new subspecies were collected by Emil Kaempfer at this locality.

Measurements

	SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL				
Pernambuco: Brej6	♂ ad.	71.0	56	15.5
" " (type)	♀ ad.	71.5	61	17.0
" "	♀ ad.	67.5	57	17.0
" "	♀ ad.	73.5	65	17.0

Thamnophilus caerulescens ochraceiventer E. Snethlage

Thamnophilus caerulescens ochraceiventer E. SNETHLAGE, 1928, Journ. F. Ornith., LXXVI, p. 585, Goy6z (Ipamery); idem, 1928, Bol. do Mus. Nac. Rio de Janeiro. No. 2, IV, p. 5, "Forested Highlands of Goy6z."

No specimens collected.

Kaempfer collection.

RANGE.—Goyáz (Ipamery, Veadeiros, Rio São Miguel).

Specimens Examined and Measured

	SEX	WING	TAIL	CULMEN	MUSEUM
BRAZIL					
Goyáz: Rio São Miguel	1 ♀ ad.	69	65	14.5	Field
“ Veadeiros	1 ♀ ad.	75	68	16.0	“

Thamnophilus torquatus Swainson

Thamnophilus torquatus SWAINSON, 1825, Zool. Journ., II, No. 5, p. 89 (“Urupe,” Bahia, e. Brazil; = ♂).—BURMEISTER, 1856, ‘Syst. Übers. Th. Bras.,’ III, p. 100, Minas Geraës (Lagôa Santa).—FORBES, 1881, Ibis, XXIII, p. 347, Pernambuco (Recife, Quipapá).—SCLATER, 1890, ‘Cat. B. Brit. Mus.,’ p. 213, Pernambuco; Bahia.—HELLMAYR, 1908, Nov. Zool., XV, p. 68, Goyáz (Rio Thesouras).—MÉNÉGAUX AND HELLMAYR, 1906, Bull. Soc. Philom. Paris, (9th Ser.) VIII, p. 28, Bahia.—REISER, 1910, Denkschr. Math. Naturw. Kl. Ak. Wiss. Wien, LXXXVI, p. 66, Pernambuco (near Recife); Bahia (Alagohinas); Piauh (Santa Philomena).—HELLMAYR, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, part 3, p. 106, eastern and central Brazil [from Piauh and Pernambuco, south to Bahia, western Minas Geraës and northern São Paulo (Tieté region), west through Goyáz to Matto Grosso and the adjoining parts of eastern Bolivia (plains of Guarayos)]; idem, 1929, *op. cit.*, XII, No. 18, p. 369, widely distributed through the campo region of Brazil [Pernambuco, Piauh, and Goyáz, south to northern São Paulo and western Minas Geraës (Lagôa Santa)].—PINTO, 1932, Rev. Mus. Paul., XVII (2), p. 754, Matto Grosso (Tres Lagôas); idem, 1935, *op. cit.*, XIX, p. 173, Bahia (Madre de Deus).

SPECIMENS COLLECTED

(Kaempfer Collection)

BRAZIL.—Bahia: Ituassú (alt. 3000 ft.), 1 ♂ ad., July 6, 1928, Jaguaquara (alt. 2500 ft.), 1 ♂ ad., 2 (?), 3 ♀ ad., Sept. 16, 1927, May 4, 5, July 6, 1928.—Pernambuco: Brejô (alt. 2500 ft.), 2 ♂ ad., 1 (?), Feb. 13, 1927.

RANGE.—Eastern and central Brazil: Piauh (Santa Philomena); Pernambuco (near Recife, Brejô, Quipapá); Bahia (Urupé, Alagohinas, Ituassú, Jaguaquara, Morro do Chapeó, Madre de Deus); Goyáz (Philadelphia, Rio Thesouras, Fazenda do José Dias); western Minas Geraës (Lagôa Santa); northern São Paulo; Matto Grosso (Rio do Color, Cuyabá, Chapada, Tres Lagôas). Eastern Bolivia (Guarayos).

Measurements

		SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL					
Bahia:	Jaguaquara	["♂"] ad.	62.0	58.5	16.0
"	Ituassú	♂ ad.	62.0	58.0	15.0
"	Morro do Chapeó	["♂"] ad.	61.5	64.5	14.5
"	" " "	♂ ad.	63.0	60.0	15.0
"	" " "	["♂"] ad.	61.5	61.0	15.5
"	" " "	♀ ad.	62.0	60.5	16.0
"	" " "	["♀"] ad.	60.5	60.0	14.0
Pernambuco:	Brejó	♂ ad.	57.0	60.0	16.0
"	"	♂	63.0	53.5	14.5
"	"	["♂"]	61.5	56.5	15.5

Other Specimens Examined

BRAZIL.—Bahia: 2 ♂ ad., 1 ♀ ad. (R. H. Beck Coll.), A. M. N. H.—Matto Grosso: Chapadá, 1 ♀ ad. (H. H. Smith Coll.), A. M. N. H., Rio do Color, 1 ♂ ad., 1 ♀ ad. (Roosevelt Coll.), A. M. N. H.

This bird is widely distributed throughout the campo region of Brazil.

Thamnophilus ruficapillus ruficapillus Vieillot

Thamnophilus ruficapillus VIEILLOT, 1816, *Nouv. Dict. d'Hist. Nat.*, *Nouv. éd.*, III, p. 318 (ex Azara, No. 215: no locality specified; Hellmayr suggests *Corrientes as terra typica*.—PELZELN, 1868, 'Orn. Bras.', II, p. 79, São Paulo (Ypanemá), Paraná (Curytiba); idem, 1874, 'Nunq. oteos,' II, p. 291, Rio de Janeiro (Novo Friburgo).—BERLEPSCH AND IHERING, 1885, *Zeitschr. ges. Ornith.*, II, p. 149, Rio Grande do Sul (Taquara).—SCLATER, 1890, 'Cat. B. Brit. Mus.,' XV, p. 213, Argentina (Buenos Aires, La Plata).—IHERING, 1899, *Rev. Mus. Paul.*, III, p. 238, São Paulo (Piracicaba); idem, 1900, *op. cit.*, IV, p. 158, Rio de Janeiro (Novo Friburgo); idem, 1899, *Anuario Est. Rio Grande do Sulpara*, p. 130, Rio Grande do Sul (Mundo Novo, S. Lourenço); idem, 1907 'Cat. Faun. Braz.,' I, p. 201, São Paulo, (Ypiranga, Itararé, Piracicaba), Minas Geraês (Vargem Alegre near Marianna), Rio Grande do Sul (Novo Hamburgo).—BERTONI, 1914, 'Faun. Parag.,' p. 51, Paraguay (Alto Paraná).

Thamnophilus ruficapillus ruficapillus HELLMAYR, 1924, *Field Mus. Nat. Hist.*, *Publ.*, *Zool. Ser.*, XIII, part 3, p. 109, southeastern Brazil, from Prov. Rio de Janeiro to Rio Grande do Sul; Uruguay; northeastern Argentina (states of Buenos Aires, Entrerios, Corrientes, and adjoining parts of eastern Paraguay (Alto Paraná).—SZTOLCMAN, 1926, *Ann. Zool. Mus. Pol. Hist. Nat.*, V, p. 147, Paraná (Marechal, Mallet Fazenda Ferreira, Fazenda Durski).

SPECIMENS EXAMINED

(Kaempfer Collection)

BRAZIL.—Minas Geraës: Caparaó (Rio do; alt. 3000 ft.), 1 ♂ ad., July 23, 1929; As Maciciras¹ (alt. 6000 ft.), 2 ♂ ad., August 25, 1929, Campos do São Domingos (alt. 6000–6500 ft.), 7 ♂ ad., 1 ♀ ad., August 16, 17, 22–24, 1929, Fazenda Boa Esperança (alt. 3000 ft.), 1 ♂ ad., August 8, 1929, Fazendinha (Serra do Caparaó; foothills, alt. 3500–5500 ft.), 1 ♂ ad., Sept. 10, 1929, Gruta da Pedra Menina (alt. 6000 ft.), August 21, 1929, Varzea das Congonhas (alt. 5800 ft.), 3 ♂ ad., August 11, 24, 26, 1929.—Rio Grande do Sul: Candiota (alt. 600 ft.), 1 [“♂”] ad., September 9, 1931, Conceição do Arroio (sea level, alt. 28 meters), 1 ♀ ad., August 20, 1928, Erebangó (alt. 2500 ft.), 1 [“♂”] ad., March 30, 1929, Rio Jaguarão (mouth of, sea level), 1 ♂ ad., Nov. 16, 1931, Nonohay (alt. 2000 ft.), 1 ♀, February 27, 1929, Quinta (sea level), 4 ♂ ad., July 5, 8, 11, 1931.

RANGE.—Southeastern Brazil from Minas Geraës (Vargem Alegre, near Marianna, Rio do Caparaó, As Maciciras, Campos do São Domingos, Fazenda Boa Esperança, Fazendinha [Serra do Caparaó], Gruta da Pedra Menina, Varzea das Congonhas), and Rio de Janeiro (Nova Friburgo, Porto Real, Monte Serrat, Alto Itatiaya, Petropolis, Cantagallo) through São Paulo (Ypanemá, Ypiranga, Itararé, Piracicaba) and Paraná (Marechal, Mallet, Fazenda Ferreira, Fazenda Durski) to Rio Grande do Sul (Taquara, Mundo Nova, S. Lourenço, Novo Hamburgo, Candiota, Erebangó, Rio Jaguarão, Quinta, Nonohay, Conceição do Arroio); Paraguay (Corrientes, Alto Paraná); Uruguay (Montevideo, Canelones, Colonia Paysandú); and Argentina (Concepción, Entrerios, Buenos Aires, La Plata, Barracas al Sud, Quilmes).

Measurements

		SEX	WING	TAIL	EXPOSED CULMEN
BRAZIL					
Minas Geraës:	As Maciciras	♂ ad.	69.0	73.0	15.0
“	“	1 ♂ ad.	70.0	76.0	15.0
“	“	7 ♂ ad.	72.4	74.3	14.1
“	“	1 ♀ ad.	71.5	71.5	14.5
“	“	1 ♂ ad.	71.0	73.0	15.0
“	“	♂ ad.	71.5	77.0	14.0
“	“	♂ ad.	74.0	76.0	14.0
“	“	♂ ad.	71.0	75.0	15.0
“	“	♂ ad.	72.0	76.0	13.0
“	“	♂ ad.	73.0	71.0	15.0
“	“	♂ ad.	67.0	68.5	16.0
“	“	♂ ad.	67.0	²	14.0
“	“	♀ ad.	64.0	67.0	14.0

¹ See Casa Maciciras, Naumburg, 1935, Bull. Amer. Mus. Nat. Hist., LXVIII, Art. 6, p. 460.² Tail feathers missing.

		SEX	WING	TAIL	EXPOSED CULMEN	
BRAZIL						
Rio Grande do Sul:	Southern Quinta	4 ♂ ad.	69.5	71.0	15.0	
"	" " "	Mouth of Rio Jaguarão	♂ ad.	70.0	74.0	15.5
"	" " "	Candiota	1 ♂ ad.	68.5	69.0	15.0
"	" " "	Erebango	["♂"] ad.	65.0	68.5	14.0
"	" " "	Nonohay		61.5	68.5	15.0
"	" " "	Conceição do Arroio		65.5	67.0	15.0

Other Specimens Examined

ARGENTINA.—Quilmes, 1 ♂, Barracas al Sud, 2 ♂, La Plata 1 ♀, A. M. N. H.

BRAZIL.—Rio de Janeiro: Monte Serrat, 2 ♂ (♀), Alto Itatiaya, 1 ♂, 2 ♀; Ypanemá, 1 ♂, Petropolis, 1 ♂, 1 ♀.

URUGUAY: 1 ♂.

The series from Serra do Caparaó is very interesting, furnishing as it does the proof that *ruficapillus* ranges north to eastern Minas Geraës. It appears to me that birds from western Minas Geraës (Lagôa Santa) are, as recorded by Dr. Hellmayr,¹ *T. torquatus* (see Field Museum No. 50581, ♀ ad., Rio das Velhas, near Lagôa Santa). My specimens from extreme eastern Minas Geraës (Serra do Caparaó) prove to be *Thamnophilus ruficapillus ruficapillus*. The question is: What are those from central Minas Geraës (Marianna, near Ouro Preto)? The fact remains that Ihering (1907, Cat. Faun Brazil, I, p. 201) records *Thamnophilus ruficapillus ruficapillus*, whereas Reinhardt (1870, Vidensk. Medd. Naturhist Foren., p. 372) lists *Thamnophilus torquatus* from Marianna. One of them most likely was mistaken, for the occurrence side by side of the two species is improbable though not altogether impossible. I do not know anything about faunistic conditions in the Marianna region but, from published records, its affinities appear eastern rather than western.

¹ 1924, Field. Mus. Nat. Hist. Publ., Zool. Ser., XIII, pt. 3, p. 109.

