

BIRDS OF
RIO GRANDE DO SUL, BRAZIL
PART 2. FORMICARIIDAE
THROUGH CORVIDAE

WILLIAM BELTON

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THROUGH CORVIDAE

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This is the second half of a single document. *Birds of Rio Grande do Sul, Brazil*, Part 1, was published as article 4 of volume 178 of the Bulletin of the American Museum of Natural History. Part 1 included, in addition to species accounts from Rheidae through Furnariidae, a description of Rio Grande do Sul, an analysis of its avifauna, a history of ornithological investigation there, comments on conservation priorities and ornithological opportunities, and an introduction to the species accounts.

Addendum: In addition to the four new species mentioned in the Note in Part 1, page 393, six more new species have recently been added to the state list. Vooren (personal commun.) has found dead specimens of *Phoebetria palpebrata*, *Pelecanoides magellani*, and *Catharacta chilensis* on Rio Grande do Sul beaches; Harrington (1984) and others in late April/early May, 1984, found *Calidris minutilla* and *Calidris pusilla* at Lagoa do Peixe; and Lara-Resende and Voss (personal commun.) saw *Numenius phaeopus* at Lagoa do Peixe in late January 1985. This brings my list of accepted species for Rio Grande do Sul to a total of 596. Harrington also saw *Limnodromus griseus* at Lagoa do Peixe, confirming this as the species of *Limnodromus* found in Rio Grande do Sul (see Part 1, p. 511). Vooren has explained to me that he does not have a specimen of *Sula capensis*, but has color photographs of it taken at sea.

Errata: Part 1, p. 506: *Maçarico-solitario* should read *Maçarico-solitário*; pp. 528 and 529: *Scardafella squamata* should read *Scardafella squammata*; p. 541: *Papa-lagarto-cinzento* should read *Papa-lagarta-cinzento*, and *Papa-lagarto-verdadeiro* should read *Papa-lagarta-verdadeiro*; pp. 619 and 620: *Spartanoica maluiroides* should read *Spartanoica maluiroides*.

SPECIES ACCOUNTS: FORMICARIIDAE THROUGH CORVIDAE

FAMILY FORMICARIIDAE

[*Hypoedaleus guttatus*]

[Spot-backed Antshrike]

[*Chocão-carijó*]

(Spotted Great Choca)

British Museum's Rogers collection includes specimen from "Lagoa dos Patos." Because this imprecise location highly unlikely and no other evidence exists of species' presence in Rio Grande do Sul, I now believe it should be omitted from the state list.

Batara cinerea

Map 131

Giant Antshrike

Matracão

(Great Noisemaker)

DISTRIBUTION AND STATUS: Uncommon resident of forests, open woodland, and scrub at scattered localities in N half, primarily near escarpment. *Batara c. cinerea*.

FIELD MARKS: Fluffy dark crest, very long tail.

SIZE: Two females: 357–375 mm, 148–155 gr.

SOFT PART COLORS: Female: tarsus light gray; bill light gray with culmen and part of sides of maxilla black; iris brown.

VOICE: (R) Series of loud, limpid whistles, all same pitch and volume, usually beginning with quick trill and ending with brief "ch ch."

BREEDING: Female collected April 2, 1973 had inactive ovary.

BEHAVIOR: Above female was interacting with another bird, possibly a male, displaying with excited jumping from branch to branch, raising crest, and fanning tail.

SPECIMENS: MCN: 1368–1369*. MN: 16940, 16941, 16943, 17115, 17117, 17119, 17120. AMNH: 314455, 314456.

Mackenziaena severa

Map 132

Tufted Antshrike

Borralhara

DISTRIBUTION AND STATUS: Common in forests of extreme N between Turvo and

Nonoai Forest Reserves. Presumed resident. Ihering obtained specimen, no date, from near Taquara (Berlepsch and Ihering, 1885). Due to now-resolved problem of voice identification, I lack precise data on current southern boundary of range, but I doubt it found any longer near escarpment and probably not S of 28°S.

FIELD MARKS: Sharply-defined crest distinguishes it from other Rio Grande do Sul antbirds.

SIZE: One female: 235 mm, 52 gr.

SOFT PART COLORS: Tarsus lead gray; maxilla light gray; mandible black; iris light chestnut.

VOICE: (R) Series of from six to 10 long, loud, far-carrying, sharp, insistent whistles, first slightly lower in pitch than remainder, which become gradually shorter at end of series. Bother call: long, rasping "psheeeeeeuw."

BEHAVIOR: Skulks in thick, low undergrowth.

SPECIMEN: MCN: 1827.

Mackenziaena leachii

Map 132

Large-tailed Antshrike

Brujarara-assobiador

(Whistling Brujarara)

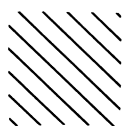
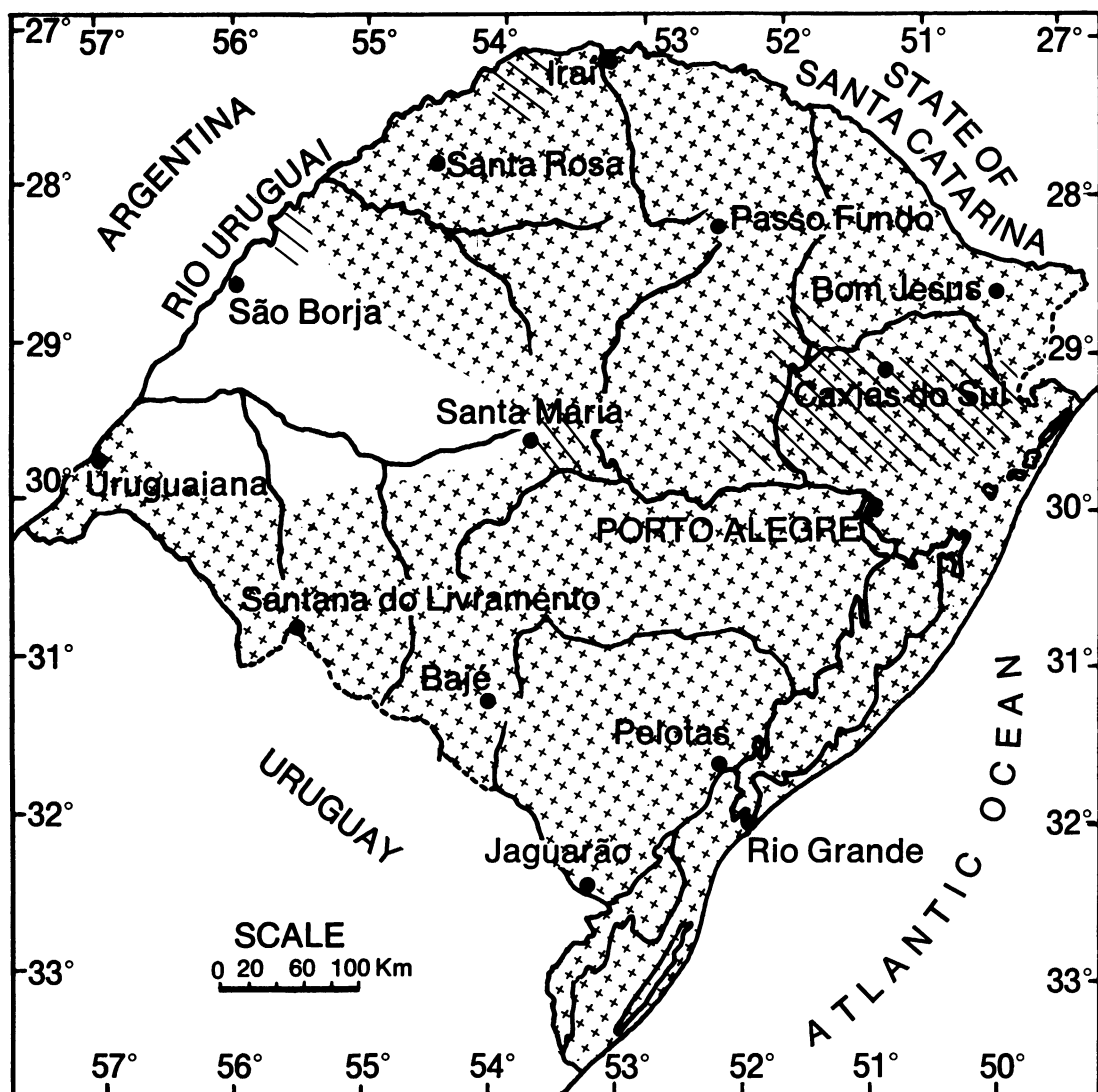
DISTRIBUTION AND STATUS: Common resident through most of N half, except in W where not S of 28°30'S. Also in central southeastern hills S to 31°S. Due to now-resolved problem of voice identification, my records for this species in N half may include some that actually relate to *M. severa*. Found in forests, scrub, and capoeira, usually low in dense undergrowth.

FIELD MARKS: Body speckled, long tail solid dark.

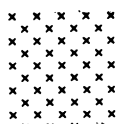
SIZE: One male: 273 mm, 62 gr. One female: 278 mm, 59 gr.

SOFT PART COLORS: Tarsus and bill black (female has gray at base of mandible); iris brown.

VOICE: Series of loud whistles similar to *M. severa* but rising in pitch more distinctly at beginning and dropping on last notes.



B. cinerea



T. ruficapillus

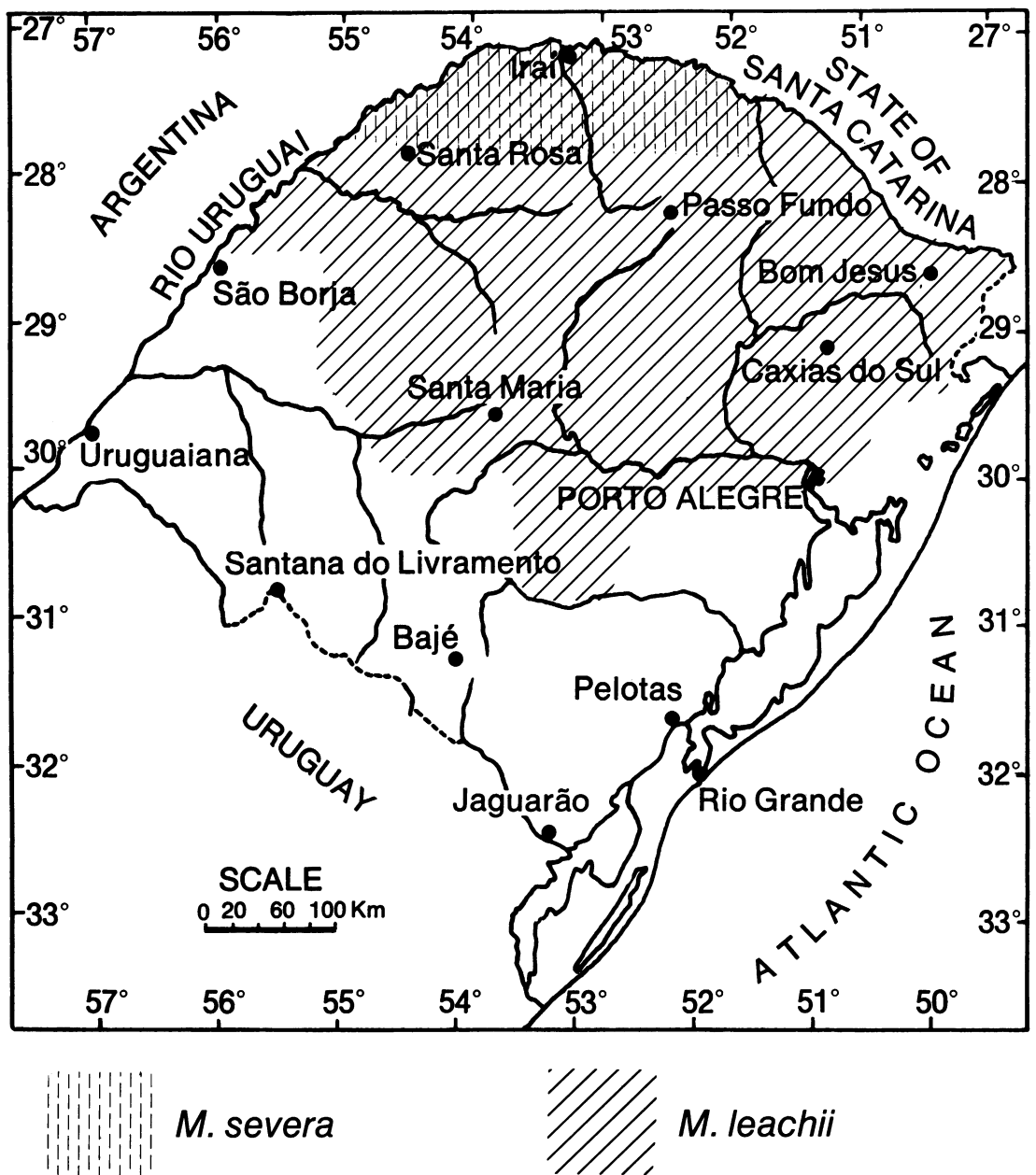
MAP 131. Geographical distribution of *Batara cinerea* and *Thamnophilus ruficapillus* in Rio Grande do Sul.

Individual notes not so urgent and pushed as those of *severa*. Bother call: similar to that of *severa*.

BREEDING: Male collected October 18, 1971 had moderately enlarged testes. Female of January 26, 1972 had inactive ovary.

BEHAVIOR: Normally skulks in underbrush. When moving through low limbs of trees, hops squirrel-like, reminiscent of *Piaya cayana*.

SPECIMENS: MCN: 1370–1371*. MN: 17558, 17559. AMNH: 314449–314454.



MAP 132. Geographical distribution of the two species of *Mackenziaena* in Rio Grande do Sul. See text also.

[*Taraba major*]
[Great Antshrike]
Although Short (1975) mentions south-western Rio Grande do Sul as within range of this species, I have found no record of it here.

Thamnophilus caerulescens
Variable Antshrike
Choca-da-mata
(Forest Choca)
DISTRIBUTION AND STATUS: Common to abundant resident throughout state, only not

registered in extreme S tip. One of most frequently encountered forest birds, occupying woodlands of all types. *Thamnophilus c. gilvigeraster*.

FIELD MARKS: Rufous belly and crissum.

SIZE: Five males: 147–163 mm, 19–22 gr. Three females: 148–165 mm, 19–23 gr.

SOFT PART COLORS: Tarsus light gray; maxilla black; mandible light gray; iris brown.

VOICE: (R) Series of approximately seven notes on one level at middle pitch; “how how how how how how” or “cow cow cow cow cow cow.” Sometimes only individual notes, rather querulous in tone: “how?,” “cow?,” or “aa?”

BREEDING: Five males and three females collected between September 12 and November 29 all showed gonadal enlargement. On November 20, 1978 near Garruchos nest with two eggs was suspended from two parallel bare twigs growing from different bushes about 2.2 m aboveground. Very loosely woven without any lining, it was very open and deep, entirely exposed without concealing vegetation in immediate vicinity. Nest unattended that day and night, but following afternoon bird flushed from nest which then had three eggs, each very light buff with thick band of dark reddish brown spots encircling it slightly toward heavy end from center. Female fed juvenal at Morro Pelado April 5, 1977.

BEHAVIOR: Among least shy of Rio Grande do Sul forest birds.

SPECIMENS: MCN: 77, 78, 1372–1377*. MN: 16322, 16328, 16331, 16934. AMNH: 43356, 43357, 314463–314507, 314515bis, 321253–321258, 321837, 810551–810552*, 813056–813057*.

Thamnophilus ruficapillus

Map 131

Rufous-capped Antshrike

Choca-boné-vermelho

(Red-bonnet Choca)

DISTRIBUTION AND STATUS: Common resident in most of state, though almost no records for Rio Ibicuí valley area. Found in open brush, capoeira, fence rows, scrub, but not in forests. *Thamnophilus r. ruficapillus*.

FIELD MARKS: Rufous cap; barred breast.

SIZE: One male: 165 mm, 23 gr. Two females: 148–178 mm, 21.5–22 gr.

SOFT PART COLORS: Tarsus gray to blackish gray; maxilla black; mandible light gray with dark tip; iris orange to red.

VOICE: (R) Distinctive, far carrying, but mild, very nasal sounding, accelerating series of quick “caah” notes on one pitch. Note: drawn-out, harsh, rasping sound like canvas being torn.

BREEDING: Female of April 30, 1974 and male of May 11, 1972 each had inactive gonads. Voss saw juvenal on December 12, 1965, and I saw adult carrying food on January 21, 1975.

BEHAVIOR: Voss and Sander (1980) reported this species feeding on fruits of *criniduva* [*Trema micrantha* (L.) Blume].

SPECIMENS: MCN: 560, 1378–1379*. MN: 17069, 17074. AMNH: 43384, 314513–314515, 321259–321262, 321838, 321839, 813058*.

Dysithamnus mentalis

Map 133

Plain Antvireo

Choquinha-lisa

(Plain Little Choca)

DISTRIBUTION AND STATUS: Common to abundant resident of low levels of forest and woodland in extreme NW, becoming uncommon farther E and near escarpment, but again common in NE coastal forest. Not registered S of 30°S. *Dysithamnus m. mentalis*.

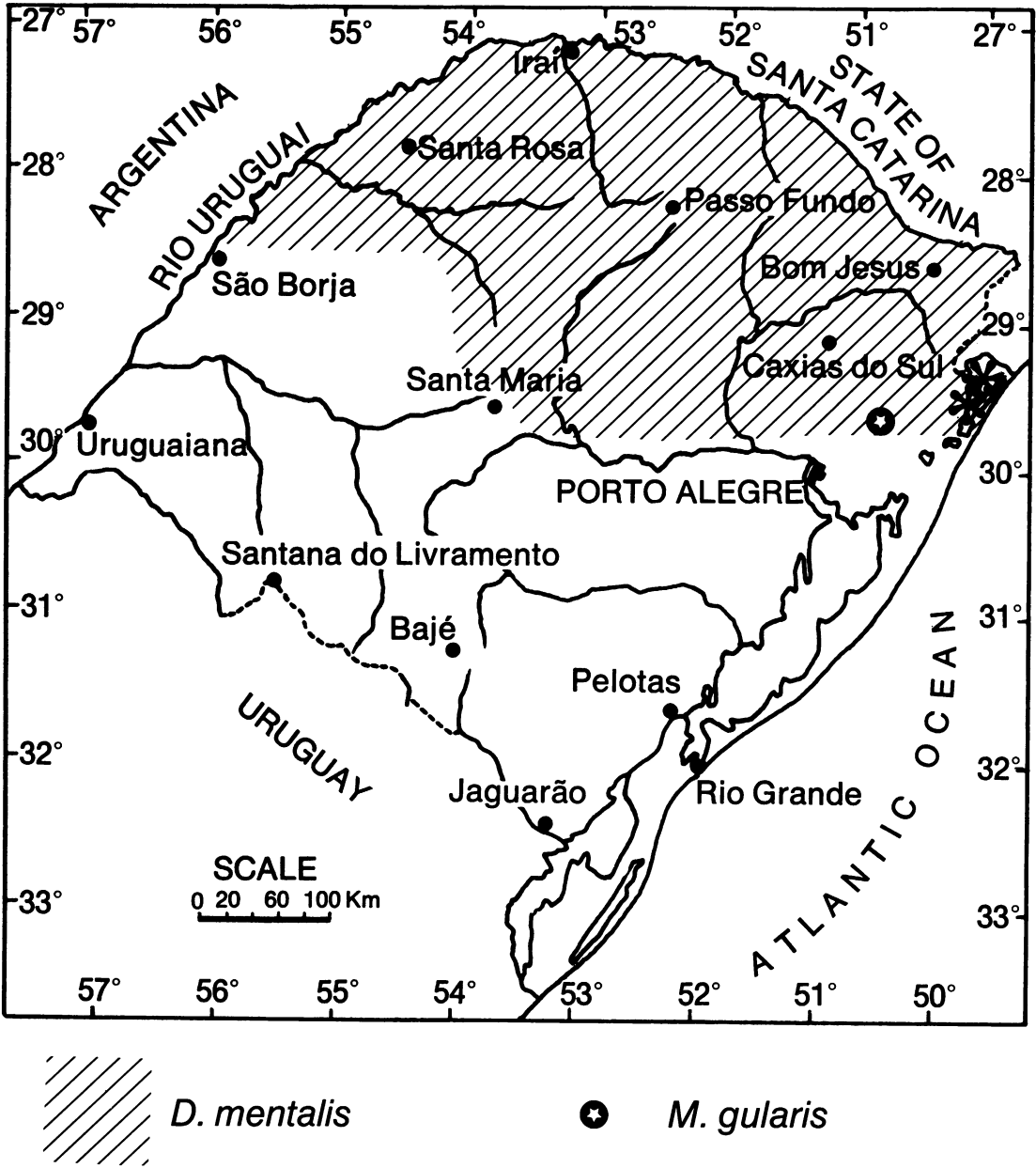
FIELD MARKS: Short, narrow tail.

SIZE: Two males: 114–123 mm, both 12 gr. One female: 107 mm, 11 gr.

SOFT PART COLORS: Tarsus light gray; maxilla black; mandible gray; iris brown.

VOICE: (R) Series of short, rounded staccato whistles, gradually accelerating to trill with rhythm of bouncing pingpong ball coming to stop. On August 2, 1973, woods full of this song before sunup at Santo Cristo, but stopped entirely after sunrise. During day short up-scale series of slowly bubbling notes heard. Also recorded: short, rapid, throaty trill on even, moderate-level pitch.

BREEDING: Male of September 13, 1971 had moderately enlarged testes while female of



MAP 133. Geographical distribution of *Dysithamnus mentalis* and the two species of *Myrmotherula* found in Rio Grande do Sul.

same date had inactive ovary. Male of December 15, 1972 had greatly enlarged testes.

SPECIMENS: MCN: 329, 1380-1382*. MN: 17035. AMNH: 314516-314539, 813059*.

Myrmotherula gularis

Map 133

Star-throated Antwren

Choquinha-garganta-pintada

(Little Speckle-throated Choca)

Two specimens in alcohol were reported without date from Taquara (Berlepsch and Ihering, 1885) and constitute only record for state.

Myrmotherula unicolor

Map 133

Unicolored Antwren

Choquinha-cinzenta

(Little Gray Choca)

DISTRIBUTION AND STATUS: Moderately common resident of coastal forests of NE, where it occupies mid-story but occasionally descends lower.

FIELD MARKS: Very small; male plain gray—black on throat not conspicuous; female tail somewhat rufescent. Immature male still mostly brown on June 25.

SIZE: Two males: 105–106 mm, both 7 gr. One female: 101 mm, 6.5 gr.

VOICE: (R) High, plaintive, short: “eeeeeeeee” trending slightly downscale. Also very short, weak: “whee.” I have heard but have no recording of a female voice very untypical of antbirds.

BREEDING: Four specimens collected from June 24–25, 1974 all had inactive gonads.

BEHAVIOR: Very active species, continually searching leaves in midstory. Moves almost constantly, making very short flights. When standing still it peers around inspecting leaves and branches.

SPECIMENS: MCN: 1383–1384*. MN: 32209–32210*. AMNH: 314548–314550, 813060*.

Drymophila ferruginea

Map 134

Ferruginous Antbird

Trovoada

(Thunderstorm)

DISTRIBUTION AND STATUS: Scarce; found only in extreme N in Turvo and Nonoai Forest Reserves, low in forest edge thickets. Registered in September, November, and May.

FIELD MARKS: Ochre-infused ferruginous throat and breast contrast with much black and white in upperparts.

SIZE: One male: 140 mm, 10 gr.

SOFT PART COLORS: Tarsus grayish green; maxilla black; mandible whitish with gray tip; iris dark.

VOICE: (R) Rapidly descending series of about eight, sharp, hard squeaks, final notes becoming especially flat, harsh, and emphatic. Pair sang this antiphonally. Brazilian name refers to voice quality.

BREEDING: Testes of male collected September 12, 1971 only slightly enlarged.

SPECIMEN: MCN: 1416.

Drymophila malura

Map 134

Dusky-tailed Antbird

Choquinha-carijó

(Little Mottled Choca)

DISTRIBUTION AND STATUS: Common resident of heavy undergrowth in forests, forest edges, clearings, across extreme N and along escarpment, but scarce between these two areas. Not recorded near coast.

FIELD MARKS: Heavily streaked head, throat, and breast.

SIZE: Two males: 141–152 mm, 12.5–13 gr. One female (sexed by plumage): 141 mm, 12.5 gr.

SOFT PART COLORS: Tarsus light gray; maxilla black; mandible light gray; iris dark reddish brown.

VOICE: (R) Moderately short series of dry squeaks, descending scale, accelerating in bouncing ball fashion, sometimes becoming harsher at end. Females on April 6, 1974 and August 25, 1981 sang antiphonally with brief “cheer chu ch” or variations of this beginning slightly before end of male song. Male also sings quick, dry, trill, and a note: “skkkew.”

BREEDING: Male collected November 21, 1971 had moderately enlarged testes. One of February 6, 1971 had small testes.

SPECIMENS: MCN: 1393–1395*. MN: 17238, 17274. AMNH: 813061*.

Pyriglena leucoptera

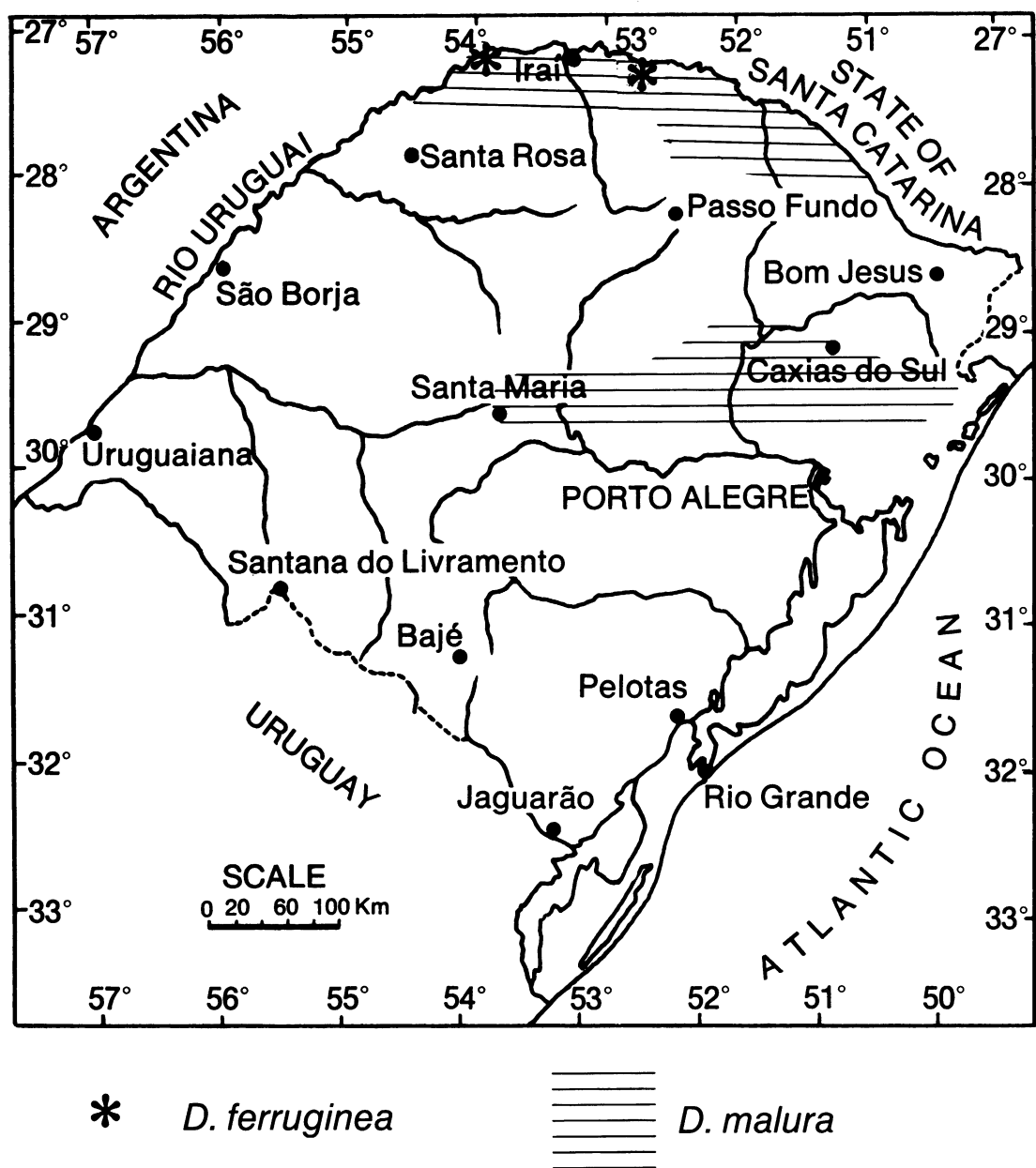
Map 135

White-shouldered Fire-eye

Papa-taóca

(Taóca (type of ant) Eater)

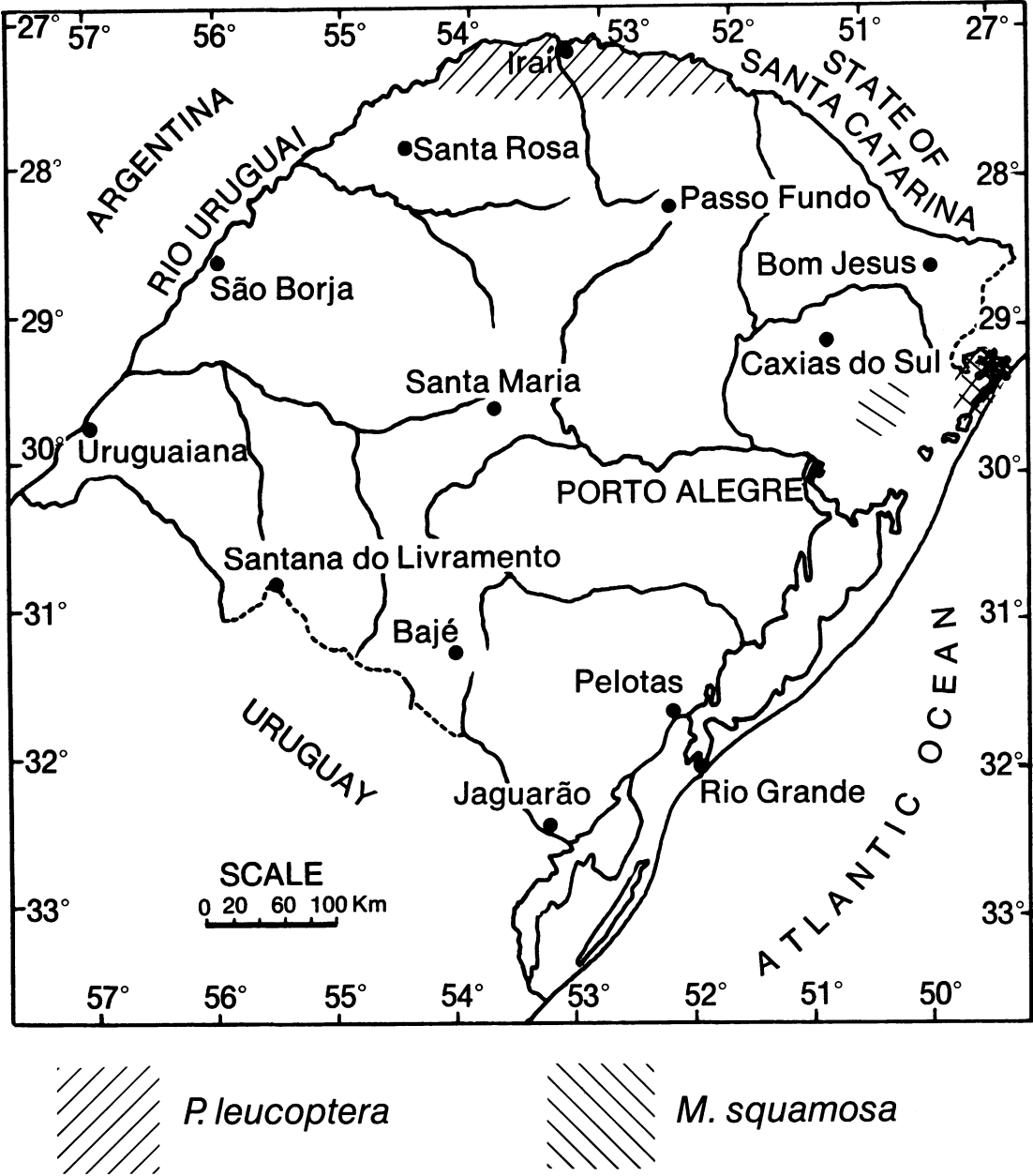
DISTRIBUTION AND STATUS: Uncommon resident in extreme N and on NE littoral, inhabiting middle and lower forest levels.



MAP 134. Geographical distribution of the two species of *Drymophila* found in Rio Grande do Sul.

FIELD MARKS: Bright red eye in both sexes.
SIZE: Two males: 189–193 mm, 32–35 gr.
Two females: 190–196 mm, 31–33 gr.
SOFT PART COLORS: Male: tarsus Blackish Neutral Gray (AMNH); bill black; iris between Deep Red and Vivid Red. Female: tarsus light gray; maxilla black; mandible light gray; iris bright red or carmine.

VOICE: (R) Series of approximately five to nine clear, loud, individual, middle-pitched whistles, trending slightly downscale. Warning note (identified by Sick): sharp, ringing “pik.” Response to playback of warning note (also identified by Sick): short, rapid descending series: “teeteeteeteeteete.”
BREEDING: Female collected September 27,



MAP 135. Geographical distribution of *Pyrglena leucoptera*, *Myrmeciza squamosa* and *Formicarius colma* in Rio Grande do Sul.

1973 and males collected October 1, 1975 and January 26, 1976 in NE coastal forests

all in breeding condition. Female collected June 24, 1974 had inactive ovary.

SPECIMENS: MCN: 1409–1410*. AMNH: 813062–813063*.

Myrmeciza squamosa

Map 135

Squamate Antbird
Papa-formiga-de-gruta
(Grotto Anteater)

DISTRIBUTION AND STATUS: Common resident of NE coastal forests, on ground or at low levels.

FIELD MARKS: Male has jet black face, throat, and upper breast; female whitish in these areas.

SIZE: Four males: 155–167 mm, 18–20 gr. Two females: 155–165 mm, both 18 gr.

SOFT PART COLORS: Tarsus pinkish white; bill black (female mandible light gray); iris brown.

VOICE: (R) Very distinctive series of four to six shrill, high-pitched, two-syllable phrases: “ta tee,” each phrase lower on scale than previous one, last one on minor key.

BREEDING: Female collected September 3, 1973 and male of September 26, 1975 had inactive gonads, but male of September 25, 1975 had slight enlargement of testes and those of one of September 28, 1973 much enlarged. Female of January 24, 1976 had active ovary.

BEHAVIOR: Constantly cocks tail as it hops about on logs and ground, singing periodically as it hops. Male displayed full white patch on back when responding with song and bother note to another male nearby. This species reminiscent of *Basileuterus leucoblepharus* in its bobbing, cock of tail, loud clear song, and niche on forest floor, and occupies practically only forested area of state where that species scarce.

SPECIMENS: MCN: 1411–1412*. MN: 32232, (WB)1643*, (WB)1745*. AMNH: 314601, 813064*.

Formicarius colma

Map 135

Rufous-capped Antthrush
Galinha-do-mato
(Forest Hen)

DISTRIBUTION AND STATUS: Rare; found only on floor of wet coastal forest near Lagoa do Jacaré, Tôrres. So far registered in June,

October, and January. *Formicarius c. ruficeps*.

FIELD MARKS: Bright rufous cap contrasts with otherwise very dark body plumage.

SIZE: Two males: 183–185 mm, 42–49 gr.

SOFT PART COLORS: Tarsus Light Grayish Red or Reddish Gray; bill black; iris brown.

VOICE: (R) Rather prolonged, high, wavering whistle with tinkling quality, turning slightly up scale toward end. Alarm note: single, sharp: “chEEu.”

BREEDING: Both males collected October 1, 1975 had much enlarged testes.

BEHAVIOR: Walks on forest floor with head high and tail perked up, giving impression of bantam rooster.

SPECIMENS: MCN: 332, 1385–1386*. AMNH: 314596.

Chamaeza campanisona

Map 136

Short-tailed Antthrush
Tovaca-campainha
(Bell Tovaca)

DISTRIBUTION AND STATUS: Common resident of forest floor across N, along escarpment, and in central trough from Santa Maria E, but absent from highest areas of NE. *Chamaeza c. tshororo*.

FIELD MARKS: Lacks barring on undertail coverts typical of *C. ruficauda*, but this and other slight differences difficult to see in dark habitat, so voice most reliable indicator.

SIZE: Three males: 220–235 mm, four males: 93–102 gr.

SOFT PART COLORS: Tarsus Pinkish White; maxilla: culmen Reddish Gray, edges Grayish Pink; mandible Grayish Pink with white at base; iris Dark Grayish Brown.

VOICE: (R) Fast, prolonged series of loud, resounding, bell-like, short whistles (I have counted as many as 128), all on same pitch but usually rising gradually to peak of volume just before two to several final, much lower, semi-squawking, descending notes: “puk puk puk.” Bother call: whistled “whoik!”

BREEDING: Males collected between September 18 and December 1 all had much enlarged testes.

BEHAVIOR: Easily heard but usually very shy and difficult to see if forest floor has undergrowth.

SPECIMENS: MCN: 1397–1398*. MN: 16949, (WB)478*. AMNH: 314590–314595, 813065*.

Chamaeza ruficauda

Map 136

Rufous-tailed Antthrush
Tovaca-rabo-vermelho
(Red-tailed Tovaca)

DISTRIBUTION AND STATUS: Scarce; occupant of forest floor, found so far in only three locales: Morro Pelado, Sete Leguas, and Nonoai Forest Reserve. Not registered between June 2 and September 24. However, usually identified by voice only, so may be resident but silent during this period. *Chamaeza r. ruficauda*.

FIELD MARKS: Plumage differences very subtle between this species and *C. chamaeza*, which see.

SIZE: Two males 212–220 mm, 70–75.5 gr.

SOFT PART COLORS: Tarsus light pinkish brownish gray; maxilla brownish black; mandible pinkish white with dark area on edge distally; iris dark brown.

VOICE: (R) Prolonged, strongly wavering, resounding, bell-like, leisurely whistle, gradually ascending scale. Bother call: brief, strongly warbled, bubbling trill on level pitch, sometimes continuously repeated.

BREEDING: Males collected November 21 and 22, 1971 had well-enlarged testes.

BEHAVIOR: Very shy. Remains almost always under close cover.

SPECIMENS: MCN: 1396*. MN: (WB)446*.

Grallaria varia

Map 137

Variegated Antpitta
Tovacuçu
(Great Tovaca)

DISTRIBUTION AND STATUS: Rare; found on forest floor so far only near and at top of escarpment in vicinity Canela and in Turvo Forest Reserve. Not registered between June 2 and September 17, but usually identified by voice only and may be resident but silent during this period. *Grallaria v. imperator*.

VOICE: (R) Short, accelerating series of low, very hollow, resounding, pigeon-like notes on one pitch, with strong ventriloqual quality.

BEHAVIOR: Very shy and difficult to see if forest floor has undergrowth.

Grallaria ochroleuca
(*Hylopezus ochroleucus*)

Map 137

Speckle-breasted Antpitta
Pinto-do-mato
(Forest Chick)

DISTRIBUTION AND STATUS: Fairly common in extreme N and along top of escarpment from Sete Leguas to Aparados da Serra National Park, on forest floor. Registered in every month except June and July; earliest date August 16, latest May 24. Additional observation required to ascertain whether present through winter. *Grallaria o. nattereri*.

FIELD MARKS: Much smaller than *G. varia*. Underparts heavily speckled black.

SIZE: Three males: 121–136 mm, 31–33 gr.

SOFT PART COLORS: Tarsus pinkish gray; maxilla black; mandible pinkish gray with dark tip; iris dark brown.

VOICE: (R) Series of about eight clearly whistled, plaintive, individual notes in minor key, moving up scale. Bother call: short, squeaky, sharp, slow, level trill. In response to squeaking lure, one regularly repeated a single clear note, different than either of above-described vocalizations.

BREEDING: Males collected September 24, 1972, November 20, 1971, and December 3, 1970 all had moderately enlarged testes.

BEHAVIOR: Very shy, practically never seen outside of heavy cover.

SPECIMENS: MCN: 1414*. MN: 32236*, 32245*. AMNH: 314615.

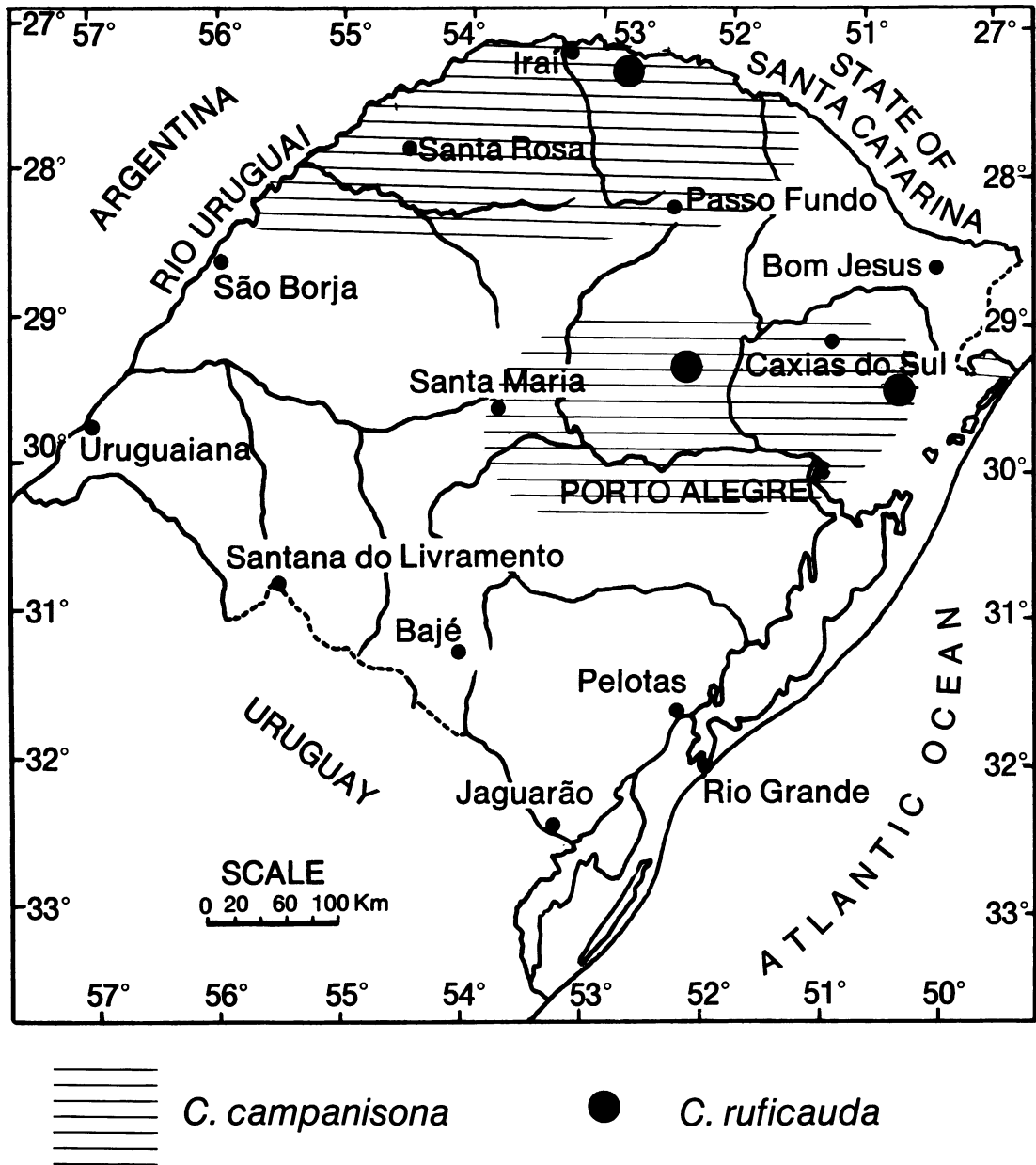
Conopophaga lineata

Map 138

Rufous Gnateater
Chupa-dente
(Tooth-sucker)

DISTRIBUTION AND STATUS: Resident; common on forest floor and in lower story in most of N half E of 54°W, including central trough. Scarce at scattered localities in W. *Conopophaga l. vulgaris*.

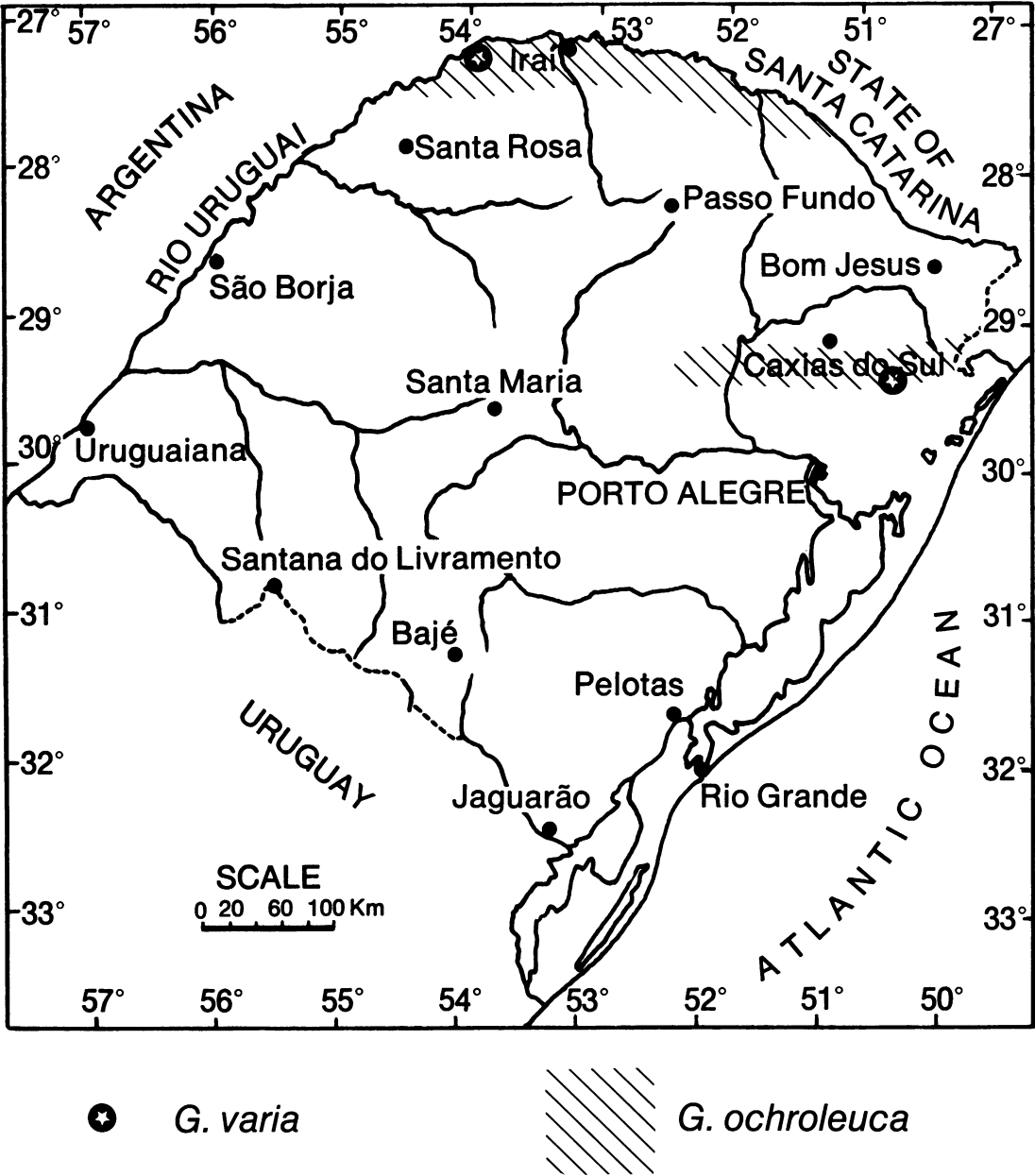
FIELD MARKS: White crescent on breast, bordered by rufous. Immatures have blackish cap streaked rufous.



MAP 136. Geographical distribution of the two species of *Chamaeza* found in Rio Grande do Sul.

SIZE: Two males: 125–142 mm, 22–25 gr.
One female: 144 mm, 21 gr.
SOFT PART COLORS: Tarsus from grayish pink to greenish brown; maxilla black; mandible pink to creamy white with darker tip; iris brown.

VOICE: (R) Fast, upscale series of weak, short, squeaky whistles, sometimes given all on one pitch. Also a quick, low, raspy, kissing sound, source of Brazilian name.
BREEDING: Male and female collected August 30, 1975 had inactive gonads. Male col-

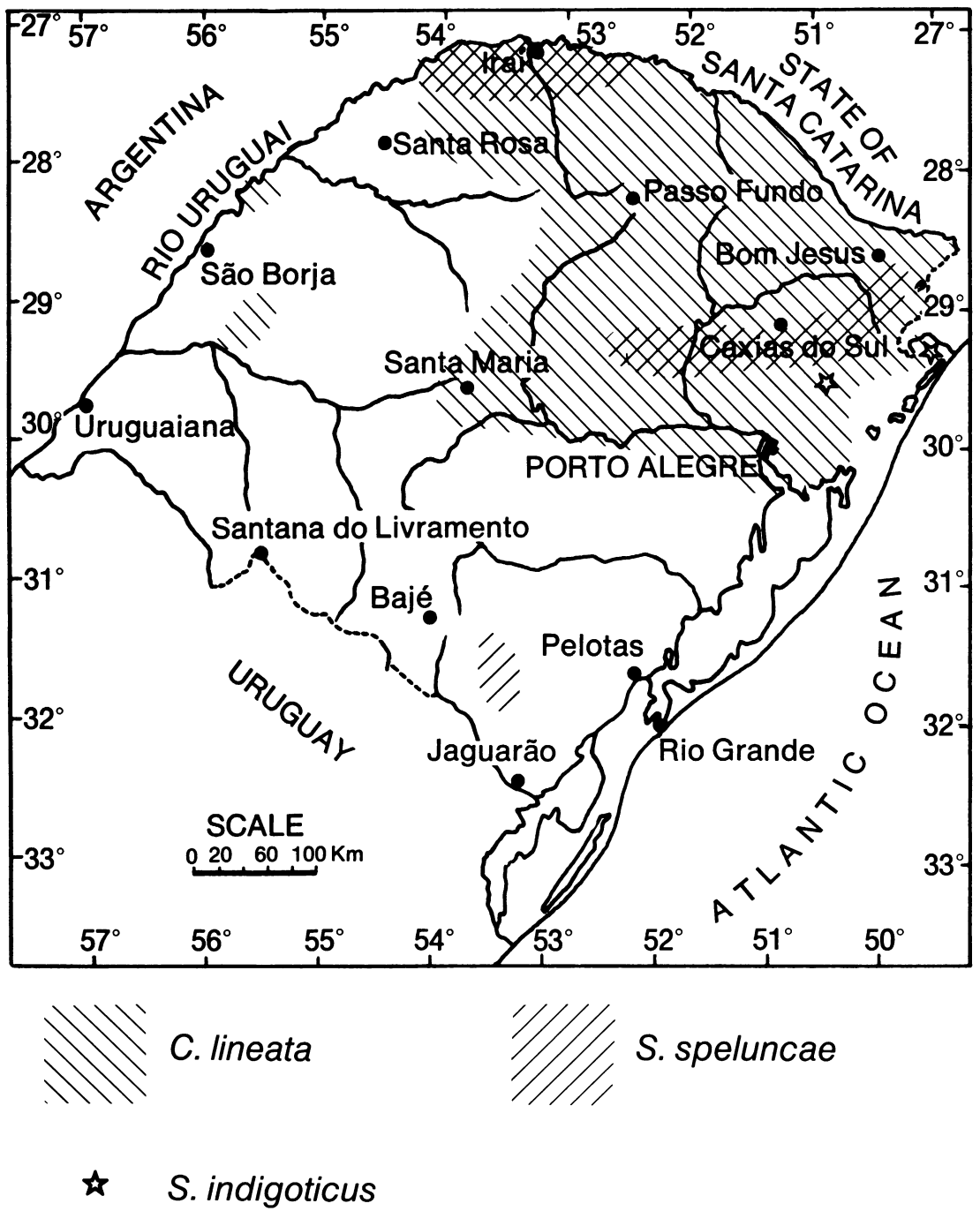


MAP 137. Geographical distribution of the two species of *Grallaria* found in Rio Grande do Sul.

lected October 7, 1972 had greatly enlarged testes.

BEHAVIOR: On December 20, 1974 at Gramado I observed display apparently intended to lead me away from nest I did not find. Female dragged herself along ground very

slowly with fluttering wings and ruffled back feathers, moving with occasional pauses about 5 or 6 m in three or four minutes. After she disappeared behind vegetation I followed and found her hopping about quite normally.



MAP 138. Geographical distribution of *Conopophaga lineata* and the two species of *Scytalopus* found in Rio Grande do Sul.

SPECIMENS: MCN: 144, 145, 254, 1400–1401*, 1785. MN: 16371, 32189*, 32202*. USNM: (alcohol) 503769–503771*. AMNH: 314432–314442, 813066*.

FAMILY RHINOCRYPTIDAE

Scytalopus speluncae

Map 138

Mouse-colored Tapaculo

Tapaculo-preto

(Black Tapaculo)

DISTRIBUTION AND STATUS: Uncommon resident; low in forests, along top of E portion of escarpment and in extreme N. I once found one in southern hills near Pinheiro Machado.

FIELD MARKS: One of least colorful and hardest to see Rio Grande do Sul forest birds; best found by "metronome" vocal performance.

SIZE: One male: 105 mm, 13 gr.

SOFT PART COLORS: Tarsus yellow-brown on leading edge, brown behind; maxilla black; mandible gray; iris brown.

VOICE: (R) Male: extremely prolonged series of very regular, monotonous, sharp, mechanical notes: "chip chip chip. . ." or "chew chew chew. . ." Speed varies with individuals, which I have timed at from 130 to 315 vocalizations per minute. I never timed full bout, but have one partial recording lasting 94 seconds at rate of 280 "chip's" per minute. Female infrequently heard, gives rapid series of several sharp squeaks, all on same pitch.

BREEDING: Male collected August 29, 1971 had small testes.

BEHAVIOR: Skulks in low thickets and undergrowth.

SPECIMEN: MCN: 1413*.

Scytalopus indigoticus

Map 138

White-breasted Tapaculo

Macuquinho

(Little Macuco) (Macuco = Solitary Tinamou)

Collected by Ihering at Taquara July 26, 1883 (Berlepsch and Ihering, 1885) and seen by Willis (personal commun.) near Lagoa do Jacaré in thick undergrowth at forest edge January 25, 1976. No other records.

FAMILY TYRANNIDAE

Phyllomyias fasciatus

Map 139

Planalto Tyrannulet

Piolinho

(Little Louse)

DISTRIBUTION AND STATUS: Locally com-

mon summer resident usually found high in forest trees in NE near escarpment, and N to Santa Catarina border through center from central trough. Most frequent at altitudes of 500 to 800 m, but I have records from sea level to 1000 m. Willis found it in SE hills near Santana da Boa Vista. Registered between September 25 and February 18, but nest-building February 1 mentioned below indicates later presence. *Phyllomyias f. brevirostris*.

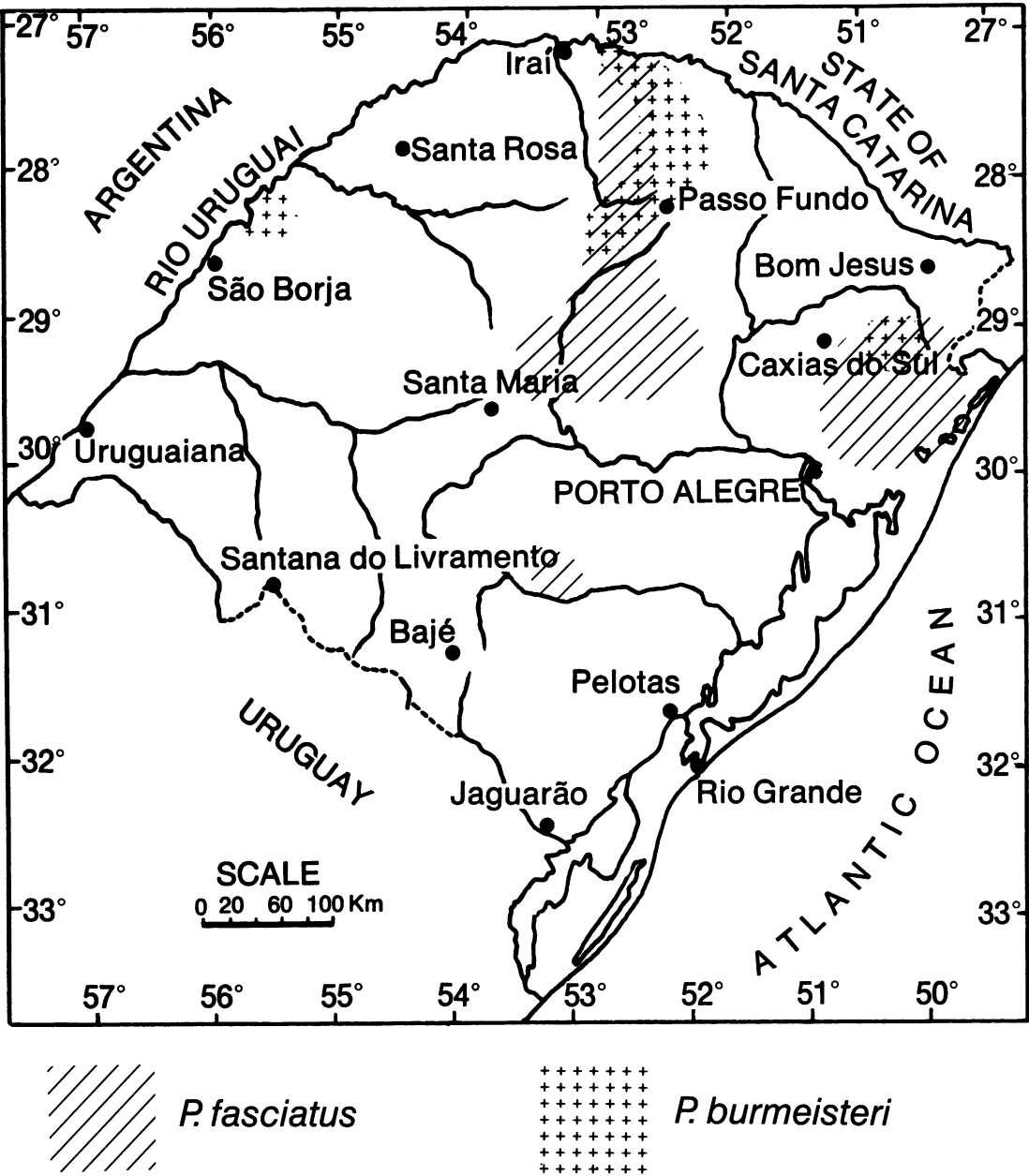
FIELD MARKS: Immature male collected February 18, 1976 had terminal band of whitish on feathers of crown and back, giving distinctly scaled appearance to upper parts. This is one of several small Rio Grande do Sul tyrannids that share certain general adult plumage characteristics and lack any outstanding feature to facilitate quick recognition. Each has a distinctive song, but when silent it is difficult to separate these greenish-backed, gray-throated, olive-breasted, yellow-bellied birds with wing bars. The following suggestions may be helpful: *Phyllomyias fasciatus*: short bill; lores and eye ring whitish; wing bars darker, much less conspicuous than on *P. virescens* or *Phylloscartes ventralis*. *Phyllomyias burmeisteri*: wing bars dull yellow or buffy; medium bill; lores and eye ring whitish; little contrast between throat and medium olive breast. *Phyllomyias virescens*: wing bars light yellow; short bill; lores and eye ring whitish. *Phylloscartes ventralis*: wing bars very light yellow; long bill; some light speckling on face; long tail slimmer than others, often held partially cocked.

SIZE: One male: 124 mm, 10.5 gr. Two unsexed: 113–120 mm, 10–11 gr.

SOFT PART COLORS: Tarsus and bill black, but one specimen had pink mandible with black edges; iris brown.

VOICE: (R) Three simple, leisurely, whistled notes of about same length, descending scale. Sometimes only first two notes given.

BREEDING: At Gramado on November 23, 1983 cup-shaped nest about 7 m up in four-way crotch of outer branches of broadleaved evergreen was woven of moss and hyphae of *Marasmius fungae* and covered, both inside and out (except the floor), with large flakes of lichen. Surrounding branches were also lichen or moss covered. Floor of nest was deformed by a dry leaf across center which apparently fell in during construction, for lacy



MAP 139. Geographical distribution of two species of *Phyllomyias* in Rio Grande do Sul.

structure of *Marasmius* hyphae was woven over the leaf. Nest measurements were: diameter 66 mm outside, 41 mm inside; outside height 33 mm; inside depth 14 mm. Two Pale Yellowish Pink eggs, one slightly paler than the other, measured 16.5×12.7 mm and 16.2×12.5 mm. They were being

brooded by female that occasionally sang first two notes of typical three note song while on nest. Four hours after female collected, male, which did not have brood patch, was found brooding and occasionally singing full song while on nest.

Willis saw one building nest at Fazenda das

Amoreiras on February 1, 1976. Male collected November 22, 1971 had much enlarged testes, while one of February 6, 1971 had only moderate enlargement.

SPECIMENS: MCN: 1198–1200*. AMNH: 315231, 315232, 824027*.

Phyllomyias (Acrochordopus) burmeisteri

Map 139

Rough-legged Tyrannulet

Piolinho-chiador

(Squeaking Little Louse)

DISTRIBUTION AND STATUS: Rare; scattered sparsely across N, usually high in forests, although one was caught in 2 m net. Only seven records from state ranging from October 3 to May 19 leave migratory status uncertain.

Phyllomyias b. burmeisteri.

FIELD IDENTIFICATION: See under *P. fasciatus*.

SIZE: Two males: 124–126 mm, 11–11.5 gr.

SOFT PART COLORS: Tarsus grayish black; maxilla blackish brown; mandible pink with dark tip in one case, white tip in another; iris light brownish gray to dirty white.

VOICE: (R) Monotonously repeated, very high-pitched “pseet” rendered at varying speeds which I have timed at from 35 to 75 “pseet’s” per minute.

BREEDING: Male collected October 18, 1975 had partially enlarged testes, while one of December 7, 1971 had much enlarged ones.

SPECIMENS: MCN: 1190*, 1196*. AMNH: 315234–315235.

Phyllomyias (Xanthomyias) virescens

Map 140

Greenish Tyrannulet

Piolinho-verdoso

(Greenish Little Louse)

DISTRIBUTION AND STATUS: Resident; probably across state N of 29°30’S, although my four records cover only extremes, three being from top of escarpment in NE and one from Garruchos. Now rare, but Kaempfer collected 13 specimens from several localities in N central region in 1928–1929. Found in forests at varying heights. Two of my specimens netted within 2 m of ground. *Phyllomyias v. virescens*.

FIELD MARKS: See under *P. fasciatus*.

SIZE: Three males: 120–138 mm, 10–12 gr.

SOFT PART COLORS: Tarsus medium to dark gray; maxilla brown to black; mandible brownish white to grayish white with dark tip; iris brown.

VOICE: (R) Song starts with rapid series of staccato “chk’s,” then rises in pitch and slows into longer sounds, finally dropping pitch again at end: “chk-chk-chk-chk-chk-che-eeee-eeee-eeee-eeee-chu-choo.”

BREEDING: Male collected October 26, 1975 had well-enlarged testes.

SPECIMENS: MCN: 347, 1188–1189*. MN: 31865*, 32175*. AMNH: 315236–315248.

Camptostoma obsoletum

Map 140

Southern Beardless Tyrannulet

Risadinha

(Giggle)

DISTRIBUTION AND STATUS: Common throughout state S to 31°30’S in forests, edges, tree clumps, scrub, gardens. Although I have registered it in every month, mid-winter records very scarce. It is likely bulk of population moves N during that season. *Camptostoma o. obsoletum*.

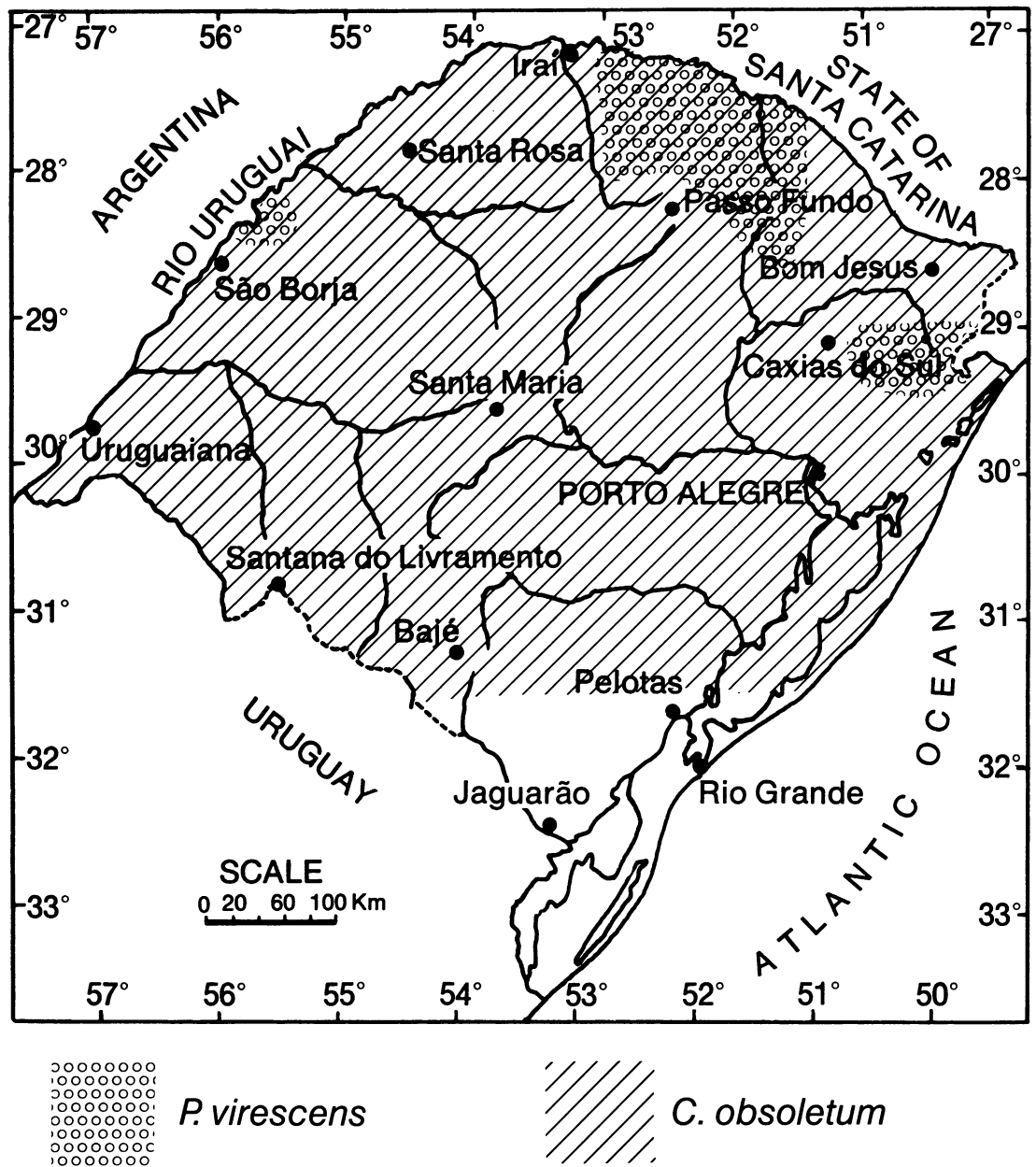
FIELD MARKS: Small size, slight whitish superciliary, dark buffy double wing bar.

SIZE: Four males: 108–119 mm, 8.5–9 gr. Three unsexed: 107–122 mm, 8–9.5 gr.

SOFT PART COLORS: Tarsus gray to black; maxilla dark brown to blackish; mandible pinkish with dark tip; iris chestnut to brown.

VOICE: (R) Song: rapid series of from three to five short, shrill, forcefully whistled notes all on same pitch, terminating with brief, slurred, downward-trending trill. Some variation in song of individual birds. Sick informs me typical Rio Grande do Sul song unusual in more northerly sections of Brazil. First song of 1974 season noted on August 19.

BREEDING: At Fazenda do Pontal on January 24, 1976 Willis found enclosed, generally globular, side-entry nest with two downy young, woven of *Tillandsia* and other soft vegetable fibers within natural clump of *Tillandsia* suspended about 2 m aboveground immediately under branch of small dead tree in open at edge of road. On December 9, 1979 at Rincão dos Pereira, similar nest under con-

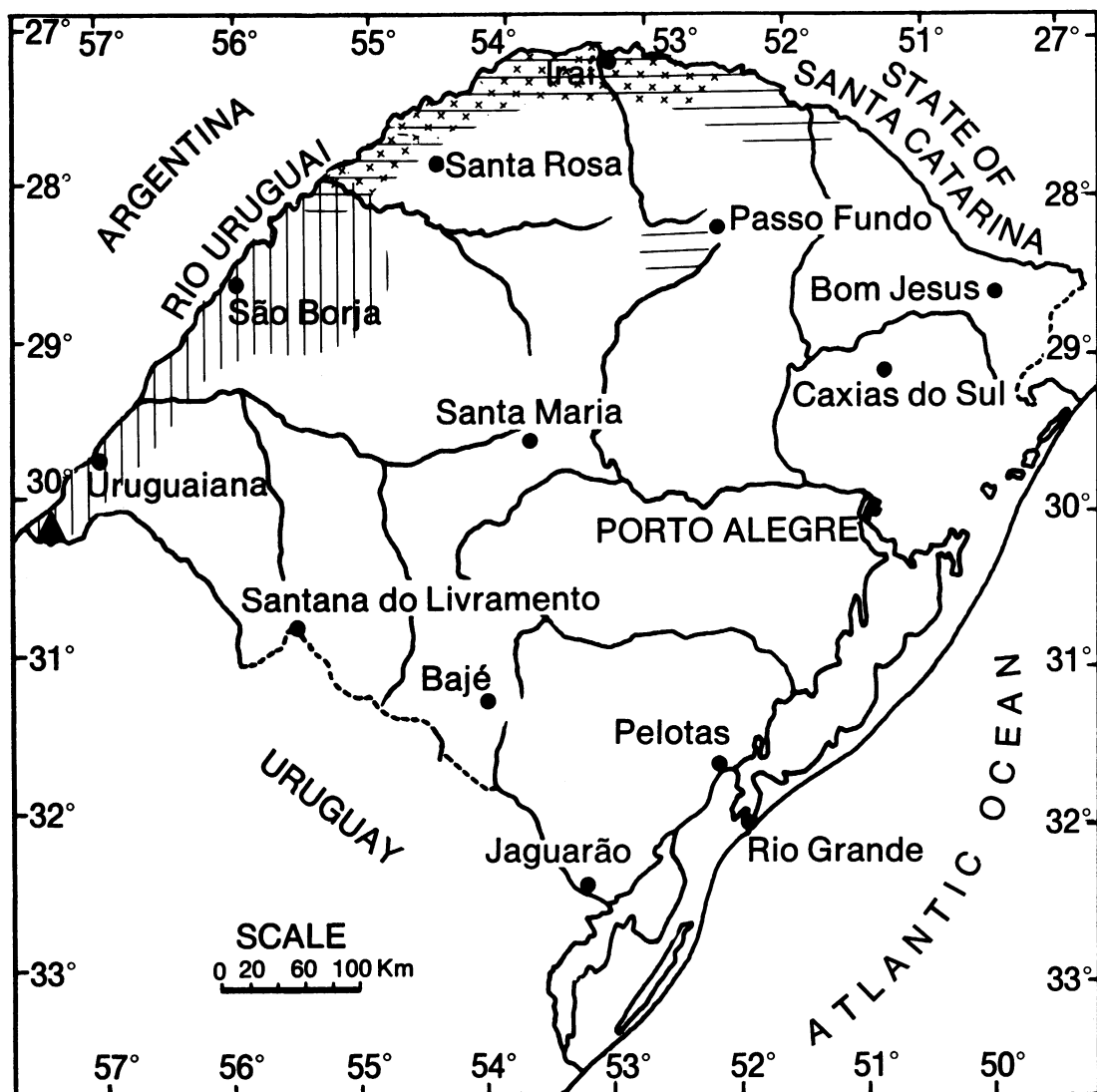


MAP 140. Geographical distribution of *Phyllomyias virescens* and *Camptostoma obsoletum* in Rio Grande do Sul.

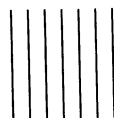
struction about 5 m aboveground in clump of *Tillandsia* near top of dead branch. Bird was bringing *Tillandsia* from another nearby clump. Voss (personal commun.) found similar nests of *Tillandsia* suspended from tips of branches of spiny trees near Viamão on

November 5, 1979 and January 6, 1980 at heights of 2.5 and 4 m, respectively. Males collected between September 18 and November 22 had much enlarged testes. Those of one of May 19, 1971 were minute.

BEHAVIOR: While these tyrannulets often



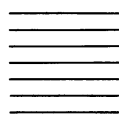
S. modestus



S. suiriri



M. caniceps



M. viridicata

MAP 141. Geographical distribution of *Sublegatus modestus*, *Suiriri suiriri* and two species of *Myiopagis* in Rio Grande do Sul.

sing in canopy at dawn, during day they usually frequent lower levels of trees and bushes, where they flit actively through foliage.

SPECIMENS: MCN: 242, 1170–1176*. MN: 12649. AMNH: 315254–315262, 321978, 810496–810497*.

Sublegatus modestus

Map 141

Scrub Flycatcher

Guaracava-modesta

(Modest Guaracava)

DISTRIBUTION AND STATUS: Common summer resident, found only at W tip in scattered low spiny trees of espinilho parkland and denser vegetation of bordering stream edge. Registered between October 9 and February 14. *Sublegatus m. brevirostris*.

FIELD MARKS: Differs from *Elaenia parvirostris* by slightly grizzled forehead, no white in crown, more intense yellow on belly, brownish wash on upper plumage, shorter and broader bill.

SIZE: Three males: 139–151 mm, 12–13.5 gr. One unsexed (live): 148 mm, 10 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

VOICE: (R) Song: Simple, high-pitched, two-noted “keee pit.” Call: sharp, quick, “tseee,” sometimes introduced by from two to four ascending grace notes.

BREEDING: Nearly globular nest with low side opening at Arroio Quaraí-chico on October 31, 1983 was about 2 m aboveground, partially supported by two downward growing twigs and attached to underside of larger, lichen-covered branch. It was constructed of miscellaneous vegetable matter including stems, narrow leaves, and grasses all apparently loosely glued together. One adult was seen bringing food to three nestlings which, under poor conditions of visibility, appeared covered by white feathers or down.

Four males collected from November 12 to 16 had slightly to considerably enlarged testes. Specimen with unossified skull collected February 14, 1971.

SPECIMENS: MCN: 1179–1181*. MN: 13460, 32184*, (WB)1791*. AMNH: 810502–810503*.

Suiriri suiriri

Map 141

Suiriri

Suiriri-cinzento

(Gray Suiriri)

DISTRIBUTION AND STATUS: Uncommon resident of espinilho parkland, gallery edges and isolated trees in pastureland along Rio Uruguay from western tip upstream as far as

Garruchos and somewhat inland. *Suiriri s. suiriri*.

FIELD MARKS: Rather heavy set, gray with white throat and belly, broad, dirty white double wing bars. Narrow whitish strip in front of eyes joins across forehead in some individuals. Immature birds speckled with white on head and back.

SIZE: Four males: 150–158 mm, 14–15 gr. Two females: 138–147 mm, 14–16.5 gr.

SOFT PART COLORS: Tarsus brown to black; bill black; iris brown to chestnut.

VOICE: (R) Dawn song: single-noted, crack-voiced, cricket-like “pirrrr,” repeated about once every two seconds. Bother call is vigorous tonal rattle.

BREEDING: Specimens collected between October 30 and January 25 had enlarged gonads. Those of male of July 10, 1973 small.

BEHAVIOR: At Arroio Quaraí-chico, where this species more common than elsewhere, individuals always stay very low, both flying and while perched, avoiding tops of even low trees. While peering around to observe surroundings, they move heads distinctively.

SPECIMENS: MCN: 1201–1206*. MN: 12880, 12881, 32181*, 32249*. AMNH: 810504–810506*.

Myiopagis caniceps

Map 141

Gray Elaenia

Guaracava-cinzenta

(Gray Guaracava)

DISTRIBUTION AND STATUS: Found only four times, between September 16 and February 9, in forest canopy in extreme N and NW. *Myiopagis c. caniceps*.

FIELD MARKS: Differs from Rio Grande do Sul members of *Elaenia* genus by distinctly gray head, pale yellow concealed crest, purer and lighter gray throat and breast, small size.

SIZE: Two males: 120–132 mm, 10.5–11 gr. One female: 130 mm, 11 gr.

SOFT PART COLORS: Tarsus grayish black to black; bill black with light shade at base of mandible; iris brown, male with white rim.

VOICE: (R) High-pitched, single “wheep” or double “wheep-wheep,” and also a long, descending, four-second trill starting with “wheep-wheep.”

BREEDING: Mated pair collected November 4, 1975 each had active, enlarged gonads and

brood patch. Male of September 16, 1971 had enlarged testes.

SPECIMENS: MCN: 576, 1177–1178*. MN: 32183*.

Myiopagis viridicata

Map 141

Greenish Elaenia

Guaracava-de-crista-alaranjada

(Orangy-crested Guaracava)

DISTRIBUTION AND STATUS: Uncommon, in medium and upper levels of forests in extreme N and along Rio Uruguay down to Garruchos. Also near Caràzinho. Probably only summer resident, but insufficient data for certainty. Records run from October 17 to March 3. *Myiopagis v. viridicata*.

FIELD MARKS: Similar in color pattern to *Elaenia parvirostris*, but lacks wing bars, has much more yellow belly, and concealed crest is rich orange-yellow.

SIZE: Six males: 133–150 mm, 11–13 gr.

SOFT PART COLORS: Tarsus gray through reddish black to grayish black; maxilla brown to black; mandible dark gray to white with dark tip; iris reddish brown.

VOICE: (R) Slow, downward slurred “peeuur,” often embroidered with additional, lower-pitched “peeuur’s” or “tseepuur’s” and other similar notes. Voice weak with little carrying power.

BREEDING: Four males collected between October 17 and March 3 all had enlarged testes, but one of November 23, 1971 had only slight enlargement.

BEHAVIOR: One specimen had been feeding on beetles and a caterpillar.

SPECIMENS: MCN: 278, 561, 575, 1184–1187*. MN: 31866*, 31875*, 32182*. AMNH: 315308.

Elaenia flavogaster

Map 142

Yellow-bellied Elaenia

Guaracava-barriga-amarela

(Yellow-bellied Guaracava)

DISTRIBUTION AND STATUS: First discovered in state in 1975 (Belton, 1978a) in NE littoral, but since 1979 observed regularly throughout year at Zoo, Sapucaia do Sul (Voss, personal commun.) and also registered at Porto Alegre, Itapuã, and Montenegro, and

once in extreme NW. Found in trees in pastures, parks, and at forest edges. *Elaenia f. flavogaster*.

FIELD MARKS: Slightly smaller than either *E. spectabilis* or *E. obscura*, with breast a bit more olivaceous than *spectabilis* and much less so than *obscura*. This species best distinguished from other Rio Grande do Sul elae-nias by shaggy and usually erect crest which others do not normally display in same fashion.

SIZE: One male: 177 mm, 25 gr. One unsexed: 170 mm, 30 gr (by Silva).

SOFT PART COLORS: Tarsus blackish to blackish gray; maxilla dark brown to dark grayish brown; mandible of one male specimen dark grayish brown, of another pinkish white; iris brown.

VOICE: (R) All vocalizations strident and rasping in character. Most common is simple “wheeerr,” which Voss interprets as “prrrhiuu.” Also an urgent, hurried “pee chk pee chk pee chk chk” which Voss noted as “prrrhaeu--prrhiuco-prrhiuco-prrhiuc,” and what may be song: “fee purrrr birr birr chee ch chip chip,” with last notes short and halting.

BREEDING: Male collected at Lagoa do Jacaré October 1, 1975 was accompanied by apparent mate which participated in some antiphonal singing. Testes enlarged. Male collected at Fazenda do Pontal January 23, 1976 had greatly enlarged testes.

BEHAVIOR: Male collected October 1, 1975 and its mate flew frequently from isolated tree in pasture which was their center of operations to cane and corn fields in vicinity. Raucous voice heard periodically throughout day.

SPECIMENS: MCN: 567, 1055*. AMNH: 824028*.

Elaenia spectabilis

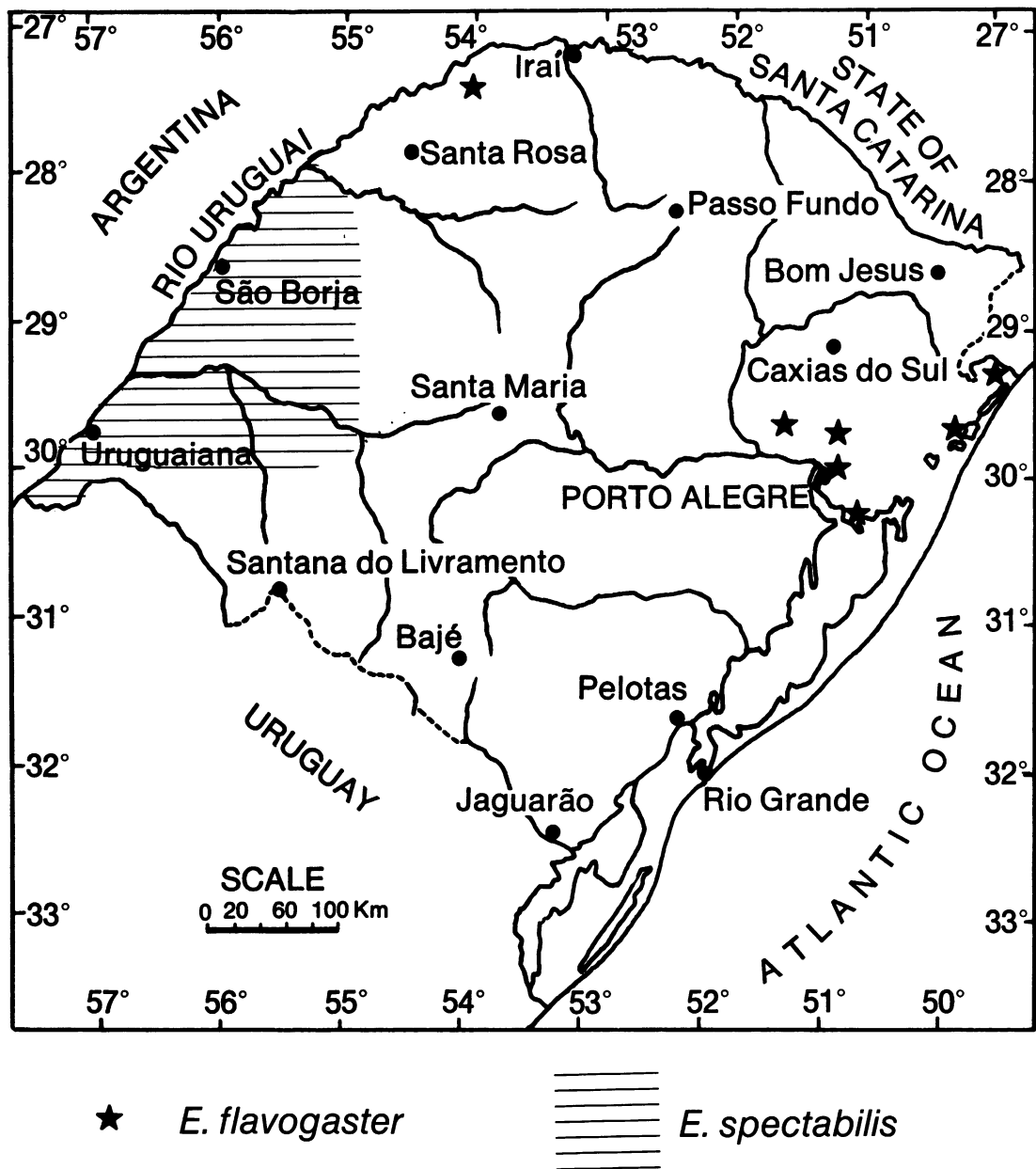
Map 142

Large Elaenia

Guaracava-grande

(Large Guaracava)

DISTRIBUTION AND STATUS: Uncommon to common summer resident W of 55°W and N of 30°30'S, usually high in forest edges and lightly wooded groves and clumps, but sev-



MAP 142. Geographical distribution of two species of *Elaenia* in Rio Grande do Sul.

eral netted among low thickets along Arroio Quaraí-chico October 31–November 2, 1983. All records between October 17 and February 21. *Elaenia s. spectabilis*.
FIELD MARKS: Has lightest breast of three larger elaenias found in state. This separates it from much darker *E. obscura*, whereas lack

of conspicuous crest differentiates it from *E. flavogaster*.
SIZE: One male: 185 mm, 28.5 gr. One female: 190 mm, 30 gr.
SOFT PART COLORS: Tarsus black; bill black, but mandible of one specimen had pinkish gray base; iris brown to gray-brown.

VOICE: (R) Dawn song: shrill, repetitious, three-syllabled "twee-wee-tweet." Regular song: single "wheer" or "cheer" whistled clearly at intervals of from three to 10 seconds.

BREEDING: Male of November 28, 1973 and female of November 22, 1974 had much enlarged gonads.

SPECIMENS: MCN: 1051-1052*. AMNH: 812575-812576*.

Elaenia albiceps chilensis
Map 143

White-crested Elaenia
Guaracava-de-crista-branca
(White-crested Guaracava)

DISTRIBUTION AND STATUS: Known for state only from four specimens taken at three widely separated locations in W and N, all in February, presumably during northward migration. My two specimens found in riverside scrub. Subspecific identification courtesy M. A. Traylor, Jr.

FIELD MARKS: Probably not separable in field with certainty from *E. parvirostris*, and *E. mesoleuca*.

SIZE: Two females: 155-158 mm, 14.5-16.5 gr.

SOFT PART COLORS: Tarsus black; maxilla black; mandible light gray to whitish with dark brown to blackish tip; iris brown.

BREEDING: My two specimens both females with small ovaries.

SPECIMENS: MCN: 1053-1054*. AMNH: 315304, 315305.

Elaenia parvirostris
Map 143

Small-billed Elaenia
Guaracava-de-bico-curto
(Short-billed Guaracava)

DISTRIBUTION AND STATUS: Normally occurs from southern planalto S, but not registered on Mostardas peninsula, southern tip, or extreme NW. One record for extreme N. One of most abundant summer residents, though not well known due to inconspicuous plumage and habits. Earliest spring record September 15, latest fall record May 2, though most individuals gone by end of March. Occupies forest edges, tree-studded open country.

FIELD MARKS: Not safely separable in field from *E. mesoleuca* except by voice, though breast color slightly lighter. Hidden white crest, when visible, good indicator, but occasional *mesoleuca* specimens show white on crown, as do rare transient *E. albiceps*, from which it also cannot safely be distinguished under field conditions.

SIZE: 25 males: 140-163 mm, 14.5-18.5 gr; four females: 146-151 mm, 15.5-17.5 gr.

SOFT PART COLORS: Tarsus blackish brown to black; maxilla dark brown to blackish; mandible light yellowish pink to pink with dark brown tip; iris (live bird) Dark Yellowish Brown; eye ring pale yellow.

VOICE: (R) Dawn song, also sung during day, especially later in breeding season, can be rendered "weedable-we" or, according to Gore and Gepp (1978) "ui-la-lo-tri." Early in season another song, "p-weer" common and starts prior to full daylight, though I believe it usually preceded by "weedable-we" which is normally first song of any species to be heard in dawn chorus. I have been unable to relate daytime use of these two songs to phases of breeding cycle, but speculate that "p-weer," being commonly heard early in season and rarely in mid and late-season (last date noted was January 8) is advertising and mate-soliciting song, whereas "weedable-we" may be used to announce and confirm nesting and for pair-bond maintenance. "Weedable-we" continues late into season and is most common song heard in SE hills during January. Different individuals sing "weedable-we" dawn song at different rates. One in Gramado in December 1974 regularly repeated it at 30 songs per minute, whereas another sang only 18 per minute. I once timed an early morning "p-weer" at 11 songs per minute. In addition to these typical songs, this elaenia has brief notes and a miscellany of trills in repertory.

NOTE: For some time I held impression "weedable-we" and "p-weer" might indicate existence two morphologically similar species, but efforts to separate them by methods used by Stein (1963) were unproductive (Belton, 1984). Subsequently, by color-banding individuals I was able to observe one while it switched from "weedable-we" to "p-weer."

BREEDING: Nest-building observed as early as October 26 (1972), when female worked

extremely trim, neat, feather-lined constructions, usually with *Tillandsia* as basic material, thickly covered with lichen, and placed on *Tillandsia* and lichen covered branches, thus providing excellent camouflage.

BEHAVIOR: This elaenia found more often feeding on small fruits at mid-level in trees that pursuing insects in flight, although it participates in multi-species raids on flying termite swarms.

SPECIMENS: MCN: 397, 1125–1149*, 1823*. MN: 13471–13473, 31656–31662*, (WB)1271*. AMNH: 315286, 315287, 315289, 315290, 315297, 315300, 321952–321956, 812577–812583*. (321957 is from Uruguayan side of mouth of Rio Jaguarão.)

Elaenia mesoleuca

Map 144

Olivaceous Elaenia

Tuque (onomatopoeic)

DISTRIBUTION AND STATUS: Abundant summer resident, mostly in E half, S to 32°S, primarily at higher altitudes. A few records come from W of Santa Maria, close to escarpment, and one from Garruchos. Found in forest, open woodland, and gardens, usually at medium to upper levels. Earliest reliable record September 10, latest April 12. Elaenias registered as late as April 23 cannot be attributed with assurance to this species due to difficulty of identification. Three individuals banded in Gramado in January 1971 were recaptured at same place, two in December 1972 and one in December 1974. Another banded in December 1971 was recaptured at banding place in October 1974 and again in November and December 1975.

FIELD MARKS: Dark olive upperparts, pale yellow eye ring, light wing bars, olive washed gray throat and breast are characteristic, but field identification cannot be relied upon to separate it from *E. albiceps* and *E. parvirostris*, except through voice.

SIZE: 15 males: 147–163 mm, 15.5–20 gr. Two females: 144–150 mm, 17–18 gr.

SOFT PART COLORS: Tarsus brown to blackish; maxilla black; mandible bluish white to pink, with dark tip; iris brown; adult male mouth olive-orange. Nestling bill bright yellowish white; mouth orange-yellow.

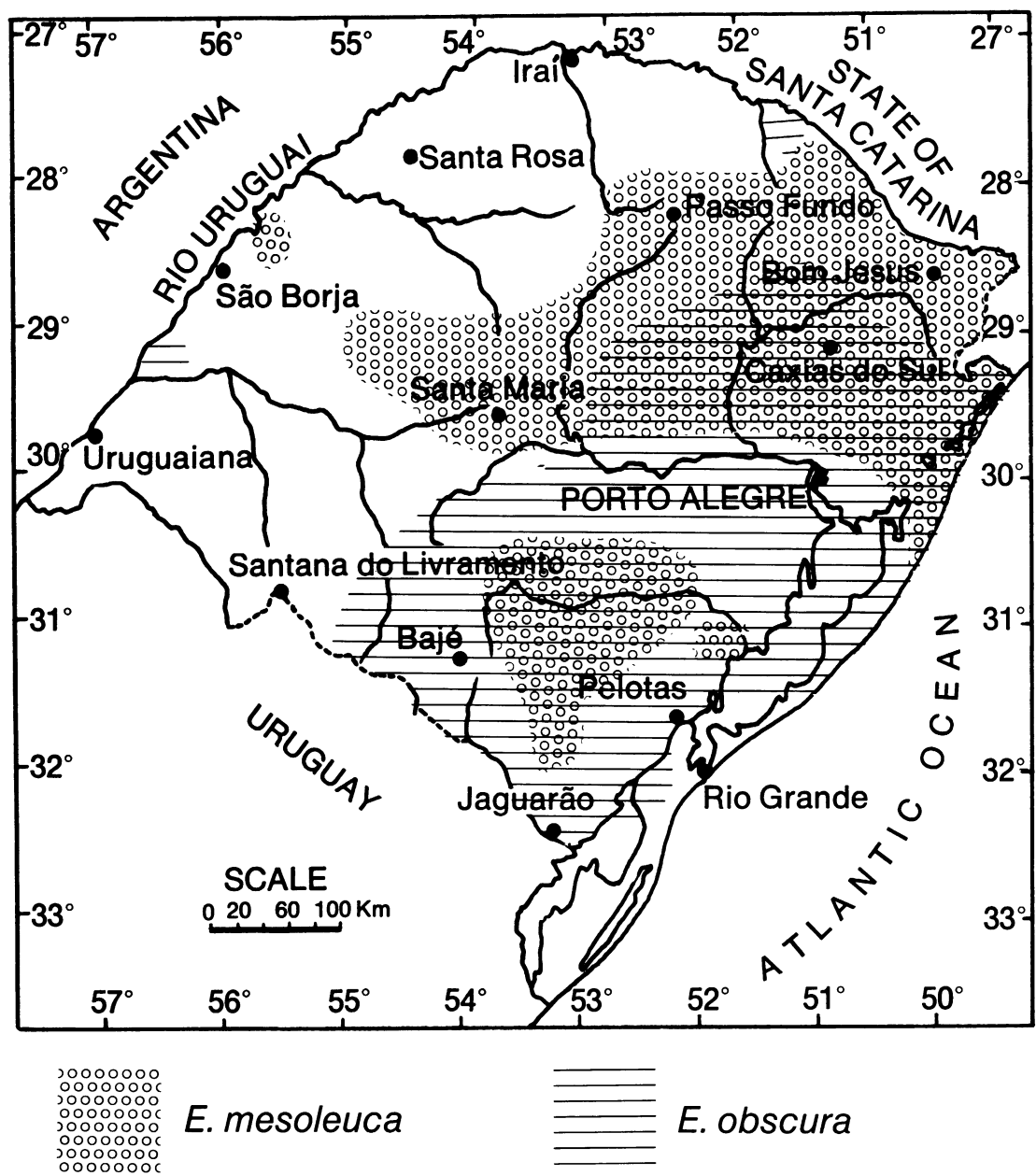
VOICE: (R) Song: four unmusical, harsh syllables with pause between first and second:

“Frank McQueeter.” Occasionally individual syllables sung separately. Notes and calls: high, fast, strong “wow”; “oink”; quick, single “pirrr,” or “whirr,” constantly repeated. Once I heard each bird of a pair repeat this last note, alternating in rapid succession for several minutes. After recording played back, one switched to sharper, more abrupt “pik.”

BREEDING: December and January are peak months for this species nesting in state. I found nest building at various dates from November 24 to January 17. In Gramado one was building on November 24, 1976, gathering moss from trunk and main branches of exotic chestnut tree in our garden and carrying it to small horizontal fork with several branches about 4 m up in same tree. By November 27 incubation had started and was still under way December 11 at 5 P.M. At 5 P.M. December 12 two nestlings were being fed regularly. On this day, while brooding nestlings between feedings, adult sang typical *mesoleuca* song very quietly. This was the only time I heard song when it could be directly associated with this nest. Among foods brought to nestlings were purple berries and leggy insects. Adult often came to nest with full throat and brought up individual items one by one for young. On one occasion it took up fecal sac and swallowed it. On December 19 I climbed to nest to band nestlings and found only one, with eyes only barely opened, very little body down, but flight feathers well started. By December 29 ground beneath nest covered with purple droppings, result of berry-stained feces spurted over side of nest. Nestling was restless, moving frequently and stretching wings. Throughout morning of December 31 it left nest several times, making flights of 2 m or so. Each time it was lured back by adult that went to nest and sat in it until juvenal returned. As of 7:22 P.M. nestling was on nest. At 8 A.M. January 1, 1977 it was gone and not seen again.

Assuming eggs laid November 25 and 26, incubation began on November 26 or 27, and birds hatched morning of December 12, incubation period was 15 or 16 days and nestling period 20 days.

During this entire nesting episode, only one bird appeared to be engaged in building, incubation, brooding, or feeding. On December 3 I conducted experiments with recorded



MAP 144. Geographical distribution of two species of *Elaenia* in Rio Grande do Sul.

elaenia voices in vicinity of nesting tree. These attracted several unidentifiable elaenias, but with this exception, not until December 31 were two birds seen in vicinity of nest at one time. On that day “Frank” syllable of this species was heard from another bird in immediately adjacent tree. In contrast, at Fa-

zenda das Amoreiras on December 14, 1972 two birds were engaged in nest construction in crown of small araucaria tree at about 8 m height. At Fazenda da Invernada on January 20, 1975 two adults were seen brooding and feeding berries to one nestling in nest about 8 m aboveground and 1 m below top

of broad leaf tree in gallery forest. Nest being built near Ciriaco on January 13, 1973 was about 4.5 m up on very exposed site against trunk of small broad leaf tree. Another, at Aparados da Serra National Park on January 17, 1979 was in crotch 8 to 9 m up near top of slim tree in parklike woods with ground level cleared.

Nests are made primarily of loosely packed moss, sometimes mixed with *Tillandsia* or hyphae of *Marasmius* fungus, and with binding of spider silk. They are often decorated/disguised with pieces of lichen attached to outside, although by no means to extent this is done by *E. parvirostris*. In general, *mesoleuca* nests coarser and looser than very trim nests of *parvirostris*. The Gramado nest was very shallow and sloppily constructed. On one side where horizontal branch was at about height of rim, there was almost no wall. Egg or young could easily fall out between nest floor and branch, so this may have been fate of missing chick.

BEHAVIOR: Adult in Gramado nest unusually tame, permitting photographer to approach within 1 m without fleeing. This species forages among foliage of forest trees for insects, but is especially partial to small fruits and berries. It is my impression these are principal items of diet while in Rio Grande do Sul. Voss and Sander (1980) found one eating fruits of *canela* (*Ajonea saligna* Meissn.).

SPECIMENS: MCN: 1048*, 1150–1169*. MN: 32176*, 32180. AMNH: 315275–315285, 315288, 315291–315296, 315299, 315301–315303, 315306, 321949–321951, 812584–812590*, 824025–824026*.

NOTE: Hellmayr (Cory and Hellmayr, 1927, p. 415) said this species and *E. parvirostris* appear to interbreed in Rio Grande do Sul. Though this seems possible with two such morphologically similar and broadly sympatric species, I know of no field evidence to support his statement. In examining specimens of *mesoleuca* and *parvirostris* from my collection, Melvin Traylor had difficulty in only one instance in separating them on basis of wing and tarsus measurements. On the other hand, rare occurrences of white-crested *mesoleucas* and of *parvirostris* specimens with practically no white may justify keeping question open.

Elaenia obscura

Map 144

Highland Elaenia

Tucão

(Great Tuque)

DISTRIBUTION AND STATUS: Uncommon resident of scrubby patches of small trees, edges of gallery forest, and woodland at low to medium heights, primarily in SE, but does not reach extreme S tip. Occasionally found in NE highlands and littoral, and one 1914 record for Itaqui in far W. *Elaenia o. sordida*.

FIELD MARKS: General coloration similar to other elaenias of state, but with breast appreciably darker olive and belly more yellow than either of other two large species.

SIZE: Two males: 180–182 mm, 24–27 gr. Two females: 174–184 mm, 27.5–34.5 gr.

SOFT PART COLORS: Tarsus brown to black; bill blackish brown to black with bluish pink to reddish gray at base of mandible; iris brown.

VOICE: (R) Call: low, single-pitched trill, varying in length, very similar to typical song of *Todirostrum plumbeiceps*, but more resonant and less mechanical in character. Song: (R) by Paul Schwartz: fast, two-syllable, non-musical phrase: “chukit,” with high squeaky overtones at beginning and strong emphasis on “k” sound at end of first syllable. Somewhat reminiscent of song of *E. mesoleuca*.

BREEDING: Males collected between October 12 and November 20 had much enlarged testes. Female of March 11 had inactive ovary.

BEHAVIOR: Voss and Sander (1980) noted this species eating fruits of *aroeira-do-campo* (*Schinus terebinthifolius* Raddi), and *pinheiro* (*Podocarpus lambertii* Kotsch).

SPECIMENS: MCN: 263, 311, 393, 473, 1049–1050*. MN: 13148, 13494, (WB)677*, (WB)903*. AMNH: 42564, 315263–315273, 321389–321391, 321945–321948, 812591–812592*.

Serpophaga nigricans

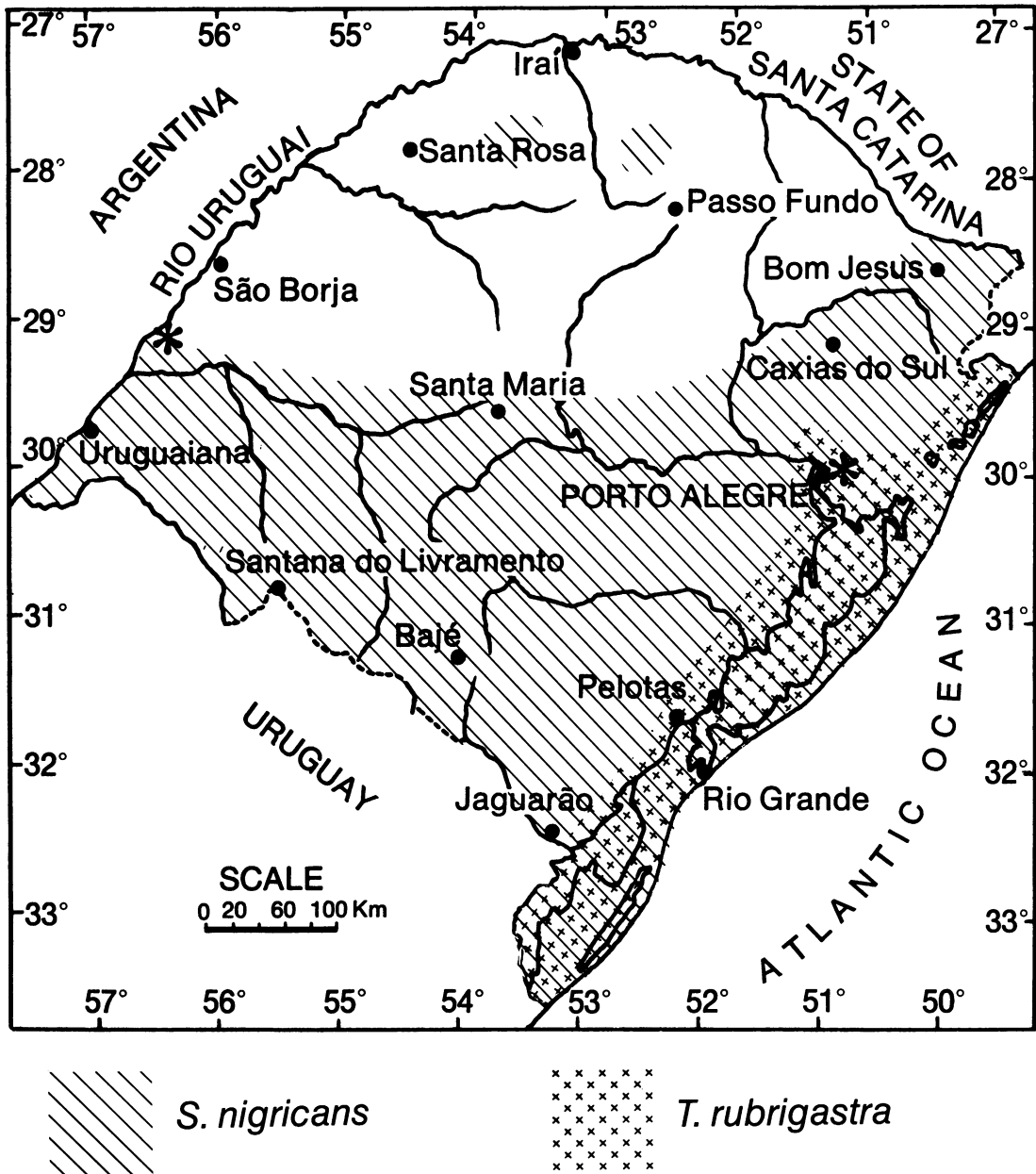
Map 145

Sooty Tyrannulet

João Pobre

(Poor John)

DISTRIBUTION AND STATUS: Uncommon resident, found primarily in S, also in NE highlands and spottily in N central area. Al-



MAP 145. Geographical distribution of *Serpophaga nigricans*, *Tachuris rubrigastra* and *Polystictus pectoralis* in Rio Grande do Sul.

most always near water, either streams or marshes, often on rocks or otherwise near

surface, but also in brush patches and rarely inside woods. Once, apparently well away

from water—although there may have been irrigation ditches in general vicinity—one was in farmyard in midst of grassland.

FIELD MARKS: Essentially all gray, lighter below than above, almost white on throat and belly. Two inconspicuous light grayish wing-bars, usually concealed white crest.

SIZE: One male: 120 mm, 9 gr. One female: 118 mm, 9 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

VOICE: One sang from top of small tree in marsh near Arambaré on May 8, 1973. It started with few staccato notes and then went higher with sweet, canary-like quality—much more beautiful than any other tyrannid song I know.

BREEDING: On November 19, 1972 W of Pantano Grande, Sick and I discovered cup-shaped nest under overhang of eroded bank of stream running in bottom of roadside ditch. Well concealed near top of more than 1 m high bank, nest hung from roots projecting through overhang, its top being no more than 5 cm below roof above. Woven tightly of roots and grasses, with at least one large feather in lining, nest sides rose from even more tightly woven, heavier base. Whole construction measured between 8 and 9 cm from top to bottom. There were three eggs and one chick already some days old, presumably *Molothrus bonariensis*. One egg, Pale Yellow, measured 17.5×13 mm, being generally ovoid with one end considerably smaller than other. It contained well-developed embryo with only small bit of egg sac attached. Another nest of similar construction, no longer in use, seen on November 29, 1972 at Granja Quatro Irmãos about 1.7 m up on trunk of farmyard *Ficus* sp. tree suspended from roots of epiphytic plant which grew in such way as to provide protective overhang for nest. Sooty Tyrannulet nearby was identified to us by residents as former occupant of nest. Male collected March 9, 1972 and female of October 5, 1972 each had small gonads.

BEHAVIOR: In fashion of many shore-inhabiting species, this one pumps its longish tail occasionally, and fans it frequently. On May 22, 1971 near Lageado Grande I watched one fly out from perch on rock in Rio Tainhas to take insect off surface of stream and return

to rock. Later it flew to patch of grass on tiny island, then continued low above water surface to distant shore.

SPECIMENS: MCN: 341, 1046–1047*. MN: 13221, 32193*, 32242*. AMNH: 315203–315205, 321369–321378, 321637, 321638, 321958–321962, 321967.

Serpophaga subcristata

White-crested Tyrannulet

Alegrinho

(Little Cheery)

DISTRIBUTION AND STATUS: All over state in capoeira, high bushes and clumps of vegetation, fencerows, gardens, and other relatively open situations. Although reportedly migratory in Chaco (Short, 1975) it is common year-round in Rio Grande do Sul with no apparent seasonal fluctuation in numbers. *Serpophaga s. straminea*. Due to proximity of *subcristata* to W, individuals of latter race should be watched for along Rio Uruguay. See Note below re *munda*.

FIELD MARKS: Small, gray, with prominent white superciliary, partially concealed white crest, pale yellow belly.

SIZE: One male: 112 mm, 6.5 gr. Two unsexed: 105–110 mm, 6.5–7 gr.

SOFT PART COLORS: Tarsus and bill black; iris (live bird) Dark Grayish Brown.

VOICE: (R) Weak, short, cheery but almost mechanical trill, all on one pitch. Also a slower, bubbling “tweetweetweetweetweetweetwee. . .”

BREEDING: Voss (personal commun.) found nest at zoo, Sapucaia do Sul, August 28, 1978. On October 12, 1972 in N part of Mostardas Peninsula simple, cup-shaped nest being woven of wool and very soft vegetable material was in early stage of construction only about 1 m aboveground in low, very spiny tree among small bromeliads, close under leaves of adjoining plant. Another nest at Fazenda São Francisco October 19, 1974 was about 2.6 m aboveground in ornamental garden tree. Located in bromeliad, it was being woven by both members of pair out of mossy, fibrous materials. On December 3, 1974 two adults fed nestling in garden of Fazenda das Casuarinas, nest being about 3 m aboveground in exotic *Populus* sp. tree. As late as January 20, 1974 young being fed near Gra-

mado. Testes of male taken November 2, 1970 at Fazenda Potrerinhos in highest, coldest area of state were only in initial stages of enlargement.

BEHAVIOR: This tyrannulet characterized by constant activity, buoyant flitting among outer foliage of low to medium height vegetation, frequently displayed crest, and regular song. It feeds by gleaning leaves and branches, often on wing. Tail shaken vigorously during song.

SPECIMENS: MCN: 1042–1045*. MN: 13231, 13235, 13240, 13242, 13244, 13247, 13249. AMNH: 315191–315199, 315201, 315202, 321365–321368, 321640–321644, 321963–321966, 321968, 824023*.

NOTE: On August 31, 1931, at Arroio del Rei, Kaempfer collected male specimen having white belly with slight creamy cast. It contrasts strongly with yellow-bellied specimens, even pale ones, collected by him near Santa Victória do Palmar and São Lourenço, but is very like white-bellied specimens in AMNH from Bolivia. Meyer de Schauensee (1966, p. 377) referring to Zimmer (1955, pp. 14–18), attributed this to *munda*. Although Zimmer reference not entirely clear, specimen distinctive and apparently referable to *munda*.

SPECIMEN: AMNH: 321639.

Tachuris rubrigastra
Map 145

Many-colored Rush-Tyrant
Papa-piri
(Reed-eater)

DISTRIBUTION AND STATUS: Found along entire littoral and inland to slightly W of Porto Alegre, in reedbeds of lakes and marshes, sometimes as much as several hundred m across open water from nearest land. Abundant in NE near Capão da Canoa in June; entirely absent from same spot in January. Present in S throughout year. Although there is no record of species N of 32°S between October 26 and April 10, three individuals netted at Capivari marsh October 24–26, 1983, one with brood patch, indicate that some breeding does occur in this area. Numbers fluctuate appreciably in southern portion of Rio Grande do Sul range, where I have found it very scarce in September and Jan-

uary, but abundant in February and May. Whether those here in spring and early summer are straggling winter visitors or resident breeding birds remains to be determined. Bird of this species lit on icebreaker USS *Glacier* on March 23, 1960 when approximately 170 km off Rio Grande (Sick, 1962, p. 10). *Tachuris r. rubrigastra*.

FIELD MARKS: Spectacular plumage pattern and variety of colors unmistakable. Immature birds have only buffy underparts without breast band, but eye stripe and wing streak present.

SIZE: One male: 117 mm, 6.5 gr. One unsexed: 110 mm, 8 gr.

SOFT PART COLORS: Tarsus black, underside of toes pale orange; bill black; iris: brown (two unsexed specimens—one immature, the other with adult plumage but unossified skull), whitish (immature female), light purple (adult male coming into breeding condition).

VOICE: (R) Simple, single noted “wheep,” not particularly sharp or penetrating.

BREEDING: As noted above, probably nests in state. Adult female from near Osório had only slightly enlarged ovary on September 2, 1970. Testes of male of October 14, 1974 from W of Porto Alegre partially enlarged. Two birds in immature plumage found at Estância Ipiranga on February 9, 1974. This could be evidence of breeding, or they might have been recent arrivals from across border. Latter presumption strengthened by great scarcity of Rush-Tyrants at same spot in a subsequent January.

BEHAVIOR: At Estância Ipiranga in May 1973 these birds hopped among reeds with exceptional lightness and delicacy. Bold and curious, they came to squeaking lure readily, but also approached as result of my movements in reeds. While concealed in reeds much of time, they unhesitatingly moved into small opening and hopped around on exposed sandy areas. Although occasionally as many as eight were in view at once, I noticed no evidence of pairing or any significant interactions other than one brief encounter between two which produced quick call and flashing of one's red crest.

SPECIMENS: MCN: 1039–1041*. MN: 31860–31861*. AMNH: 321381–321388, 321647–321654, 321977.

Polystictus pectoralis
Map 145

Bearded Tachuri
Papa-moscas-canela
(Cinnamon Flycatcher)

Cited by Gliesch (1930) as collected at Porto Alegre on unknown date, and by Pinto (1944) at Itaqui in November 1914. Latter identified as *P. p. pectoralis*. These are only records for state.

Pseudocolopteryx sclateri
Map 146

Crested Doradito
Tricolina
(Flannelette)

DISTRIBUTION AND STATUS: Found so far only in three areas: near Lagoa Mirim, in Capivari marsh and at Banhado São Donato and vicinity, but wide separation of these places indicates it may be expected in almost any marshy region. Occurs in tall grass, reeds, and cattails in or at edge of marshes. Rio Grande do Sul records extend from August 31 until May 7, indicating species may depart area in winter, but observation still insufficient to prove migratory status.

FIELD MARKS: Small size, bright yellow underparts, long black and ochre crest feathers. Immature specimen of February 11, 1974 had much more ochre and less black in crest, light brown back, and very pale yellow underparts with few random bright patches.

SIZE: One male: 116 mm, 8 gr. One female: 110 mm, 7 gr.

SOFT PART COLORS: Tarsus gray; bill black (two juvenals had pink mandibles with dark tips); iris brown.

BREEDING: Two adults carried insects to cup-shaped nest in grass clump near edge of canal through São Donato marsh on November 24, 1974. Nest about 35 cm above water line, but I was unable examine it closely from across canal. Testes of male collected February 11, 1974 still enlarged.

BEHAVIOR: Pert, active species which spends much of time in less visible portions of habitat.

SPECIMENS: MCN: 1037-1038*. MN: 32218*. AMNH: 321645, 321981.

Pseudocolopteryx flaviventris
Map 146

Warbling Doradito
Amarelinho-do-junco
(Little Yellow Reedbird)

DISTRIBUTION AND STATUS: Scarce resident of littoral and Banhado São Donato. One record from center of state. Occurs only in or at edges of marshes among high grass and reeds. Frequency of observation in May and winter months indicate there may be minor influx from S at that season. Gore and Gepp (1978) consider it migratory in Uruguay.

FIELD MARKS: Only small unornamented brown bird with yellow underparts found within its habitat.

SIZE: One female: 117 mm, 8 gr. One unsexed: 113 mm, 7 gr.

SOFT PART COLORS: Tarsus dark gray to black; maxilla black; mandible varies from whitish with dark tip to brownish yellow; iris brown.

VOICE: (R) Series of short, abrupt, well-spaced "tk's" followed by eight sharp, harsh, abrupt, squeaky sounds, each independent and irregularly timed, but forming pattern recognizable after several repetitions: "tk -- tk -- tk -- tk -- tk -- TK QUIT tuk PEET tk tuk tk QUIT."

BREEDING: Female collected January 5, 1976 in Taim marsh had enlarged ovary with one very large follicle.

BEHAVIOR: Hops silently and inconspicuously among grass and reed stalks. Often approaches promptly in response to squeaking lure.

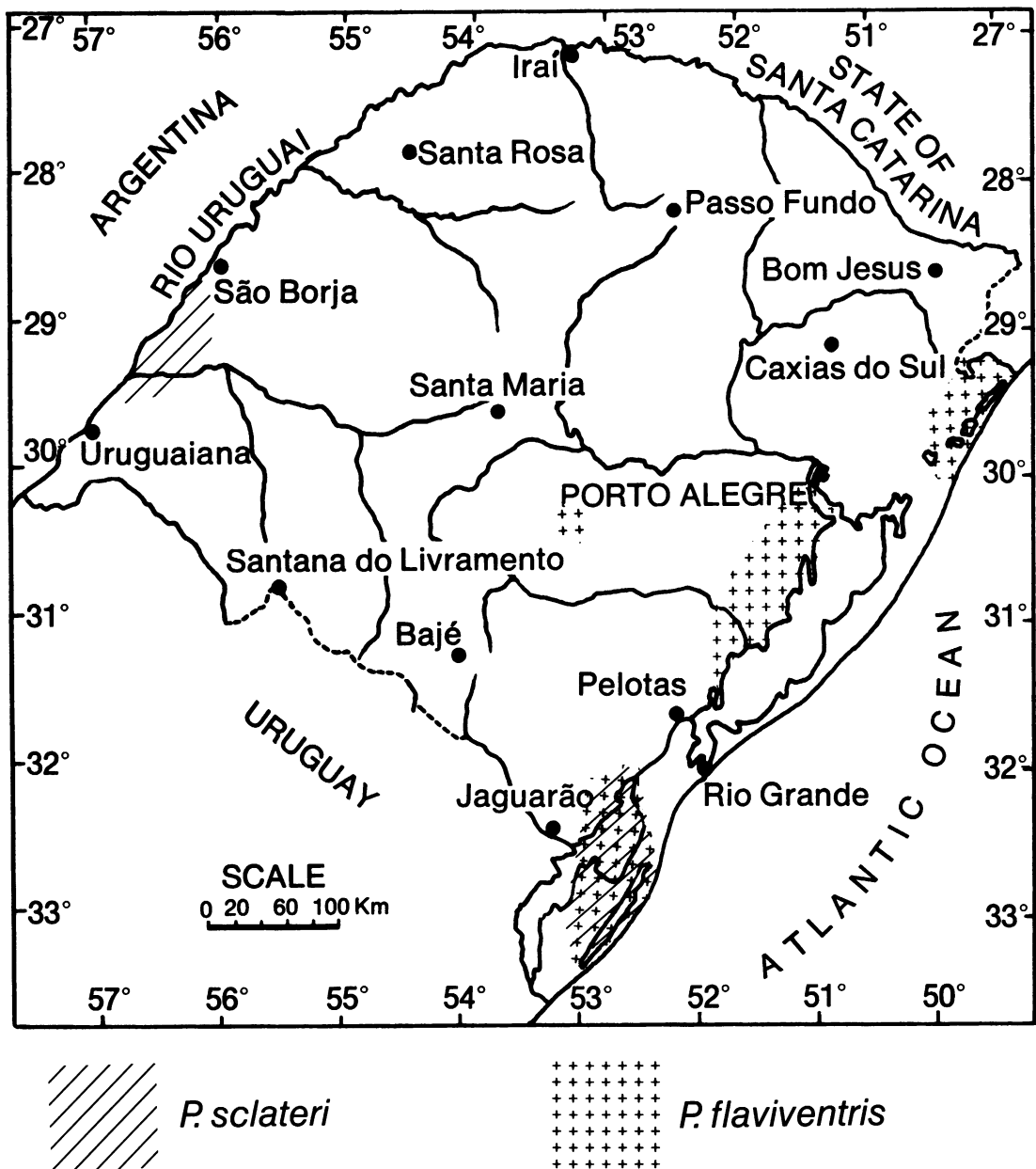
SPECIMENS: MCN: 1035-1036*. MN: 31862*, 32162*. AMNH: 321646, 321980.

Euscarthmus meloryphus
Map 147

Tawny-crowned Pygmy-Tyrant
Barulhento
(Noisy)

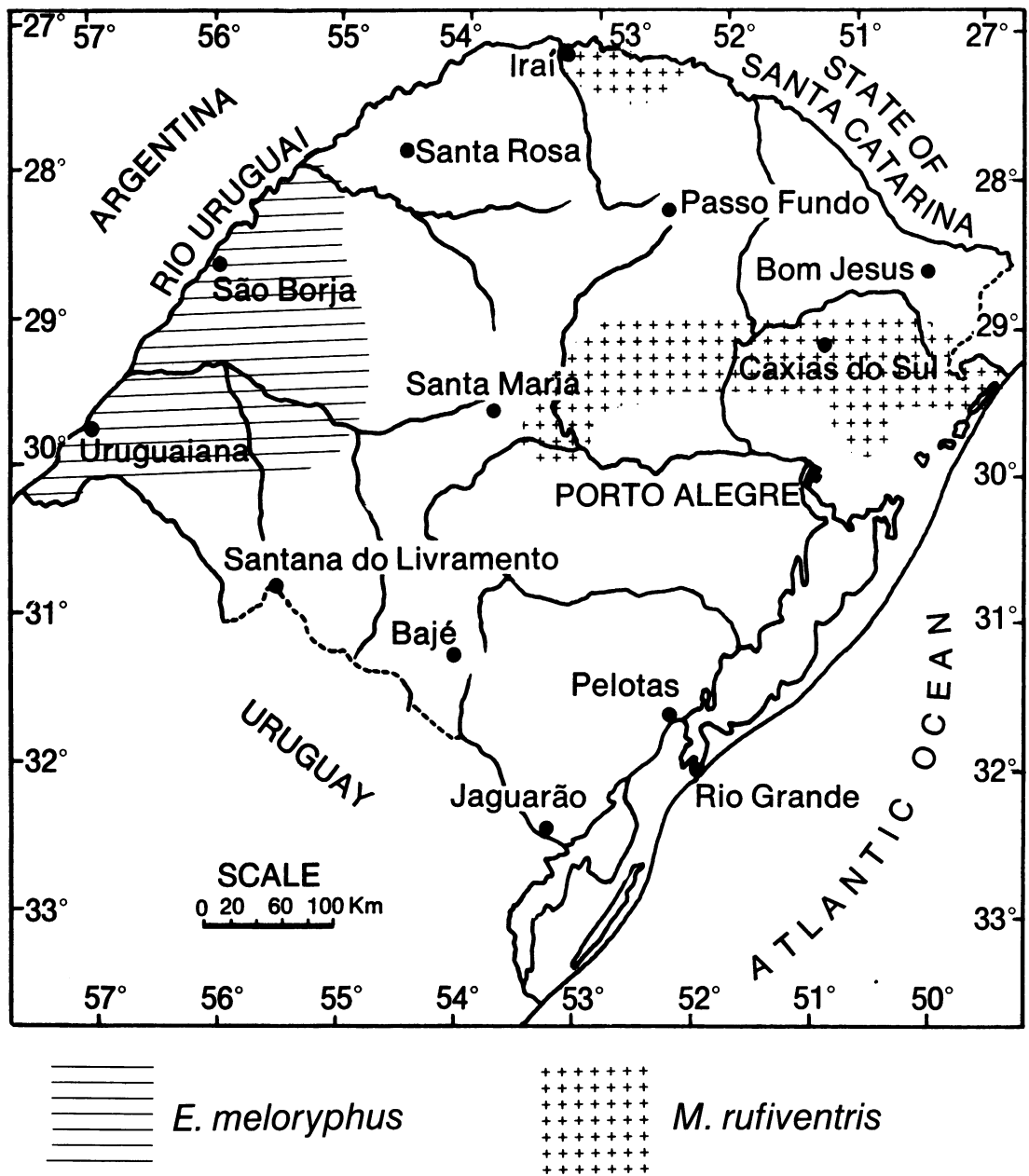
DISTRIBUTION AND STATUS: Uncommon summer resident in capoeira and bushy thickets at scattered localities W of 55°W. Registered only from October 10 to January 25. *Euscarthmus m. meloryphus*

FIELD MARKS: Partially concealed ample



MAP 146. Geographical distribution of the two species of *Pseudocolopteryx* found in Rio Grande do Sul.

dull orange crest, often visible because bird usually below eye line in scrubby habitat.	black; mandible grayish to white with dark tip; iris brown.
SIZE: One male: 108 mm, 8 gr.	VOICE: (R) Constantly repeated, raucous,
SOFT PART COLORS: Tarsus gray; maxilla	rasping, rapid, sneeze-like utterance:



MAP 147. Geographical distribution of *Euscarthmus meloryophus* and *Mionectes rufiventris* in Rio Grande do Sul.

“rrrrrrrrrrrrEEEchoo” or “rrrrrrrrrrrrEEE chee choo,” occasionally interspersed with “chee oo” or other modification of main theme. One individual, after playback, continually repeated quick, harsh, loud “beatit.”

BREEDING: Males collected October 10, 1971 and November 5, 1975 had active testes.

BEHAVIOR: Usually found hopping about in scrubby, dense vegetation. Stomach content of one consisted of insects and a caterpillar. Often draws attention due to vigorous vocalization. When delivering strident calls, entire body quivers.

SPECIMENS: MCN: 1078–1079*. MN:

12395, 12625, 12628, 12629. AMNH: 824822*.

Mionectes (Pipromorpha) rufiventris

Map 147

Gray-headed Flycatcher

Supi-de-cabeça-cinza

(Gray-headed Supi)

DISTRIBUTION AND STATUS: Scarce occupant of lower levels of forest along escarpment, both above and below, W almost to Santa Maria, and in extreme N at Nonoai Forest Reserve and Iraí. Presumably resident, but summer records lacking between December 16 and April 6.

FIELD MARKS: Combination of dark gray head and ochre underparts distinctive.

SIZE: Two males: 134–150 mm, 14–16 gr.

SOFT PART COLORS: Tarsus gray; bill black with base of mandible lighter; iris dark.

BREEDING: Male collected July 7, 1974 had small testes, while those of one of December 16, 1971 much enlarged.

SPECIMENS: MCN: 1191–1192*. AMNH: 315206–315211, 824030*.

Leptopogon amaurocephalus

Map 148

Sepia-capped Flycatcher

Cabeçudo

(Big Head)

DISTRIBUTION AND STATUS: Uncommon resident of lower-to-medium forest levels across N, S to below escarpment in E and Garruchos in W. *Leptopogon a. amaurocephalus*.

FIELD MARKS: Distinguished from other species with greenish backs, olive breasts, yellow bellies, and wing bars by dark brown cap and blackish ear coverts. Bill long and narrow. Bushy quality of crown feathers gives large-headed appearance, which accounts for vernacular name.

SIZE: Three males: 147–150 mm, 11–13 gr. Two females: 134–135 mm, 12–13 gr.

SOFT PART COLORS: Tarsus gray to reddish gray; maxilla black; mandible ranges from all black to pinkish gray with black streaks on sides near tip; iris brown.

VOICE (R) Moderately prolonged, gargled trill, all on one note, rich in higher overtones. Individual hiccuping sounds are frequently interspersed between trills. Reminiscent of Furnariid vocalization.

BREEDING: Silva saw one carrying nesting material on August 6, 1973 at Garruchos, and on same day we saw extensive courtship chase. On November 6, 1975 at Santo Cristo one made repeated trips out of deep forest to gather spider webbing in jerky, haphazard fashion. Male collected September 15, 1971 at Turvo Forest Reserve had much enlarged testes, while one of October 18, 1975 at Carazinho had only moderate enlargement. Female from Turvo on September 11, 1971 had only slightly enlarged ovary, while that of one from Ibirubá on May 10, 1971 inactive.

BEHAVIOR: Sepia-capped Flycatchers tend to perch stolidly within forest shade, but fly swiftly and silently when they move. When producing trill described above, whole body, especially tail, shakes violently.

SPECIMENS: MCN: 270, 1193–1195*, 1197*. MN: 13120. AMNH: 315215–315227, 810507*, 824029*.

Phylloscartes (Pogonotriccus) eximius

Map 149

Southern Bristle-Tyrant

Barbudinho

(Little Bearded One)

DISTRIBUTION AND STATUS: Uncommon, confined to area N of 28°S at medium level in shady forest. Registered between September 16 and May 20, but observations in area of distribution still insufficient to prove absence in winter.

FIELD MARKS: Black and white of head contrast with bright olive-green of back and bright yellow of belly. My specimen has dull olive wash on center of crown, but entire top of head back to nape essentially blackish, in contrast to bright olive-green center of crown mentioned by Meyer de Schauensee (1970).

SIZE: One male: 114 mm, 7.5 gr.

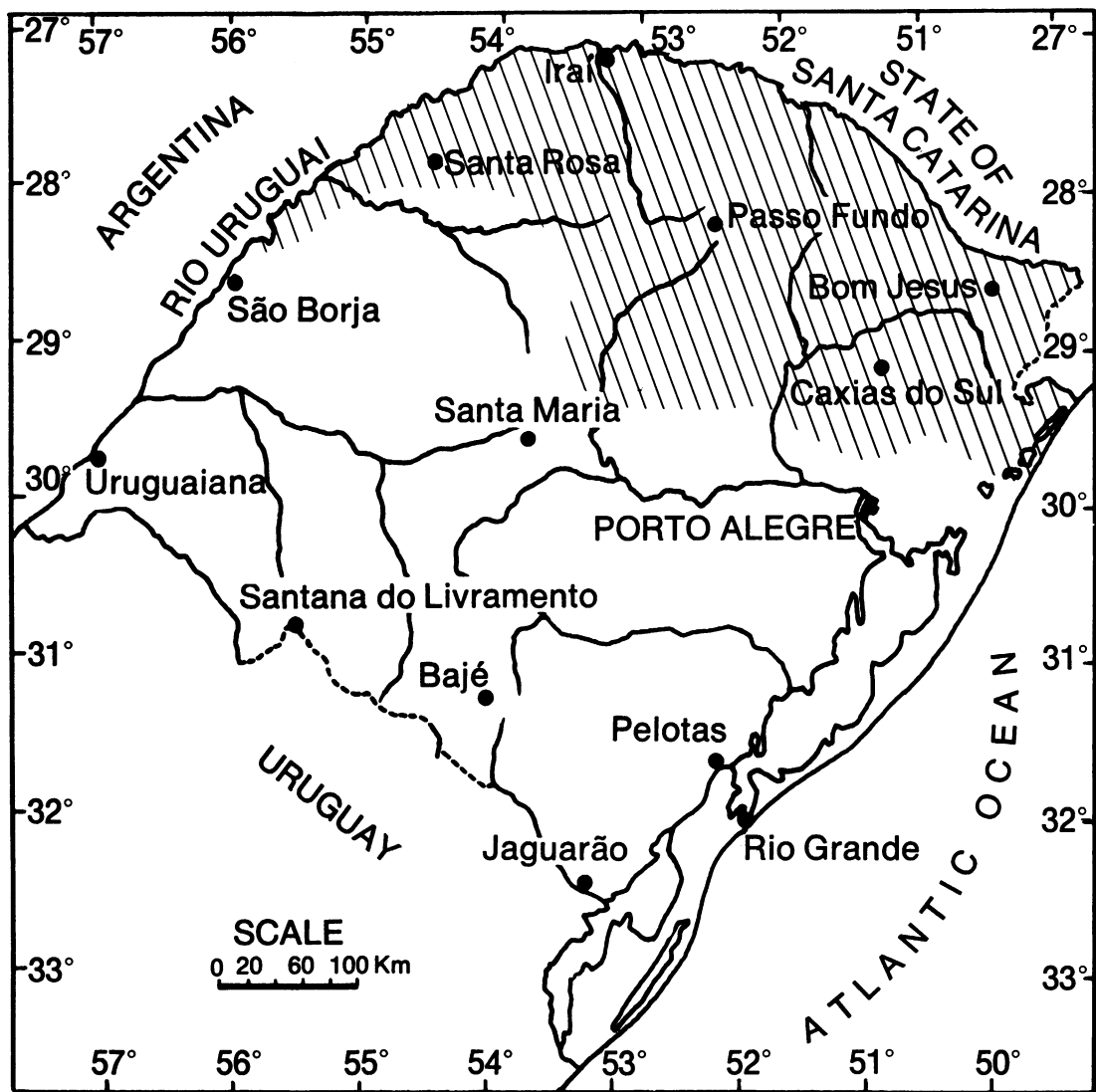
SOFT PART COLORS: Tarsus light gray; maxilla black; mandible pinkish white; iris dull red.

VOICE: (R) Rapid series of staccato squeaks, starting on level pitch, then rising and falling once in arched pattern.

BREEDING: Male collected May 20, 1972 had small testes.

BEHAVIOR: Rather active and noisy. My specimen had consumed small insects and a caterpillar.

SPECIMENS: MCN: 1071*. AMNH: 315181–315184.



MAP 148. Geographical distribution of *Leptopogon amaurocephalus* in Rio Grande do Sul.

Phylloscartes (Capsiempis) flaveolus
Map 149

Yellow Tyrannulet
Marianinha-amarela
(Little Yellow Marianne)

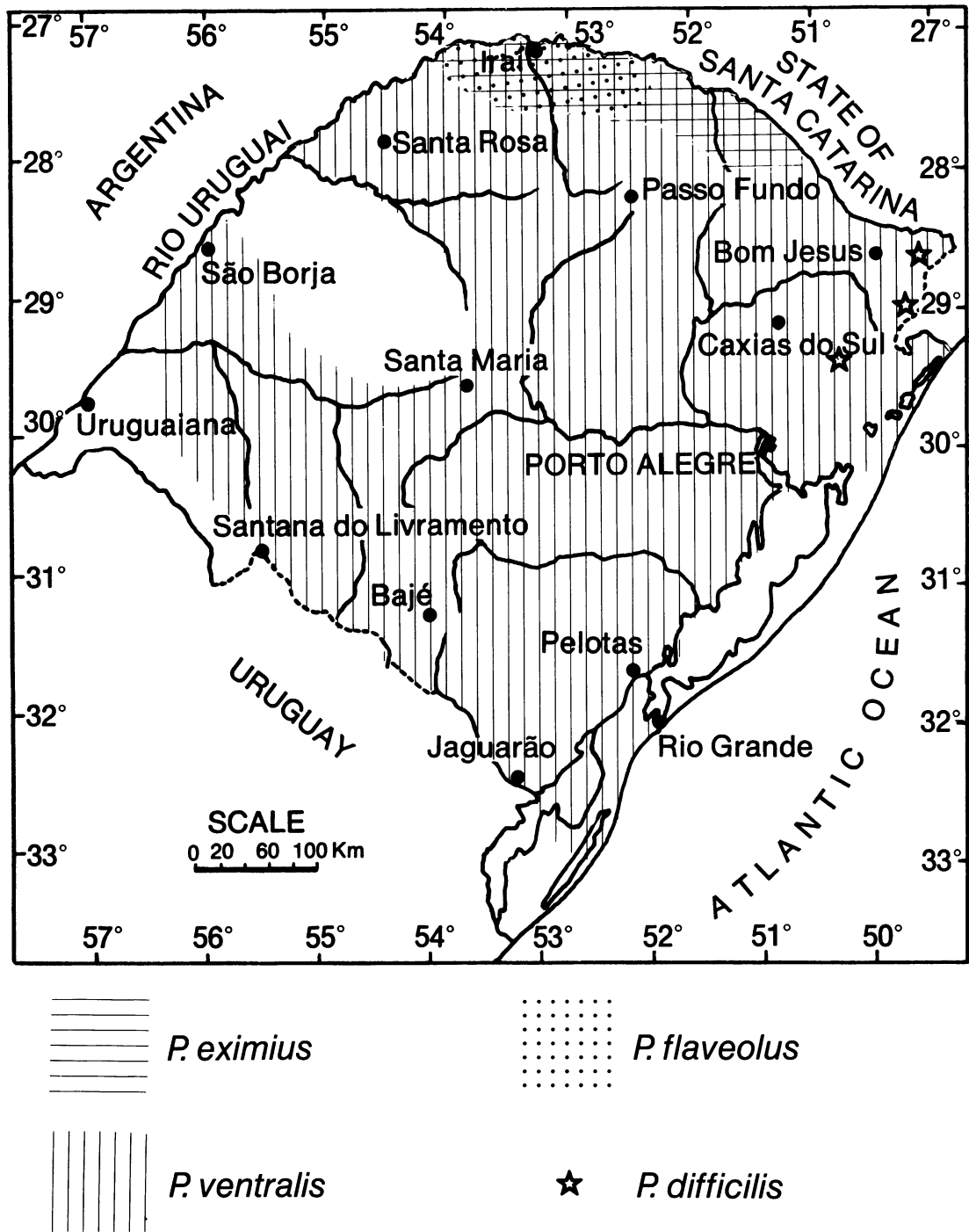
DISTRIBUTION AND STATUS: In extreme N between Turvo and Nonoai Forest Reserves, where found in capoeira and bamboo tangles in openings and early second growth forest. Records run from August 23 to May 20, with inadequate mid-winter observations for de-

termining migratory status. *Phylloscartes f. flaveolus*.

FIELD MARKS: Only small Rio Grande do Sul flycatcher with solid yellow underparts found in forest or dry scrub. Fledgling had head heavily washed with Strong Yellowish Brown and three wing bars of similar shade.

SOFT PART COLORS: Fledgling tarsus gray; maxilla black; mandible brown with lighter patch; eye dark.

VOICE: (R) Insistent phrase composed of



MAP 149. Geographical distribution of the four species of *Phylloscartes* found in Rio Grande do Sul.

long nasal trill, tending up scale near end just before mildly explosive final drop: “gk-gk-

gk-gk-gk-ee--TOO.” Also, prolonged light bubbling trill, moving up and down scale,

sometimes slowly, lightly, and almost musically, other times in rapid, vigorous, rattly, jerky zigzag. Duetting occurs in this latter mode.

BREEDING: Fledgling being fed November 21, 1973.

SPECIMENS: MCN: 1058*, 1824*.

Phylloscartes ventralis

Map 149

Mottle-cheeked Tyrannulet

Borboletinha-do-mato

(Little Forest Butterfly)

DISTRIBUTION AND STATUS: Very common resident in middle to upper levels of forests and woodlands throughout most of state, but records lacking from some areas of W, extreme S, and Mostardas peninsula. *Phylloscartes v. ventralis*.

FIELD MARKS: See *Phyllomyias fasciatus*.

SIZE: One male: 122 mm, 9 gr. One female: 120 mm, 8 gr. Four unsexed: 115–132 mm, 7.5–8.5 gr.

SOFT PART COLORS: Tarsus gray; bill black with pinkish or white at base of mandible; iris brown.

VOICE: (R) Song: semi-mechanical series of brief burbles, rising, then falling in pitch. Also given more briefly all on one pitch. Surprisingly harsh and noisy for bird of this modest proportions. Note: continuous staccato “chip chip chip. . .,” somewhat irregular in timing, intensity, and pitch.

BREEDING: One of a pair was carrying moss and straw near Aratiba on August 29, 1975. In wet coastal forest near Tôrres on September 29, 1975 one was working on nest hidden in clump of *Tillandsia usneoides* hanging from small tree at edge of narrow drainage canal. Nest opening, at eye height, appeared to have been made merely by pushing and perhaps removing some *Tillandsia* fibers until entrance and nest chamber formed. Similar nest found December 11, 1979 at Rincão dos Pereira suspended 1.9 m aboveground from thin branch contained two one-to-two day old chicks and one white egg. Side entrance was in somewhat from slightly jutting overhang above it and wall below sloped outward from sill, thus providing protection from weather. Bits of shell were on ground below. Male from Canela had small testes on August 15, 1970, whereas in same area female on September 28, 1972 and male on October 23, 1971 had

moderately enlarged gonads. Males from Massambará had much enlarged testes on October 15, 1974.

BEHAVIOR: Especially restless species seen most often as it flits, butterfly like, lightly and errantly among inner foliage of woodland trees, gleaning insects directly from leaf surfaces, or pausing only momentarily between sallies. Flitting often accompanied by sound originating from wings. Usually found individually or in pairs.

SPECIMENS: MCN: 562, 570, 1059–1065*. MN: (WB)170*, 12816, 12817, 12827, 31858–31859*, 31897*. AMNH: 315144–315180, 321379, 321380, 321969–321976, 810498*, 824020–824021*.

Phylloscartes difficilis

Map 149

Serra do Mar Tyrannulet

Estalinho

(Little Snapper)

DISTRIBUTION AND STATUS: All three Rio Grande do Sul records are from low bushes in scrubby openings in predominantly araucaria forest of high country near NE escarpment, dated April 29, 1961 (Camargo, 1962), July 5, 1974, and October 8, 1973.

FIELD MARKS: Prominent white eye ring and facial markings. My specimens seem to be darker than those described by Meyer de Schauensee (1970), with upperparts Moderate Olive and breast between Medium and Dark Gray.

SIZE: One male: 133 mm, 8 gr. One female: 113 mm.

SOFT PART COLORS: Tarsus light to pinkish gray; bill black with base of mandible whitish to pink; iris brown.

BREEDING: Specimens of July 5 and October 8 had small gonads.

BEHAVIOR: Snapping noise made by wings in flight much more crisp than that made by *P. ventralis*. Responds readily to squeaking lure.

SPECIMENS: MCN: 1056–1057*.

Corythopsis delalandi

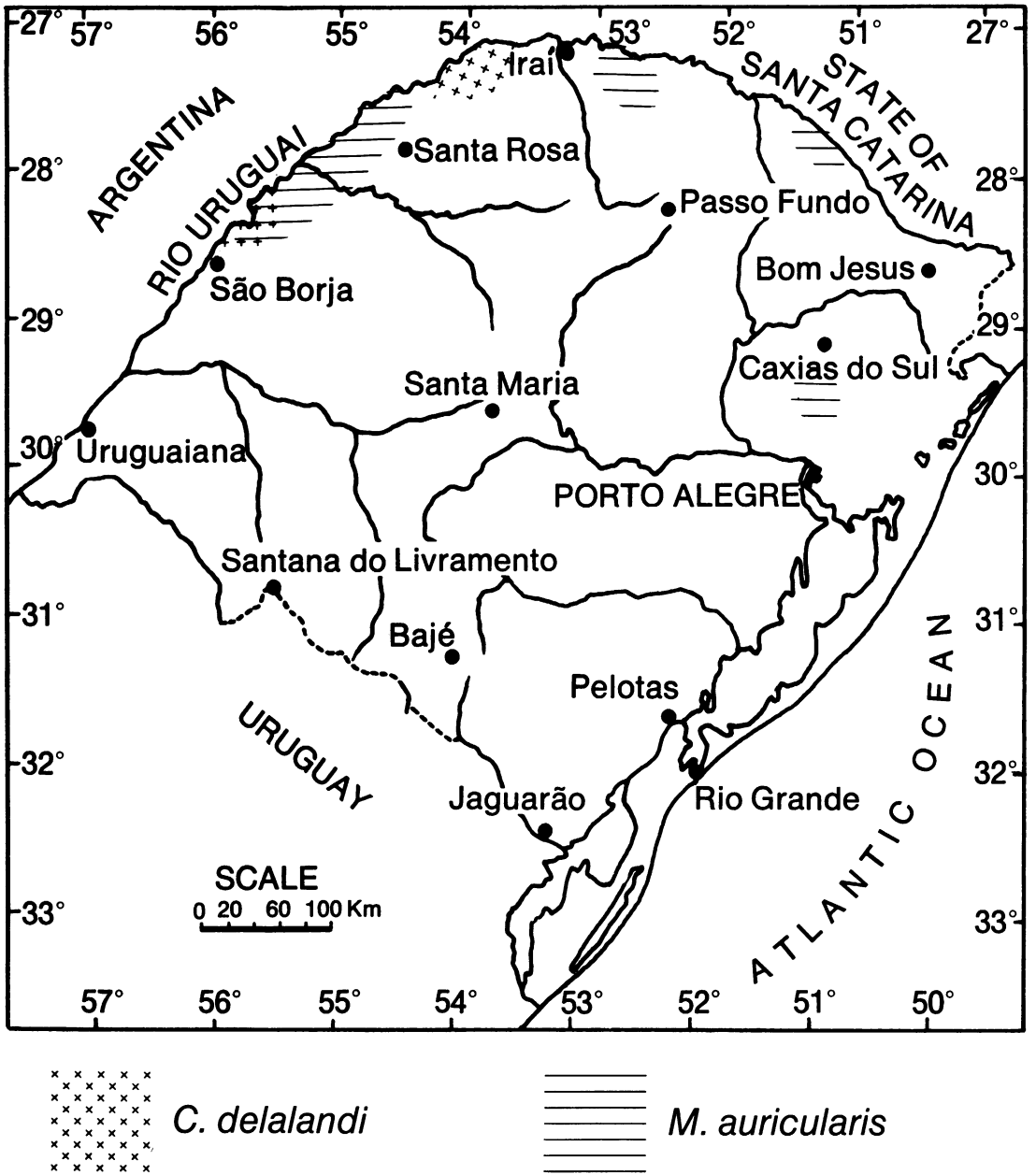
Map 150

Southern Antpiper

Estalador

(Snapper)

DISTRIBUTION AND STATUS: Found so far



MAP 150. Geographical distribution of *Corythopsis delalandi* and *Myiornis auricularis* in Rio Grande do Sul.

only in Turvo Forest Reserve and at Garruchos, very low and on floor in forests. Probably resident; found on all visits to above areas, but not yet registered between early March and early August. Fairly common at Turvo, scarce at Garruchos.

FIELD MARKS: White throat and belly and

black breast band with black streaks descending from it over white of lower breast are distinctive. Neither stance nor habits typically tyrannid. Reminiscent of *Myrmeciza squamosa* in character of voice (not song itself) and overt behavior.

SIZE: Three males: 134–142 mm, 13–16 gr.

SOFT PART COLORS: Tarsus pink to gray; maxilla gray to dark brown; mandible yellowish to pinkish white; iris chestnut, grayish brown, brown.

VOICE: (R) Loud, clear, distinctive combination of sharp whistles followed by burbling trills in rhythm of "We KEEP frree BUbble 'n squeak."

BREEDING: Male collected August 7, 1973 had small testes, but sang vigorously and engaged in swift courtship chase of 100 m or so. Two males collected September 13, 1971 and November 1, 1975 had much enlarged testes.

BEHAVIOR: This species makes snapping noise in flight which I presume is done with bill, for I have also heard it from individual entangled in net. Vernacular name originates from this practice.

SPECIMENS: MCN: 1082–1083*. AMNH: 824008*.

Myiornis auricularis

Map 150

Eared Pygmy-Tyrant

Miudinho

(Tiny)

DISTRIBUTION AND STATUS: Fairly common, probably resident, in NW and extreme N. No records for June or July, but I have found it as late as May 19 and as early as August 2. Berlepsch and Ihering (1885) reported specimen from Nova Petrópolis area. No modern records this far S, although species might still exist in some more inaccessible pockets of forest remaining along escarpment. Usually found on exposed branches and other visible perches at heights of 2 to 3 m among undergrowth and bushes in forest and along forest edges. *Myiornis a. auricularis*.

FIELD MARKS: Minute size and swift flight create impression of hummingbird, enhanced by buzzing of wings in flight. However, build is chunky. Whitish throat and upper breast streaked black above yellow belly. Black spot behind auriculars quite noticeable from side.

SIZE: Two males: 85–90 mm, 4.5–5.5 gr. One female: 79 mm, 5 gr.

SOFT PART COLORS: Tarsus Light Grayish Reddish Brown; maxilla black with whitish base; iris Deep Reddish Brown.

VOICE: (R) Rapid trill of from four to eight bubbling, resonant, nonmusical notes usually on same pitch, trills often separated by two or three single notes. Also sharp, explosive, resonant single note.

BREEDING: Pair collected August 2, 1973 at Santo Cristo had inactive gonads. Pair collected October 25, 1975 near Garruchos had somewhat enlarged gonads, whereas testes of male of November 27, 1973 at Garruchos much enlarged.

BEHAVIOR: This pert, lively mite makes itself conspicuous by rapid movements and frequent vocalization. It often seems to have distinctly limited range of action, centering around one forest bush or thicket, although I have seen pair move out briefly to low tree in meadow 30 m or so from forest edge.

SPECIMENS: MCN: 1097–1099*. AMNH: 812739–812740*.

Hemitriccus diops

Map 151

Drab-breasted Pygmy-Tyrant

Olho-falso

(False Eye)

DISTRIBUTION AND STATUS: First authentic record for Rio Grande do Sul registered August 23, 1981 at Irai Municipal Forest Reserve where one individual seen and another netted about 1 km away in low thick vegetation within forest.

FIELD MARKS: Small, green, with very light spot immediately in front of eye.

SIZE: One male: 122 mm, 9.5 gr.

SOFT PART COLORS: One male: tarsus light gray; maxilla dark brown; mandible pinkish gray; iris strong reddish chestnut.

BREEDING: Testes of August 23 specimen were inactive.

SPECIMEN: MCN: 1810.

NOTE: Camargo (1962) reported collecting this species, but Belton (1978b) found Camargo specimen to be a misidentified *H. obsoletus*.

Hemitriccus obsoletus

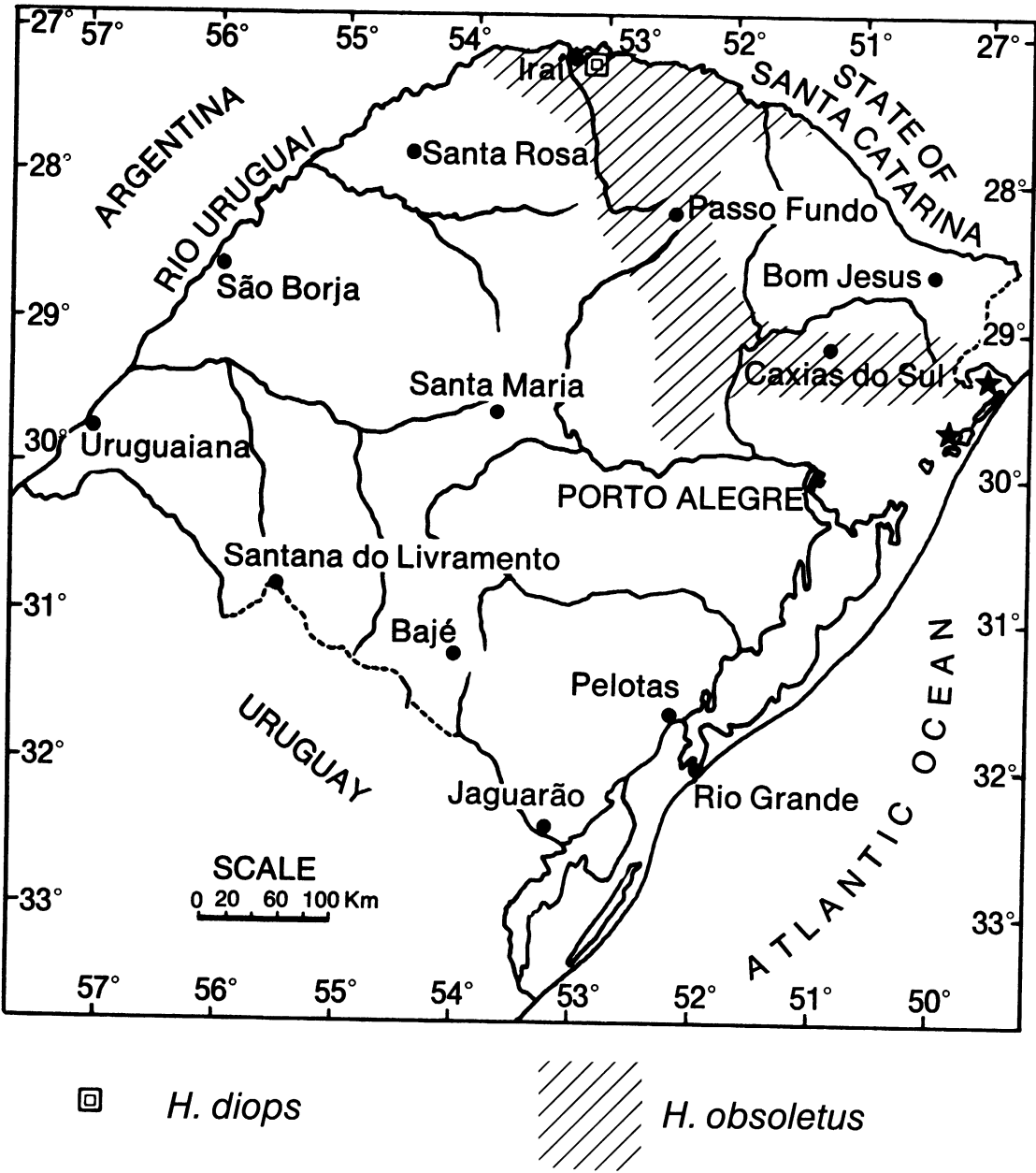
Map 151

Brown-breasted Pygmy-Tyrant

Catraca

(Ratchet)

DISTRIBUTION AND STATUS: Fairly common resident in extreme N and along E por-



MAP 151. Geographical distribution of the three species of *Hemitriccus* found in Rio Grande do Sul.

tion of southern escarpment, usually near top. Scarce in planalto regions between. Normally found 1 to 3 m above surface in densely shad-

ed forests and bamboo thickets. *Hemitriccus o. zimmeri*.

FIELD MARKS: No easily notable plumage

feature. Buffy lores and buffy wash on darkish underparts contrast with olive-brown upper plumage. Dark eye notably large for size of bird.

SIZE: One male: 125 mm, 11 gr. One female: 115 mm, 9 gr.

SOFT PART COLORS: Tarsus bluish pink to light gray; maxilla brown to black with extreme tip light; mandible white to pinkish white (blackish with light base and tip on juvenal collected April 11, 1971); iris chestnut-brown (deep red with grayish white outer edge on juvenal of April 11, 1971).

VOICE: (R) Irregularly timed series of resonant, piercing, staccato squeals, usually trending up scale.

BREEDING: Three males and one female collected between October 3 and 14 had inactive or only slightly enlarged gonads. Male of December 3, 1970 had moderately enlarged testes.

BEHAVIOR: Birds singing on their territory tend to move swiftly and suddenly from perch to perch with distinctive "brrrrrr" created by wings. One foraged by hopping quietly from twig to twig in undergrowth, peering around at each stop, and occasionally clinging to moss on vertical trunks.

SPECIMENS: MCN: 1066-1068*, 1092*. MN: 31863-31864*, 31898*. USNM: (alcoholic) 503778-503880*. AMNH: 315127-315132.

Hemitriccus orbitatus
(*Idioptilon orbitatum*)

Map 151

Eye-ringed Tody-Tyrant
Tiririsinho-do-mato
(Little Forest Tiriri)

DISTRIBUTION AND STATUS: Found at middle level of wet woodlands only on littoral behind Tôrres and Capão da Canoa. Fairly common and apparently permanent resident, registered in June, September, October, and January.

FIELD MARKS: Broad, very conspicuous white eye ring. Yellow of lower underparts, if seen from front, and broad white edges of inner remiges, if seen from rear, separate it from rather similar *Phylloscartes difficilis* which also has prominent but narrower eye ring.

SIZE: Three males: 120-126 mm, 9.5-10.5 gr. One female: 115 mm, 9 gr.

SOFT PART COLORS: Tarsus varies from Moderate Gray to very pale gray. Maxilla blackish brown; mandible varies from white to pinkish gray and has diamond-like design of visible blood vessels. Iris varies from dark reddish to whitish shot with red.

VOICE: (R) Low, bubbling trill with squeaky overtones. Trill mostly on one pitch, but usually drops lower near end.

BREEDING: Specimens collected September 27, 1975 had active, enlarged gonads, while two males of June 24, 1974 had inactive testes.

BEHAVIOR: Moves about within forest with very short flights of from approximately 0.5 m to 5 m. When voicing rapid, squeaky trill it raises head and shakes tail vigorously, with body reflecting some of this movement.

SPECIMENS: MCN: 1093-1096*. MN: 31856-31857*. AMNH: 315112-315116.

Todirostrum plumbeiceps

Map 152

Ochre-faced Tody-Flycatcher
Tororó
(Shorty)

DISTRIBUTION AND STATUS: Common resident in most of Rio Grande do Sul, S as far as 32°30'S in E, but nowhere reaching Uruguayan border. No records for São Borja-São Luis Gonzaga area or Mostardas peninsula. Inhabits thickets, low undergrowth along forest edges, usually within 1 m or so of ground. *Todirostrum p. plumbeiceps*.

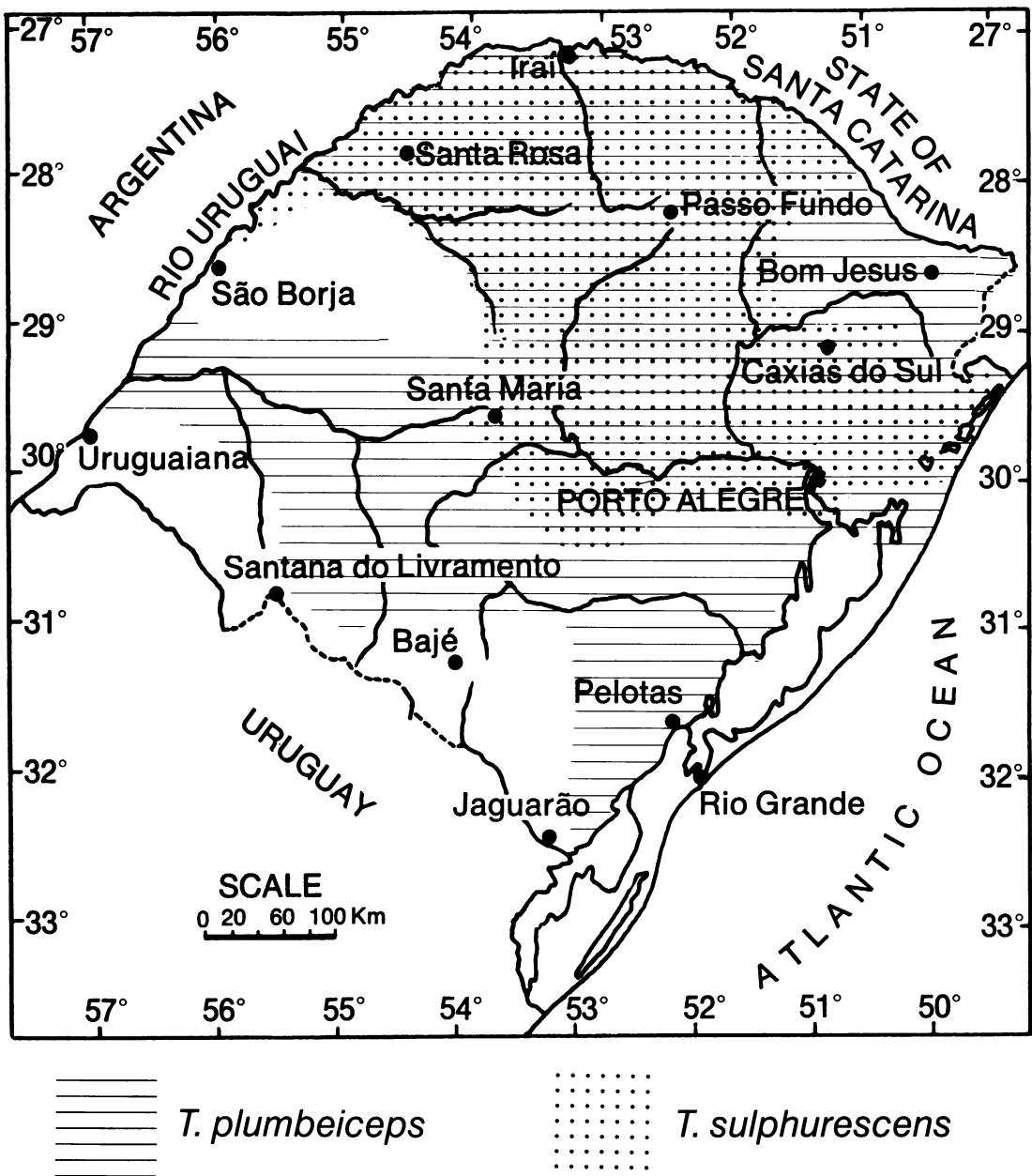
FIELD MARKS: Tiny size, long slender bill, and extensive rich buff on face and throat contrast with dark gray cap.

SIZE: One male: 98 mm, 6 gr. One female: 93 mm, 6 gr.

SOFT PART COLORS: Tarsus light gray or reddish gray; bill black, light at extreme tip; iris dull orange-red.

VOICE: (R) Abrupt, low, resonant, throaty rattle, often repeated two or three times, and frequently preceded by low, quick "tik."

BREEDING: Male taken October 19, 1971 had much enlarged testes, whereas female of April 13, 1971 had inactive ovary. Ihering (Berlepsch and Ihering, 1885) described bulky, hanging, enclosed nest.



MAP 152. Geographical distribution of *Todiostrotrum plumbeiceps* and *Tolmomyias sulphurescens* in Rio Grande do Sul.

BEHAVIOR: Keeps almost permanently to its low, dark habitat, but responds readily to squeaking lure by vocalizing and approaching, though remaining in cover.

SPECIMENS: MCN: 396, 577, 1072–1073*, 1815. AMNH: 315106, 315107, 321979.

Tolmomyias sulphurescens
Map 152
Yellow-olive Flycatcher
Bico-chato-orelha-preta
(Black-eared Flatbill)
DISTRIBUTION AND STATUS: Common

resident of woodland interior and edges along Rio Uruguay upstream from Garruchos and in most of northern portion of state E of 54°W, including central trough but excluding coldest and highest regions of NE. *Tolmomyias s. sulphurescens*.

FIELD MARKS: One of several Rio Grande do Sul woodland tyrannids which have varying amounts and shades of green, olive, and yellow in plumage without any outstandingly distinctive markings to facilitate identification, most easily made by voice. It is largest of these and best separated by its combination of flat bill, whitish area before eyes, blackish ear coverts, and double wing bars.

SIZE: Four males: 137–151 mm, 16–18 gr.

SOFT PART COLORS: Tarsus gray; maxilla black; mandible varies from pink to white and usually shows pink diamond-shaped design produced by blood vessels; iris brown.

VOICE: (R) Three, sometimes four, well-separated, forceful, but not very loud “whreeeep’s,” often preceded by series of low “chk’s.”

BREEDING: Three males collected between September 12 and November 21 had much enlarged testes, whereas those of six between December 22 and July 26 inactive. Voss (personal commun.) found hanging nest under construction, apparently of *Tillandsia* fibers, with low side entrance, on September 28, 1978 at Farroupilha.

BEHAVIOR: Forages for insects from lower to middle levels of forest.

SPECIMENS: MCN: 342, 595, 1080–1084*. MN: 32178*. AMNH: 315094–315104, 810508–810509*, 824018–824019*.

Platyrinchus mystaceus

Map 153

White-throated Spadebill

Patinho

(Duckling)

DISTRIBUTION AND STATUS: Resident in extreme N and in NE quarter. One August record for Garruchos. Very common near E half of escarpment, especially on littoral, but missing from highest and coldest portion of NE. Usually found low in thick underbrush or heavily shaded moist forest. *Platyrinchus m. mystaceus*.

FIELD MARKS: Small size and broad, flat bill.

SIZE: Three males: 104–106 mm, 9–10 gr. One female: 95 mm, 9 gr.

SOFT PART COLORS: Tarsus of five specimens from Fazenda do Pontal varied from Moderate Pink through Pale Pink to Grayish Pink; maxilla black; mandible varied from off-white to Yellowish White and Light Purplish Gray (design formed by blood vessels visible on lower side); iris of same five specimens varied from Dark Brown through Grayish Brown to Dark Grayish Brown.

VOICE: (R) Song: prolonged, bubbling but squeaky, slightly descending trill. Call: irregular series of sharp, individual “weet’s,” sometimes “WEET-tu-tu,” delivered in scolding fashion when agitated. One of noisier forest species on November 18, 1978 at Fazenda do Pontal.

BREEDING: Four males and a female collected September 26, 1975 at Fazenda do Pontal and a male from Canela on November 22, 1971 all had enlarged gonads.

BEHAVIOR: Darts swiftly, with considerable wing noise, over short distances from one perch to another within shaded habitat, then remains motionless for some time before repeating performance.

SPECIMENS: MCN: 342, 1074–1077*, 1085–1086*. MN: 10454. AMNH: 315074, 315076–315083, 810499–810500*, 824016–824017*.

Platyrinchus leucoryphus

Map 153

Russet-winged Spadebill

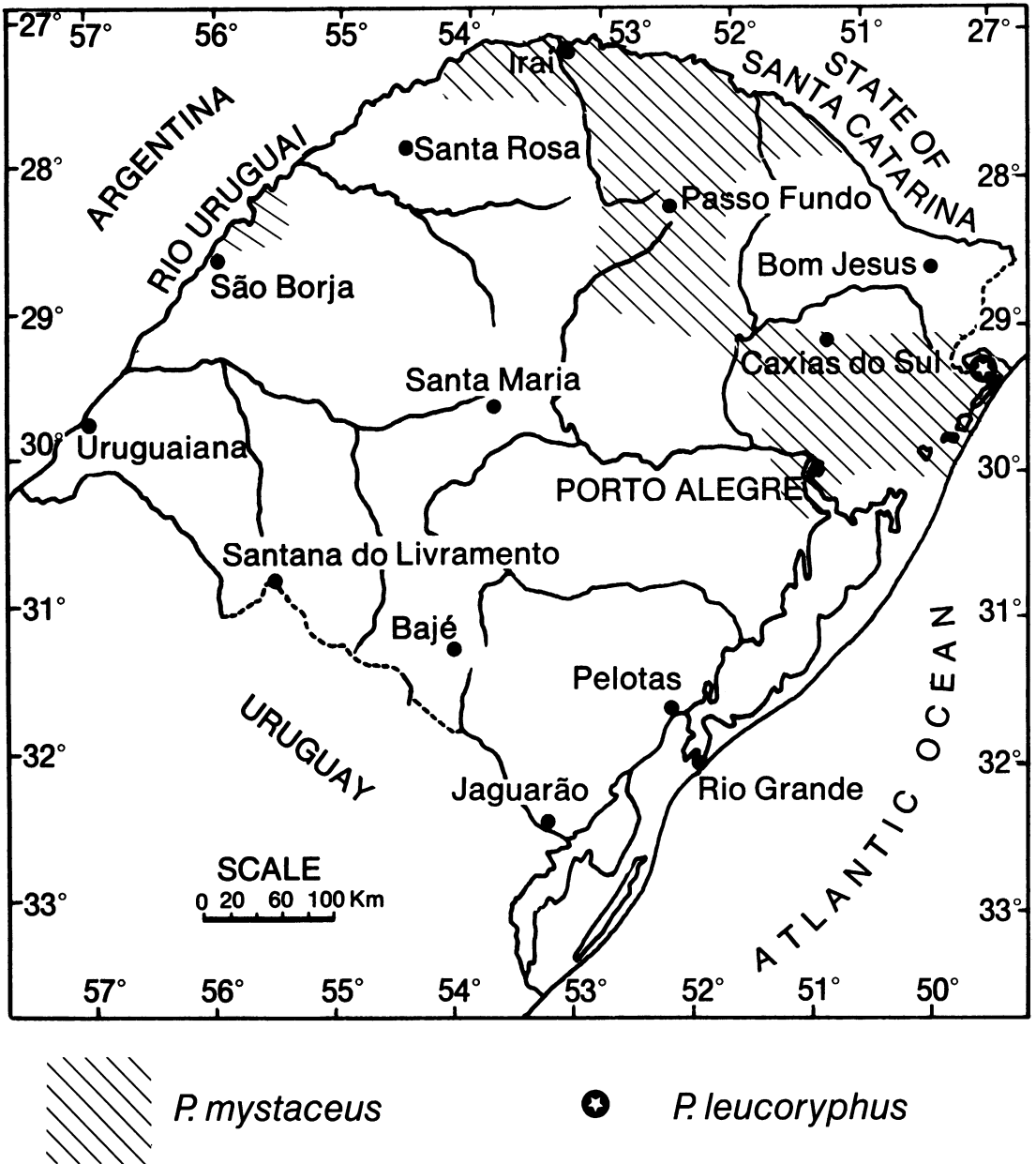
Patinho-gigante

(Giant Duckling)

DISTRIBUTION AND STATUS: Known in Rio Grande do Sul only from four specimens collected September 30, 1973 and October 26, 1928 in vicinity of Tôrres in since-destroyed wet coastal forests. My specimen was in heavily shaded area with only moderate undergrowth at height of about 1.8 m.

FIELD MARKS: Distinguished by grotesque-wide but short bill (11.4 mm wide at base, 10.4 mm from tip to feathers). Appreciably larger than *P. mystaceus*, found in same area.

SIZE: One female: 122 mm, 17 gr.



MAP 153. Geographical distribution of the two species of *Platyrinchus* found in Rio Grande do Sul.

SOFT PART COLORS: Tarsus white; maxilla black; mandible pinkish white; iris brown.

BREEDING: Female collected September 30, 1973 had enlarged ovary and follicles.

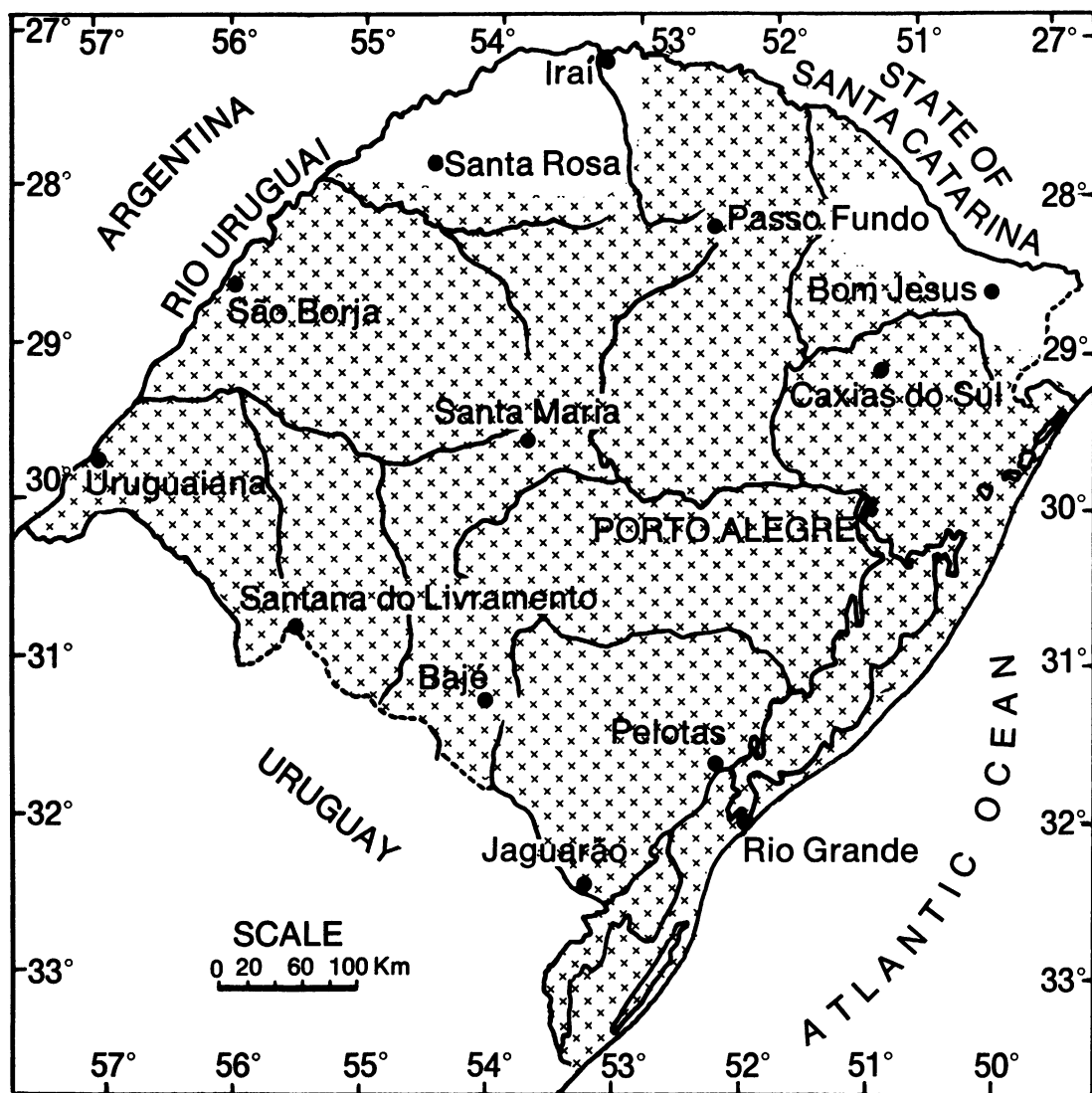
SPECIMENS: MCN: 1087*. AMNH: 315071–315073.

Myiophobus fasciatus

Map 154

Bran-colored Flycatcher
Filipe

DISTRIBUTION AND STATUS: Summer resident found in most parts of state, but not



MAP 154. Geographical distribution of *Myiophobus fasciatus* in Rio Grande do Sul.

registered in extreme NW or highest sectors of NE. Records more heavily concentrated in S and E than in N or W. Although widespread, individuals are scattered and never seen in one place in substantial numbers. Neither Kaempfer nor Gliesch collected this now quite common species, but Ihering (1899a) did. Prefers light woodland or scrubby vegetation, often near marsh edges or other moist situations. Earliest record August 31, in N, latest is April 2 from central trough. Straggler observed at zoo, Sapucaia do Sul once each in June and July 1978 (Voss and da Silva, ms). *Myiophobus f. flammiceps*.

FIELD MARKS: Can be confused with *Empidonax euleri*, with which it shares size, stance, and general coloration including distinct double wing bars. In present species, back much richer brown and dark on breast is in vertical streaks rather than solid wash. Yellow crown patch not normally visible. Has superficial resemblance to female *Knipolegus cyanirostris*, but latter larger and streaking of underparts heavier, blackish rather than brown, and includes throat.

SIZE: One male: 139 mm, 12.5 gr. One female: 125 mm, 10.5 gr.

SOFT PART COLORS: Tarsus and maxilla

black; mandible brownish pink to pinkish gray; iris brown.

VOICE: (R) Dawn song: strong, continuously repeated, resonant, "cheep . . . wheety . . . cheep . . . wheety . . . cheep . . . wheety . . ." occasionally interspersed with "teewhEE." The more commonly heard vocalization is plaintive, weak, quick trill: "fee-bibibibi." There is also a single "wheep."

BREEDING: On December 21, 1976 in Gramado, cup-shaped nest was suspended between branches of very limber twig, about 1.2 m aboveground in thick second growth of small trees at edge of marshy patch of brush and high grass. Exterior woven of green moss, except at rim which was formed of small twigs and dry grass, making very solid, flat edge. Inside lined with dry grass. Contained one egg, very light brown with thin circle of very dark red spots around largest circumference. Sometime between 8:15 and 10:10 A.M. of December 22 second egg laid. On December 27, last time I visited nest, two eggs being brooded. Unfinished nest of same type, which seemed to have been abandoned, was found about 5 m away at height of 1.8 m. Similar nest, also about 1.2 m above surface, was found in marshy area in Gramado with two eggs on January 14, 1971. It still contained eggs on January 27.

BEHAVIOR: Inconspicuous, unobtrusive species which usually does its insect catching within 2 m of surface in areas infrequently utilized by man. Dawn song described above presumably originated with male of pair whose nest I found in December 1976. Voice originated from about 1 m high in interior of thick bush at edge of marsh outside nesting woodland.

SPECIMENS: MCN: 471, 1106–1107*. MN: 13614, 13618. AMNH: 824014*.

Contopus cinereus
Map 155

Tropical Pewee
Papa-mosca-cinzento
(Gray Flycatcher)

Known in Rio Grande do Sul from two old specimens. One, collected by Garbe in May 1915, was labeled only "Rio Grande do Sul." Pinto (1944) speculated it came from what is now Panambi. Other, collected by Kaempfer on February 26, 1929 near what is now Ron-

da Alta. No recent records, but species presumably may still occur occasionally in N. *Contopus c. cinereus*.

SPECIMEN: AMNH: 315387.

Empidonax euleri
Map 155

Euler's Flycatcher
Enferrujado
(Rusty)

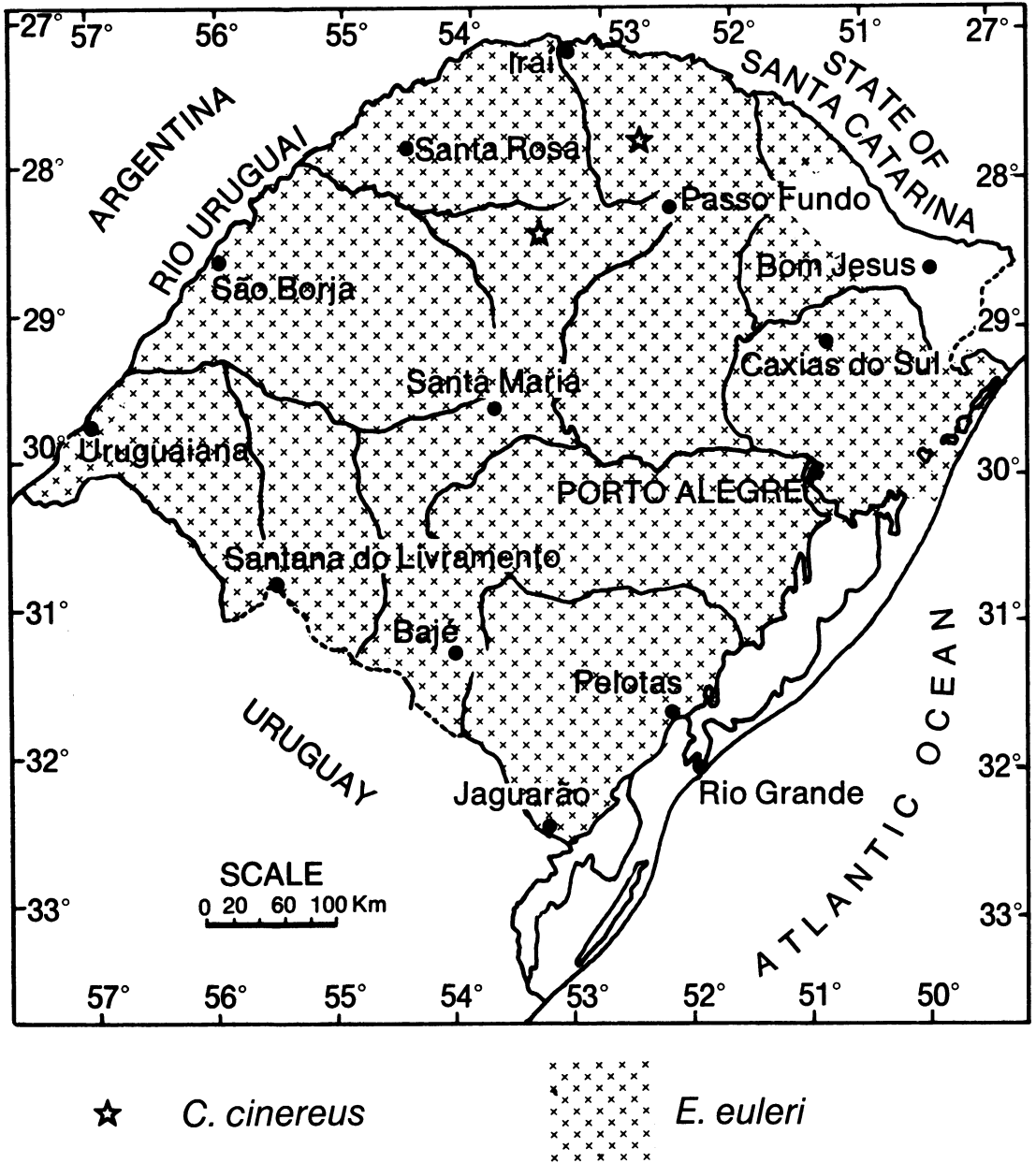
DISTRIBUTION AND STATUS: Summer resident well distributed throughout state, although records lacking for most of high altitude regions of NE, Mostardas peninsula, and S tip. Common inside forests and woodland areas, where most often found at heights of from 1 to 3 m. During breeding season territorial males use singing perches at higher levels, often at forest edge. Earliest record from near Uruguayan border on September 9, 1931; latest April 1 from central trough. Bird banded at my home in Gramado November 25, 1970 recaptured in same place October 3, October 22, and November 10, 1971. Another, banded October 4, 1971 and recaptured with above bird October 22, recaptured again October 17, 1972. *Empidonax e. euleri*.

FIELD MARKS: Small, nondescript, with gray to olive gray breast, pale yellow to whitish belly, two light wing bars and brownish upperparts, usually with rufous tones, especially on head. Very similar to *Cnemotriccus fuscatus*, except for latter's fairly distinct supercilary.

SIZE: Five males: 132–147 mm, 10.5–12 gr. One female: 132 m, 10 gr. Three unsexed: 129–140 mm, 10–12 gr.

SOFT PART COLORS: Tarsus gray to black, light gray in young birds; maxilla black; mandible whitish to pinkish white, sometimes showing diamond design in pink; iris brown. Mouth of female taken March 24 grayish white, whereas those of two juvenals collected on same date orange. Adult males of October 23 and November 28 also had orange mouths.

VOICE: (R) Song during breeding season is clear request for "BEER-----DearIE!" This song, and several more commonly heard weak and wavering calls: "seeeeeoo--tee-tee," "seeeeeoo--teeteetee," and often a simple "cheeur" are best means of locating and identifying this inconspicuous species.



MAP 155. Geographical distribution of *Contopus cinereus* and *Empidonax euleri* in Rio Grande do Sul.

BREEDING: Males collected September 18, 1972 and October 12 had undeveloped testes. One of October 23, 1975 showed some enlargement. Two males and a female of November 21 and 22, 1974 had well-developed gonads. Male of February 27, 1975 and fe-

male of March 24, 1974 showed small gonads.

SPECIMENS: MCN: 569, 571, 1108-1116*. MN: 12367, 12368. AMNH: 315393-315400, 315403, 321940-321944, 810501*, 812748-812752*.

Cnemotriccus fuscatus

Map 156

Fuscou Flycatcher

Guaracavuçu

(Great Guaracava)

Two subspecies of Fuscou Flycatcher occur in Rio Grande do Sul. They occupy widely separated ranges, appear to nest in different situations, have different voices, and neither responds to the voice of the other (Belton, 1984). Because they may prove to be specifically distinct, they are treated separately here.

Cnemotriccus fuscatus fuscatus

DISTRIBUTION AND STATUS: Found only in forests of northern littoral, occupying low to middle levels. Common, but inconspicuous. So far registered only between September 26 and January 26, and not found in late June, but observations still insufficient for concluding it migratory.

FIELD MARKS: Very similar in appearance to *Empidonax euleri*, but has poorly marked though definite superciliary, lacking in *euleri*. Distinguished from *C. f. bimaculatus* by yellowish belly.

SIZE: One male: 164 mm, 15 gr. Four females: 141–151 mm, 13–14 gr.

SOFT PART COLORS: Tarsus dark gray to black; maxilla black; mandible brown to blackish brown, base light; iris brown.

VOICE: (R) Song: short, wavering whistle, slightly downscale. Notes: insect-like, abrupt “bzt bzt bzt”; “beWICK beWICK beWICK”; “chuwee chuwit”; “wheeo wheeo”; trilled “wheety-oo”; mostly delivered in hard, forceful way and frequently all intermingled, together with very short, cracked, single-noted whistle. Fledgling (see below) called “chew chew chew” with burr in it by November 18; “bzt bzt bzt squee” by November 20; and forceful “chuwit ch ch ch ch,” as well as very low volume subsong chirps and plaintive squeaks by November 23.

BREEDING: On November 16, 1978 at Fazenda do Pontal, nest was being constructed about 10 m up in forest tree against large branch with bromeliad as principal underlying support. Only one bird appeared to be working, bringing dried leaves and grasses, although another individual was in vicinity, and one brief flurry between them may have

been attempted copulation. Second nest, to which adults were carrying food, was found same day, also about 10 m up and about 2 m below crown of slender forest tree. Nest was simple, cup-shaped structure of dried bromeliad leaves and few fine, fibrous stems and vines, sparsely lined with *Marasmius* hyphae (*crina vegetal*), and placed between green, broadleaved bromeliad and tree trunk. It measured 60 mm across top opening and 25 mm deep. On November 18 this nest had only one nestling, which fluttered to ground when attempt made to approach nest for examination. Nestling was fully feathered, with only few wisps of down on head, and would presumably have fledged within 24 hours if undisturbed. It was captured and hand-reared, achieving full adult weight and length in three weeks, before being banded and released near nesting site on December 16, 1978. Two males and female collected January 24–26, 1976 had inactive gonads.

BEHAVIOR: Extremely quiet, inconspicuous birds, often found within 1 to 2 m of surface among undergrowth, but also in more open medium levels of forest. During three mornings of intense observation at height of nesting season November 15–17, 1978 at Fazenda do Pontal, I heard nothing resembling song, and little vocalization of any kind not provoked by pre-recorded playback of voices of this species.

SPECIMENS: MCN: 1069–1070*, 1103–1104*. MN: 32163*. AMNH: 315401, 315402.

Cnemotriccus fuscatus bimaculatus

DISTRIBUTION AND STATUS: So far found in small area from Rio Uruguay E almost to 54°30'W between 28° and 29°S, in gallery forest and wooded clumps, usually no more than 3 or 4 m aboveground. Common, at least in Garruchos area, but inconspicuous. Registered between October 22 and May 11, but not seen in Garruchos in early August 1973. Observations still considered insufficient for certainty as to migratory status.

FIELD MARKS: As in *fuscatus*, but belly white or slightly creamy.

SIZE: Five males: 154–157 mm, 12–14 gr. Four females: 142–150 mm, 12–16 gr.

SOFT PART COLORS: Tarsus reddish gray to

"meal-chuk chuk." Nestling in distress: "chu chee chee chee chu."

BREEDING: On November 21, 1977 I found nest in rotted niche in side of tree about 40 cm aboveground surface in small grove with minimum underbrush near Garruchos. Shallow cavity poorly lined on bottom with leaves and fully exposed to weather on open side. Single nestling, partially feathered but still down-covered on head, shared space with several large wood chips which had apparently fallen from roof. Female attending this nest had inactive ovary and dried brood patch, although other birds collected in area at same time had active gonads. Females of January 23, 1973 and May 11, 1974 had inactive ovaries.

BEHAVIOR: While inconspicuous both in plumage and habits, these birds differed from coastal race by singing regularly while at height of breeding activity November 19–22, 1977. Analysis of contents of three stomachs, for which I am obliged to Hilda Alice de Oliveira Gastal of MCN, revealed exclusively insect remains, of Hymenoptera, Coleoptera, Odonata, Diptera, and Homoptera.

SPECIMENS: MCN: 391, 1088–1091*, 1102*, 1105*. MN: 32174*, 32185*.

Pyrocephalus rubinus

Map 156

Vermilion Flycatcher

Príncipe

(Prince)

DISTRIBUTION AND STATUS: Summer resident in southern half of state found in open areas with scattered trees, gardens, weedy fields and scrub. Sparsely scattered along littoral and in central trough; more common in far W and SE hills. One pair, perhaps accompanied by additional female, seen in extreme N at about 800 m altitude August 29, 1975 was apparently migrating S, but earliest record within normal Rio Grande do Sul range is individual seen by Voss (personal commun.) in Porto Alegre August 30, 1979. Most disappear by April, but one was at western tip May 4, 1974. *Pyrocephalus r. rubinus*.

FIELD MARKS: Brilliant red cap and underparts of male unmistakable. Very plain female, with lighter brown upperparts and heavily streaked whitish underparts, is Strong Yellowish Pink on belly, rear flanks, and un-

derpart covert. Young males resemble females.

Although Wetmore (1926) mentioned finding young males in transition plumage in Formosa, Argentina in August, several months after end of breeding season, Hudson (1920) said young males and females could be distinguished from each other by end of February. On February 16, 1971 I collected young male well advanced in its moult to adult plumage, including on head, and on February 22, 1975 I saw another with very red belly. Because adults are reported to migrate out of breeding area ahead of young (Hudson, 1920; Cuello and Gerzenstein, 1962) in Argentina and Uruguay, a bird in fully adult male plumage seen on April 1, 1974 may have been young of year.

SIZE: Three males: 136–145 mm, 12–14 gr. One female: 141 mm, 11.5 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

VOICE: Usually silent.

BREEDING: Nearly finished nest found in Seival Valley November 23, 1972. On November 26, 1974 female was building nest about 3 m aboveground in horizontal fork of branch of very thorny, exotic, flowering tree in garden of Fazenda Casa Branca. Wool, moss, and lichens principal construction materials. Male nearby not participating. On December 3, 1974 nest in garden of Fazenda das Casuarinas appeared to consist simply of grass and small sticks. Although in open situation on fork of branch about 6 m up with no leaves nearby, it was below canopy and thus well shaded. Female incubating, with male nearby.

BEHAVIOR: Normally found in pairs. Prefer low perches from 1 to 3 m aboveground, often at edge of small tree clumps, or on fence wires, posts, or low bushes when trees not at hand.

SPECIMENS: MCN: 1000–1003*. MN: 2289, 9962, 9971, 9975. AMNH: 315447–315454, 321924–321929, 812742–812743*. (321930 collected on Uruguayan side of mouth of Rio Jaguarão.)

Xolmis cinerea

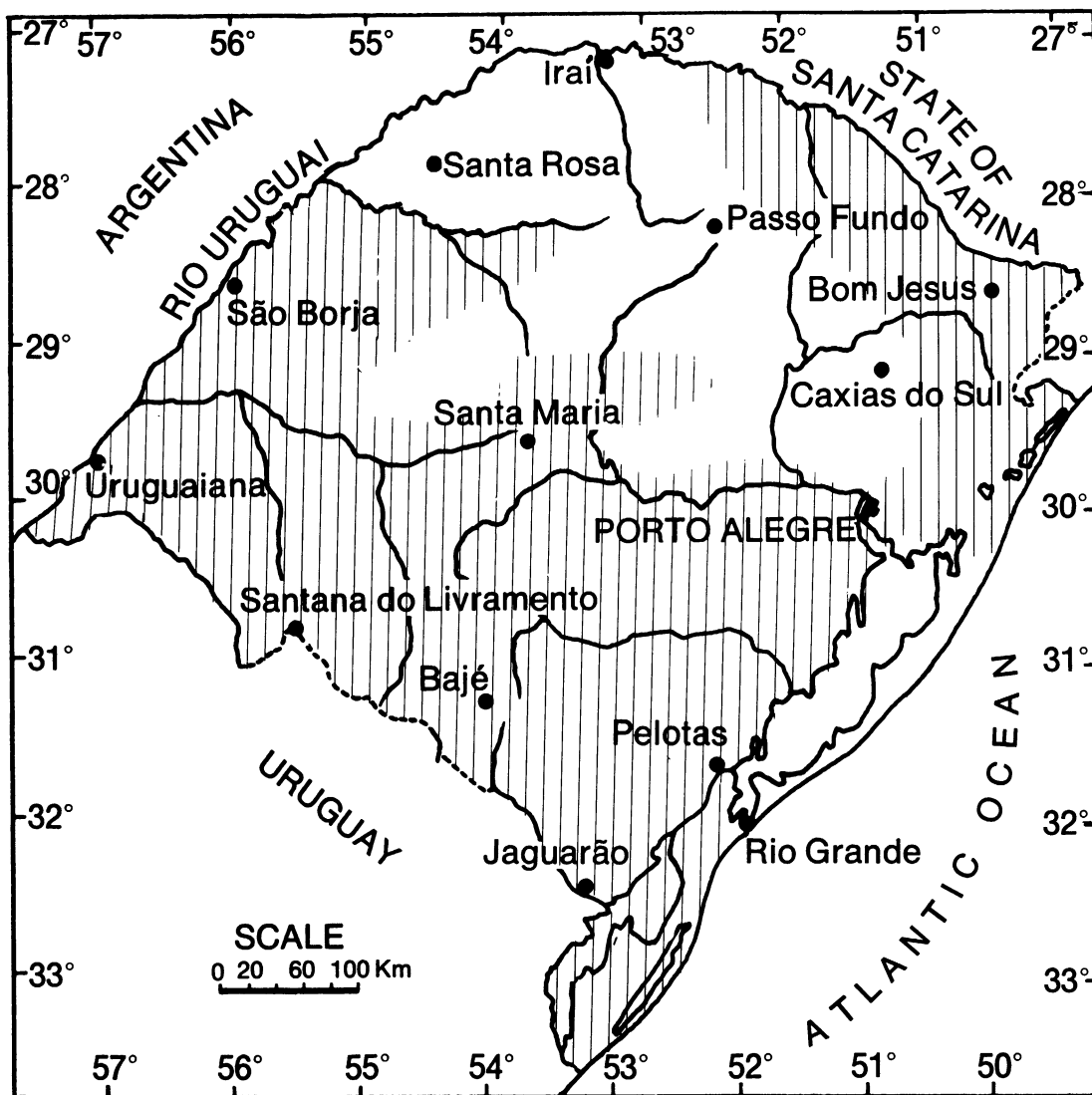
Map 157

Gray Monjita

Primavera

(Springtime)

DISTRIBUTION AND STATUS: Found in most



MAP 157. Geographical distribution of *Xolmis cinerea* in Rio Grande do Sul.

open grasslands throughout state, often in vicinity of trees, but not particularly near water, contrary to indication in Meyer de Schauensee (1970). Most common near Uruguayan border, in far west, and in high campos of NE. Not registered on Mostardas peninsula, nor for some originally forested sections in N half of state, particularly far NW. Occurs in most areas throughout year. Certainly not migratory in sense implied by Mitchell (1957, p. 154), who referred to Brazilian name as indicating spring heralded by its arrival.

However, in November 1973 and November 1974, I traveled extensively W of 54°W between 28°S and 30°S without seeing single individual. This area full of appropriate habitat where at other seasons Gray Monjitas occur regularly.

FIELD MARKS: Moderately large, red-eyed, gray fence-sitter with flashy white wing patches visible during swift, irregular flight.

SIZE: One female: 214 mm, 60.5 gr. One unsexed: 235 mm, 59 gr.

SOFT PART COLORS: Tarsus and bill black;

iris outer edge whitish, inner edge red. Unsexed specimen collected May 13, 1974 had whole iris yellowish white.

VOICE: (R) Short, high, sweetly plaintive whistle of three notes, the second separate from and higher than first and slurring down to third, lower than first: "swee EEe-eee." Also a single note, and some bill snapping. N of Bagé on January 12, 1977 one of pair nesting in small eucalyptus grove sang shortly after dawn from top of dead snag about 25 m high. After about 15 minutes it stopped and we did not hear it again that morning.

BREEDING: On November 8, 1973 pair at Itaimbezinho appeared to be nesting, with one persistently perching high in araucaria far above level at which species normally found. On November 19, 1972 there were nestlings at Fazenda das Casuarinas. On January 12, 1977 at Cabanha São Martin, N of Bagé, deep open-cup nest 3 m up in eucalyptus crotch was woven of coarse weeds, small twigs, some horse hair, and poorly lined with feathers. It held five eggs and one very recently hatched chick. Three eggs, presumably of Monjitas, were off-white with sparse reddish spots. Of others, one was light tan, other had bluish tinge, both spotted. One of off-white eggs was chipped open. Flock of *Molothrus bonariensis* in vicinity could have been responsible for extra eggs, chick, and broken egg. At 12:15 P.M. pair of Monjitas attending nest engaged in apparently unsuccessful attempt at copulation.

BEHAVIOR: Gray Monjitas usually live close to ground, perching on fences, rocks, low bushes, or occasionally low utility poles, from which they swoop down to pick up food from ground or grass. They normally occur singly or in pairs and are extremely wary, flying from roadside fence perches at approach of car, and staying well out of range of humans on foot.

SPECIMENS: MCN: 470, 977-978*. AMNH: 314956-314968, 321615-321617.

Xolmis coronata

Map 158

Black-crowned Monjita

Noivinha-coroada

(Crowned Bride)

DISTRIBUTION AND STATUS: Scarce winter

visitor, found at scattered locations in W, N to 28°30'S. Earliest date May 5, latest August 9. Perches on fences and low trees in open grassland and espinilho parkland.

FIELD MARKS: Distinguished from other *Xolmis* sp. by black crown.

SIZE: Two unsexed: 215-225 mm, 43-51 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

BEHAVIOR: Seen here as solitary individuals perched in conspicuous open places. Near Fazenda Silêncio species occupied same area of open grasslands with clumps of trees and riverine forests as *X. cinerea* and *X. irupero*, but not seen associating with them.

SPECIMENS: MCN: 979*. MN: 32222*.

Xolmis dominicana

Map 159

Black-and-white Monjita

Noivinha-de-rabo-preto

(Black-tailed Bride)

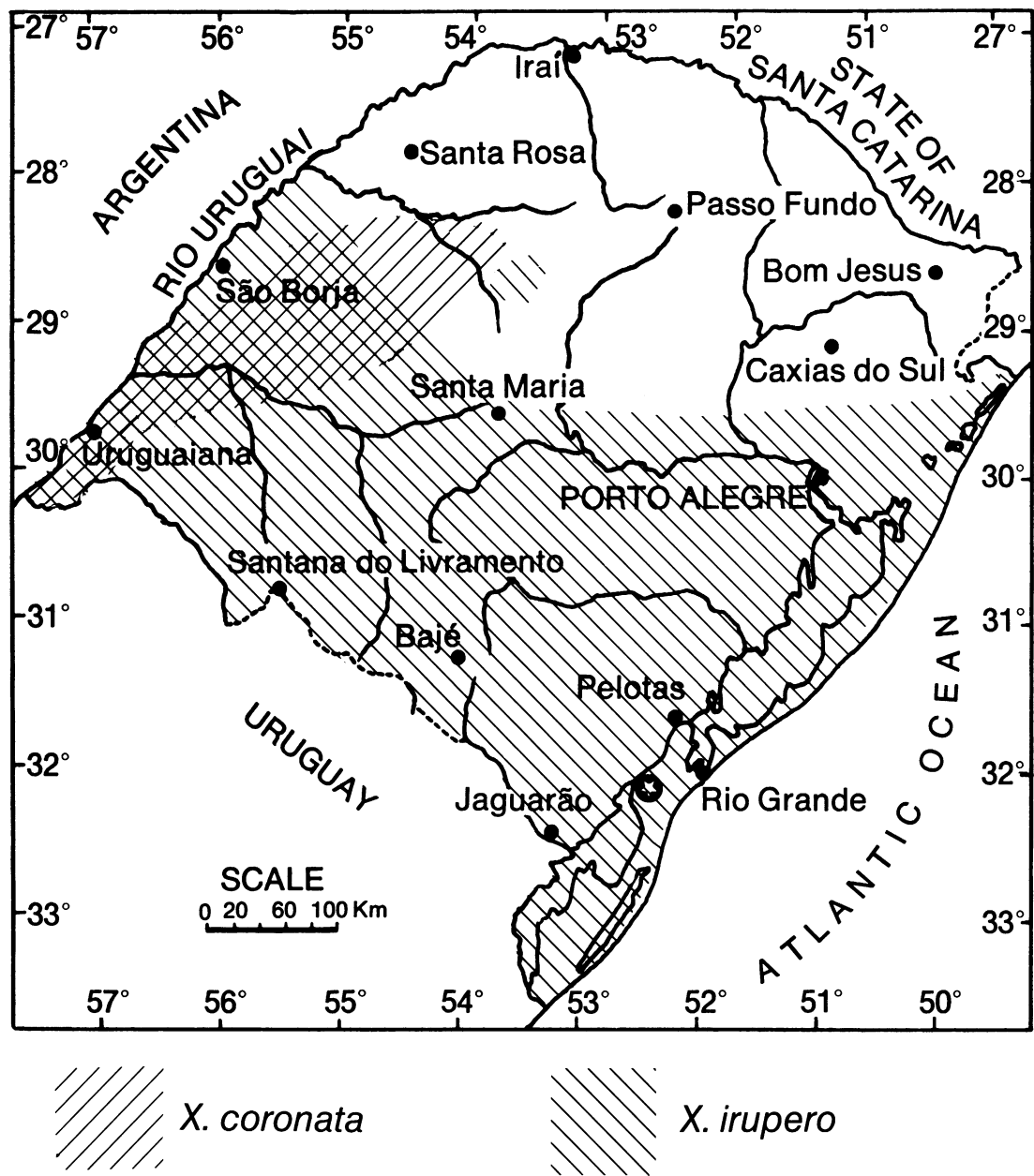
DISTRIBUTION AND STATUS: Common at altitudes of 750 m and above in rolling, hilly grasslands and intervening boggy swales of NE, and in similar but lower and more restricted areas along SE border. Occasionally found in other interior locations and rarely at isolated littoral points. Sedentary in NE. Hudson (1920, I, p. 144) described them as "to some extent migratory in Argentina," but I have never seen flocking behavior he reported. I have found them in NE in every month except June and believe this gap due to shortage of observations. Although my records less complete for SE, I have no indication of migration there either. Gerzenstein (1967) reported them at all seasons in adjoining areas of Uruguay.

FIELD MARKS: Sizable white bird with black tail and wings showing white patch near end of primaries in flight. Females and immature males are gray on upper surface, but show whitish scapulars and rump.

SIZE: Two unsexed: 221-224 mm, 42-43.5 gr.

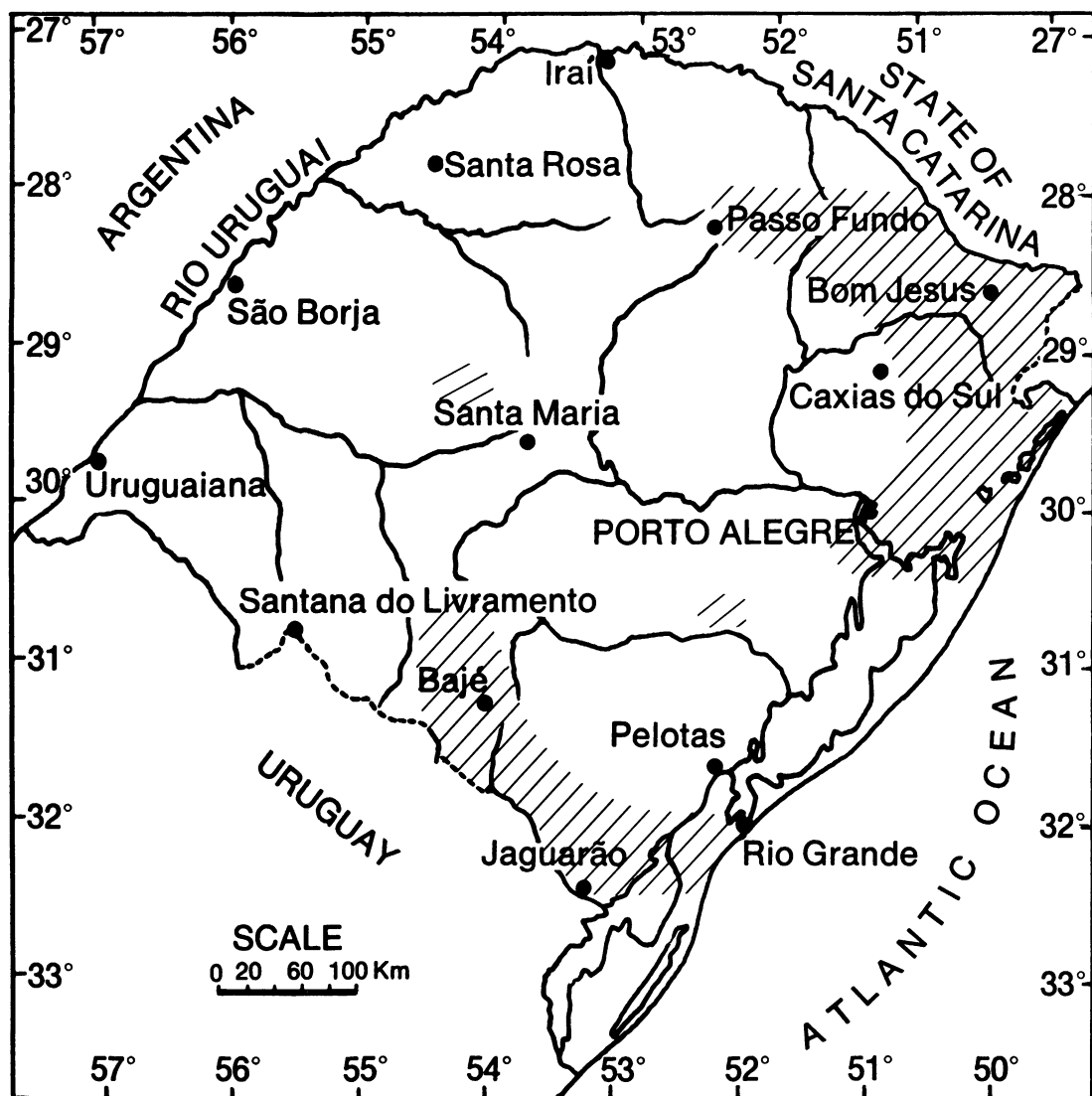
SOFT PART COLORS: Tarsus and bill black; iris brown.

VOICE: Extremely quiet species. I have only once heard voice: low, quiet, single, simple whistle with "wheepish" qualities.



MAP 158. Geographical distribution of two species of *Xolmis* and of *Neoxolmis rufiventris* in Rio Grande do Sul.

BREEDING: Male with considerable gray still in dorsal plumage had much enlarged testes when collected November 8, 1973. Female of May 24, 1973 had inactive ovary. On July



MAP 159. Geographical distribution of *Xolmis dominicana* in Rio Grande do Sul.

22, 1974 W of Herval, two adults were seen carrying food in bills, but we saw no other evidence they were feeding young.

BEHAVIOR: These very quiet but conspicuous birds live in pairs or small family groups, spending much time in boggy swales poised on flower spikes of *Eryngium* or other low perches above general vegetation level. However, they appear to do most or all their feeding on nearby hillside pastures, where they can be seen dropping from rock, clump of earth, or weed briefly to ground to pick up

prey. They are restless and when on open hillsides frequently fly directly from one perch to another, often only few m apart. Members of this species participate, apparently passively, with *Xanthopsar flavus* in symbiotic relationship which I have been unable to interpret. Sharing same habitat, blackbirds very often follow monjitas as latter move from perch to perch. See *X. flavus* for further discussion.

SPECIMENS: MCN: 372, 980–981*. MN: 31877*, 32221*. AMNH: 314969–314984, 321338, 321901–321904.

Xolmis irupero

Map 158

White Monjita

Noivinha

(Little Bride)

DISTRIBUTION AND STATUS: Resident, in S up to and including central trough, also W of 55°W. Common to very common in S and W, less so toward N. Open country, with or without scattered trees, including both range land and cultivated areas. Very likely to be found around outskirts of farm headquarters. *Xolmis i. irupero*.

FIELD MARKS: All white except for black at tip of tail and wings.

SIZE: Two males: 188–189 mm, 29–31 gr.

SOFT PART COLORS: Tarsus and bill black; iris (live bird) between Dark Grayish Brown and Dark Yellowish Brown.

VOICE: (R) Usually very silent. I have heard three different vocalizations, each extremely low volume: whistled song of three or four notes; brief “tngk”; and short, simple single note, weakly whistled and ending with slight upward inflection: “seeee.” Voss (personal commun.) reports loud whistles at dawn and dusk on May 16, 1980 near Viamão.

BREEDING: On July 22, 1974 close to Uruguayan border W of Herval several pairs were occupied in display and chasing. Six mm testes of male collected then were approaching full enlargement. On September 21, 1974 at Estância Ipiranga pair was occupying *Furnarius rufus* house about 3.5 m up in tree at edge of small block of exotic acacias in midst of flat rice and grazing land. Nest, lined with horsehair, feathers, and twigs, had no eggs. Male tried to mount female two or three times in immediate vicinity of nest, but she did not cooperate. At Fazenda São Francisco on October 19, 1974 pair using *F. rufus* house was tending nestlings. One adult seen bringing food in, other seen bringing feces out. One of two caught in nets same day—not necessarily same birds—had brood patch. On October 23, 1974 at Fazenda do Valente we found nest in woodpecker hole about 4 m up in dead snag in open field. Could only see edge of nest thickly lined with feathers, but cheeping of nestlings heard. At Fazenda das Casuarinas on November 19, 1972 White Monjita was carrying nesting material. Bird of doubtful

sex collected February 16 and male collected March 9 had inactive gonads.

BEHAVIOR: This species usually perches somewhat higher than other two resident *Xolmis* sp., frequently utilizing trees, poles, and other projections 4 or 5 m high for its lookout posts, but also can be seen on fences and lower points. It is somewhat less active in moving from one perch to another than either *X. cinerea* or *X. dominicana* and is less wary than either of them. In addition to using perches from which to spy for prey on ground, it occasionally hovers in manner of *Elanus leucurus* and *Falco sparverius*. Flight weak and floating when making forays for food.

SPECIMENS: MCN: 982–983*. USNM: (alcoholic) 503776–503777*. AMNH: 314985–314993, 321334–321337, 321905, 321906.

Neoxolmis rufiventris

Map 158

Chocolate-vented Tyrant

Gaúcho-chocolate

(Chocolate Cowboy)

DISTRIBUTION AND STATUS: Rare winter visitor, found only once, flock of four on ground in pasture at Granja Quatro Irmãos, SW of Rio Grande on May 12, 1973 (Belton, 1974b).

FIELD MARKS: Large, thrushlike, conspicuous white and rufous in wing.

SIZE: One male: 241 mm, 77 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

BREEDING: Male collected May 12 had inactive testes.

SPECIMEN: MCN: 976*.

Lessonia rufa

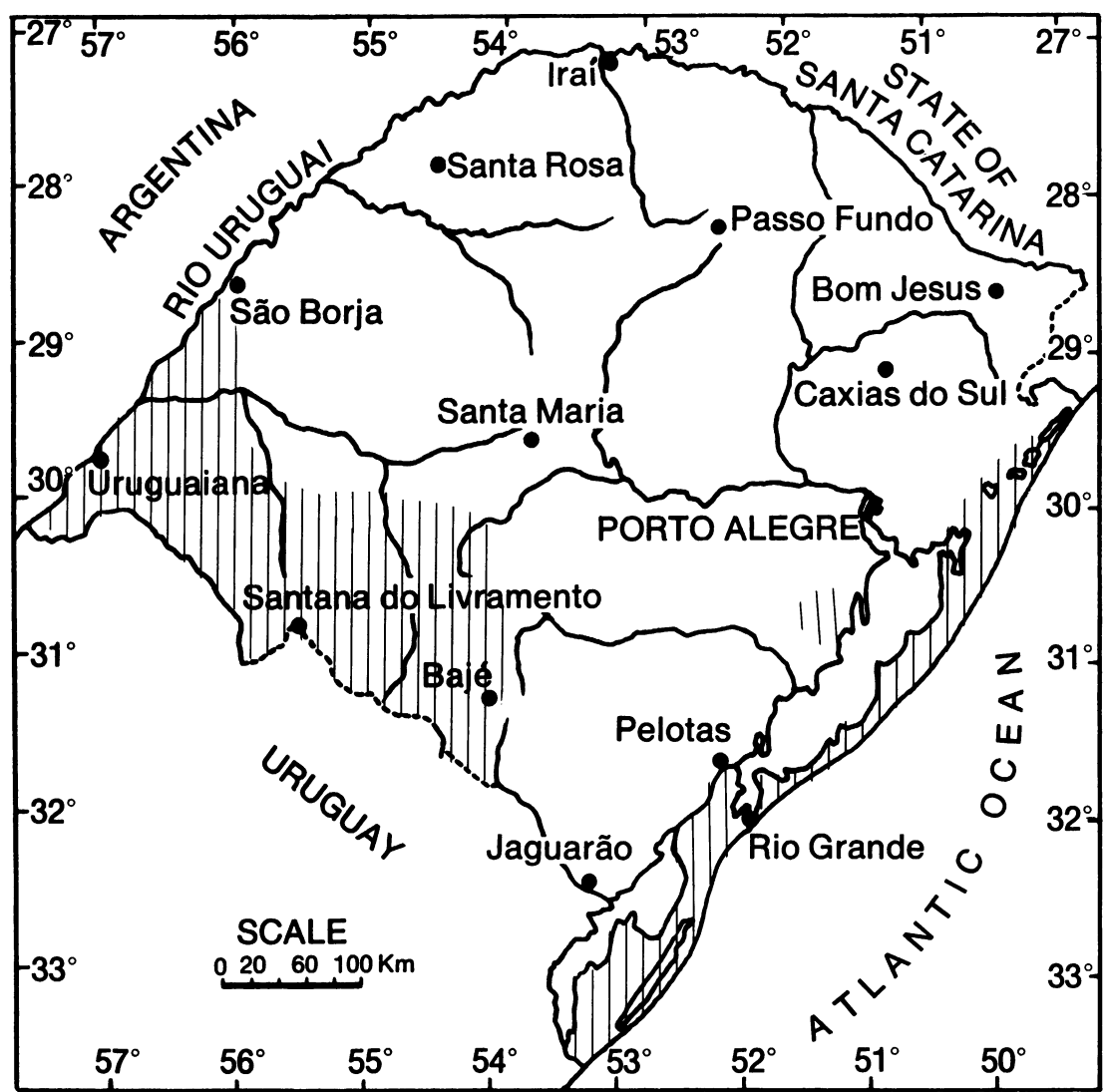
Map 160

Rufous-backed Negrito

Colegial

(Schoolboy)

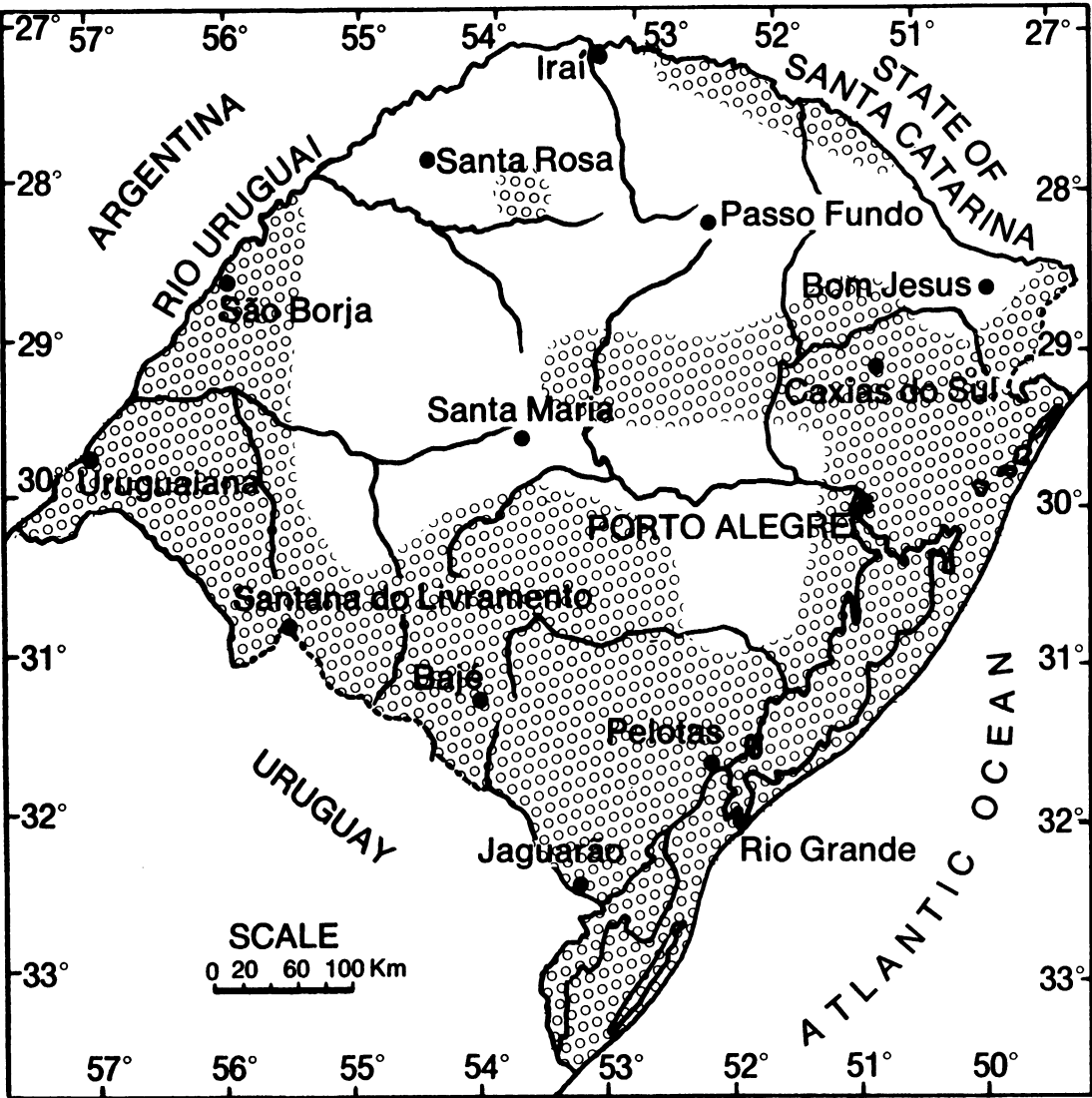
DISTRIBUTION AND STATUS: Common winter visitor found in Rio Uruguay area from southern border to São Donato marsh; at scattered points in from SW border; and along littoral N as far as Capão da Canoa. Occurs on beaches, marsh edges where grass is short, and heavily grazed pasture, including some dry rangeland far from water. Earliest fall record is unsexed specimen in female plumage



MAP 160. Geographical distribution of *Lessonia rufa* in Rio Grande do Sul.

collected on beach at Quintão April 16. Latest spring record is pair N of Santa Vitória do Palmar on September 22. However, between February 8 and 16, 1974 over extensive area E of Lagoa Mirim, Rufous-backed Negritos seen several times, and male in full adult plumage, but with undeveloped testes, collected on latter date. Sander (*in litt.*) observed small groups in pairs in same area on February 15, 1981. Question is whether these were unusually early waves of fall migrants, some other form of irruption, or undiscovered

local breeders. From May 3 to May 9, 1974 I covered western tip of Rio Grande do Sul quite thoroughly and observed many adult males, including several small flocks. Not until May 8 did I see female, and then only one, in company with five males. This seems to indicate sexes travel N separately, as Hudson (1920, I, p. 165) reported they do when south-bound, although he said they move N together. *Lessonia r. rufa*.
FIELD MARKS: Male unmistakable with rufous mantle superimposed on otherwise all-



MAP 161. Geographical distribution of *Knipolegus cyanirostris* in Rio Grande do Sul.

black plumage. Very plain female has grayish brown upperparts and gray ventral plumage, contrasting with black wings and tail.

SIZE: Two males: 127–132 mm, each 15 gr. Two unsexed, in female plumage: 120–122 mm, 10–14 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

BEHAVIOR: Quick and constant movement is characteristic as it walks over sand or short grass pastures searching for food. It seldom flies while feeding, and when it does, flights are short and only skim surface.

SPECIMENS: MCN: 988–991*. MN: 2285, 2286. AMNH: 321359–321364, 321629–321636, 824009–824010*.

Knipolegus cyanirostris
Map 161

Blue-billed Black-Tyrant
Maria-preta-bico-azulado
(Blue-billed Black Mary)

DISTRIBUTION AND STATUS: Common. Widely but spottily distributed, with no records for much of central W and NW. Most

frequently found at midlevels of open, shady forest, but versatile in requirements. I have seen it very high on exposed dead branches of araucaria trees, in abandoned clearings, and among low bushes in marshes some km from any respectable trees. Here all year, but ill-defined fluctuations in abundance may indicate some as yet undiscovered seasonal movement.

FIELD MARKS: All-black male with blue-gray bill and red eye unmistakable. Brownish females and immatures with rufous caps and rumps, and heavily streaked underparts may be mistaken for *Myiophobus fasciatus* but are larger and streaking much heavier and more contrastingly black and white. Subadult males in process of acquiring adult plumage gradually show larger and larger amounts of black, losing immature plumage very slowly.

SIZE: Three males: 145–162 mm, 14.5–17 gr. One female: 151 mm, 16 gr.

SOFT PART COLORS: Tarsus black; bill: male light blue-gray, with black tip and frequently some black on culmen; female black, sometimes with gray at base of maxilla; iris pale red to orange. A sub-adult male had Strong Reddish Orange iris. I have seen birds in female plumage with brown iris in mid-November, seemingly too early for them to be birds of the year, so red may come only after year or more.

VOICE: Normally silent. On only occasion I ever heard one, an adult male perched about 40 cm aboveground on branch between two bushes gave tiny squeak barely audible at 6 m, while opening mouth wide and raising head.

BREEDING: Adult male collected October 1, 1970 had enlarged testes. Two young males with many immature plumage features but with enlarged testes were collected October 17, 1974 and November 11, 1971, indicating acquisition of fully adult plumage by males must take close to a year. Sub-adult male of January 10, 1974 and female of June 3, 1973 had inactive gonads.

BEHAVIOR: Extraordinarily quiet and inconspicuous. Seldom perches in prominent places, being commonly found toward center of lower branches of trees, rather than out toward tip. When on higher, more exposed perches it sometimes dashes almost vertically up to seize prey and then dives almost straight down with widespread wings back to same

perch. This maneuver is species' one eye-catching feature. In moving across open areas, lilting flight involves constant series of little dips.

SPECIMENS: MCN: 261, 284, 436, 472, 987*, 992–995*. MN: 10520, 10524–10526, 10529. AMNH: 315016–315035, 321341–321347, 321618–321623, 321910–321912, 810510–810511*, 812755*.

Knipolegus nigerrimus
Map 162

Velvety Black-Tyrant
Maria-preta-garganta-vermelha
(Red-throated Black Mary)

DISTRIBUTION AND STATUS: Heine (1859) reported specimen from Rio Grande do Sul in Museum Heineanum, and Cabanis and Heine (1859) mentioned two "Rio Grande" specimens in their catalogue of that museum's collection, without date or precise origin. Although Hellmayr (Cory and Hellmayr, 1927) thought "Rio Grande" probably referred to river of same name in Minas Gerais, Voss (1979) proved this species occurs here. He saw birds resembling it in Aparados da Serra National Park in early and late July and mid-September 1978, and together with F. Breyer collected male specimen there January 13, 1979. While still unaware of Voss' specimen, Marjorie Traylor found male perched in same place on January 17, 1979 and Melvin Traylor and I then identified both male and female in small grove from which undergrowth removed, between park restaurant and Itaimbezinho canyon.

FIELD MARKS: Conspicuous white in wing, blue-gray bill, no crest; female with rusty throat. We saw no white in folded wing of female, but thin white line visible in that of male, and no white at all in wings of juvenals during brief glimpse of them in motion.

SIZE: One male: 185 mm, 20 gr.

SOFT PART COLORS: Tarsus black; bill light gray; iris red.

BREEDING: On January 17, 1979 female fed two apparently full-sized slate-gray fledglings perched in low canopy.

BEHAVIOR: Both adults frequently swooped to ground to capture food, often remaining there briefly before flying back to higher bare branches or foliated areas which began 3 to 4 m aboveground. No vocalization heard in approximately one hour of observation.

SPECIMEN: MCN: 377.

I am indebted to Voss for furnishing information on specimen collected, and to Melvin T aylor for details from 1859 references.

Knipolegus lophotes

Map 162

Crested Black-Tyrant

Maria-preta-penacho

(Plumed Black Mary)

DISTRIBUTION AND STATUS: Common but sparsely dispersed resident of NE highlands and SE hills. Also occasionally found locally in central trough, SW, and N central areas. Prefers open, well-drained, rolling rangeland, but I have seen it in plowed field and in stand of corn. Habitat described for *Knipolegus* under entry for this species in Meyer de Schauensee (1970) not correct for this species in Rio Grande do Sul.

FIELD MARKS: All black except for white wing patches visible in flight, with pert, slender crest. Resembles *Phainopepla nitens* of SW U.S.

SIZE: Two males: 206–210 mm, 31.5–34 gr. One female: 192 mm (very worn plumage), 30 gr.

SOFT PART COLORS: Tarsus and bill black; iris Deep to Very Deep Red.

VOICE: I have never heard one make a sound.

BREEDING: On November 18, 1972 at Fazenda São José, Sick and I found nest under construction. Subterranean stream flowing about 1 m below surface through hilly grassland was exposed in several places where surface had collapsed, leaving tunnels and recessed areas between and around holes. Both members of pair were bringing grass, which was woven among exposed roots to form nest placed against channel wall and under overhang near one of holes. Birds approached by entering stream channel through distant hole and flying through tunnel to nest site. We also found completed nest with one egg farther inside tunnel, but it appeared to have been abandoned, perhaps because dirt had fallen into it from ceiling above. Egg, badly discolored with age, was reddish yellow with sparse sprinkling of rusty spots in circle near large end. It was 24 mm long and 22 mm in diameter. Female collected February 5, 1972

and males collected March 2, 1972 and March 24, 1975 all had inactive gonads.

BEHAVIOR: Crested Black-Tyrants normally perch on fairly high exposed places such as telephone wires, poles, or isolated trees in open grasslands. One seen in cornfield had chosen high cornstalk for lookout.

SPECIMENS: MCN: 251, 985*, 986*. AMNH: 315001–315008, 321907–321909, 812754*.

Hymenops perspicillata

Map 163

Spectacled Tyrant

Viuvinha-de-óculos

(Spectacled Little Widow)

DISTRIBUTION AND STATUS: Resident in marsh edges and nearby wet grasslands of entire littoral; Rio Uruguay area N to vicinity of São Donato marsh; and marshy areas of S central sector. Although found all year, especially along littoral, there is sharp increase in numbers in fall and winter when species becomes abundant in well-watered places. This especially noticeable in Lagoa Mirim region, S of 32°W, and less perceptible farther N. *Hymenops p. perspicillata*.

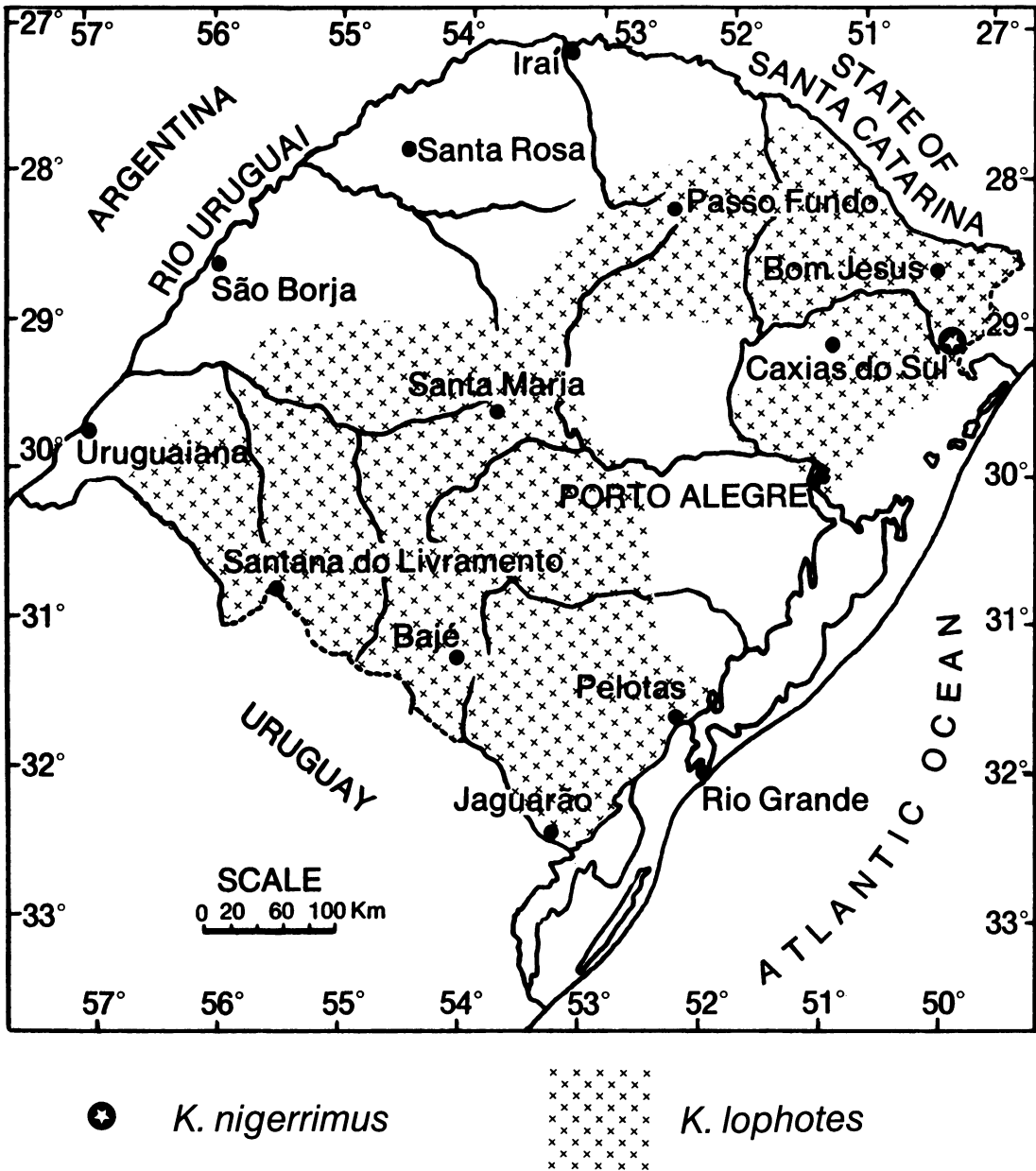
FIELD MARKS: Wide, fleshy, pale yellow rosette around eye and prominent ivory bill, combined with black plumage relieved only by extensive white wing patch, are unique to male. Brown female has less prominent rosette and darker bill. Young males changing into adult plumage retain most rufous primaries until after body plumage almost entirely black.

SIZE: One male: 160 mm, 24 gr. One female: 147 mm, 24 gr.

SOFT PART COLORS: Tarsus black; male bill ivory to pale yellow, sometimes with black tip; female bill pinkish with brown culmen; iris pale yellow; eye ring pale yellow, practically identical to iris. This broad rosette, scalloped on outer edge in flower-like design, forms integral part of eyelid and becomes elongated slit when eye closes.

VOICE: I have never heard voice. Wings produce distinct noise in flight.

BREEDING: Adult male collected September 20, 1974 had much enlarged testes, whereas female of July 17, 1971 had inactive ovary.



MAP 162. Geographical distribution of two species of *Knipolegus* in Rio Grande do Sul.

BEHAVIOR: Spectacled Tyrants spend much time on ground, but also perch on fences and high points on bushes and reeds from where they launch out, frequently almost vertically up, to catch passing prey, and then return to perch. At Estância Ipiranga in July 1971 they

were abundant on short grass pasture near waterline of reed-filled lake. In Taim marsh they are common in weeds and bushes of highway embankment transecting it, as well as on asphalt roadway itself.
SPECIMENS: MCN: 271, 1004–1006*, 1017*.

MN: 31955*, 31869*. AMNH: 315036–315045, 321348–321355, 321624–321628, 321913–321918, 321920–321923. (321919 from Uruguayan side of mouth of Rio Jaguarão.)

Fluvicola (Arundinicola) leucocephala
Map 163

White-headed Marsh-Tyrant
Freirinha
(Little Nun)

DISTRIBUTION AND STATUS: Uncommon resident along most of littoral from Tôres to Taim marsh, through central trough W to 55°W, and in São Donato marsh. Most often seen in bushes bordering marshes or overhanging or growing in lakes.

FIELD MARKS: Pure white head on otherwise all black male unmistakable. Gray female, with white forehead and face and whitish underparts, much less distinctive but not similar to any other Rio Grande do Sul species. Immature male on May 7, 1974 had female plumage except for few black feathers on breast.

SIZE: One male: 134 mm, 16 gr. One female: 141 mm, 16.5 gr.

SOFT PART COLORS: Tarsus black; bill black, yellow at base of mandible; iris brown.

BREEDING: Male collected September 13, 1973 had well-enlarged testes. Female of July 28, 1974 had inactive ovary. Family party of one male and three birds in female plumage seen on April 27, 1974. Voss (personal commun.) saw one with fledglings at zoo, Sapucaia do Sul, on January 7, 1978.

BEHAVIOR: Usually found in isolated pairs, sitting on prominent perches in low bushes about 1 m above water level, from which they dart out in typical flycatcher fashion for passing insects.

SPECIMENS: MCN: 998*, 999*. USNM: 461528*, 461529*. AMNH: 824011*.

Colonia colonus
Map 164

Long-tailed Tyrant
Viuvinha
(Little Widow)

DISTRIBUTION AND STATUS: First registered in state at Nonoai Forest Reserve (Belton,

1973a) and so far found only across extreme N between there and Turvo Forest Reserve, occupying forest edges and partial clearings. Scarce. All sightings between August 24 and May 19; during mid-winter I have not visited precise localities where these observations made, so lack information on whether it migratory. Mitchell (1957, p. 155) saw Long-tailed Tyrants flocking in late May 1953 in state of Rio de Janeiro, so there could be some winter movement out of Rio Grande do Sul. *Colonia c. colonus*.

FIELD MARKS: Greatly elongated tail feathers, light gray cap and white rump on otherwise all black plumage.

SIZE: One male (long tail feathers missing): 140 mm, 17 gr.

SOFT PART COLORS: Tarsus and bill black; iris dark.

BREEDING: Male lacking elongated tail feathers collected September 23, 1971 had moderately enlarged testes.

BEHAVIOR: Usually sits on prominent, fairly high perches, such as dead snags, from which it dashes out to seize flying insects.

SPECIMEN: MCN: 984*.

Alectrurus tricolor

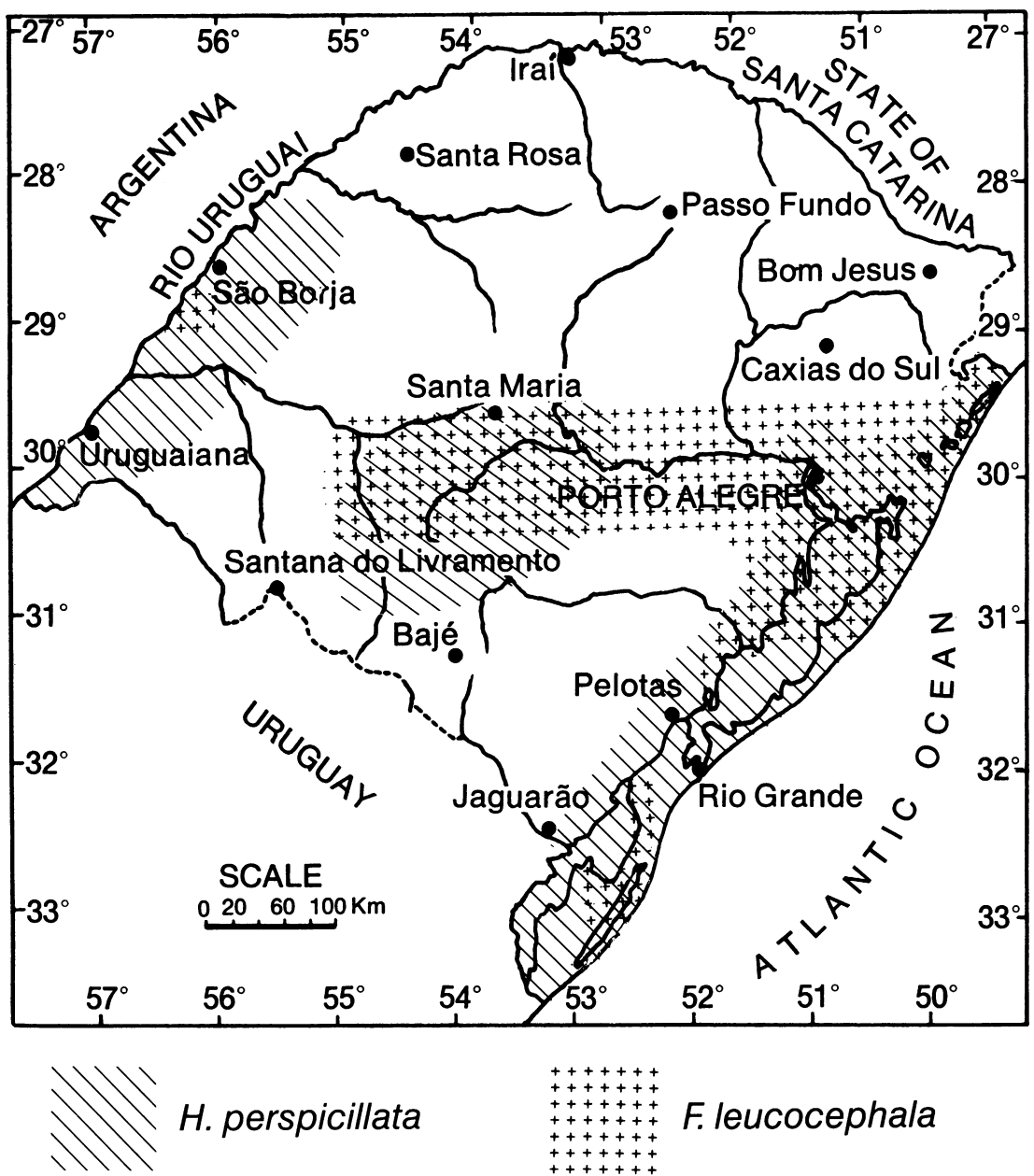
Cock-tailed Tyrant
Galito
(Little Rooster)

Inclusion of this species on Rio Grande do Sul list based on Wied's statement (1831) that Sellow collected it here. British Museum has specimen from Joyner labeled "Pelotas, Rio Grande do Sul." Cory and Hellmayr (1927, p. 66) said "no reliable authority exists for the reported occurrence in . . . Rio Grande do Sul." However, while British Museum specimen is suspect, Ihering (1899a, p. 121) accepted Wied record. Because species is found in adjacent areas of Argentina, at least accidental occurrence here seems reasonable and I have left it on list.

Alectrurus risora
(*Yetapa risoria*)
Map 164

Strange-tailed Tyrant
Tesoura-do-campo
(Field Scissors)

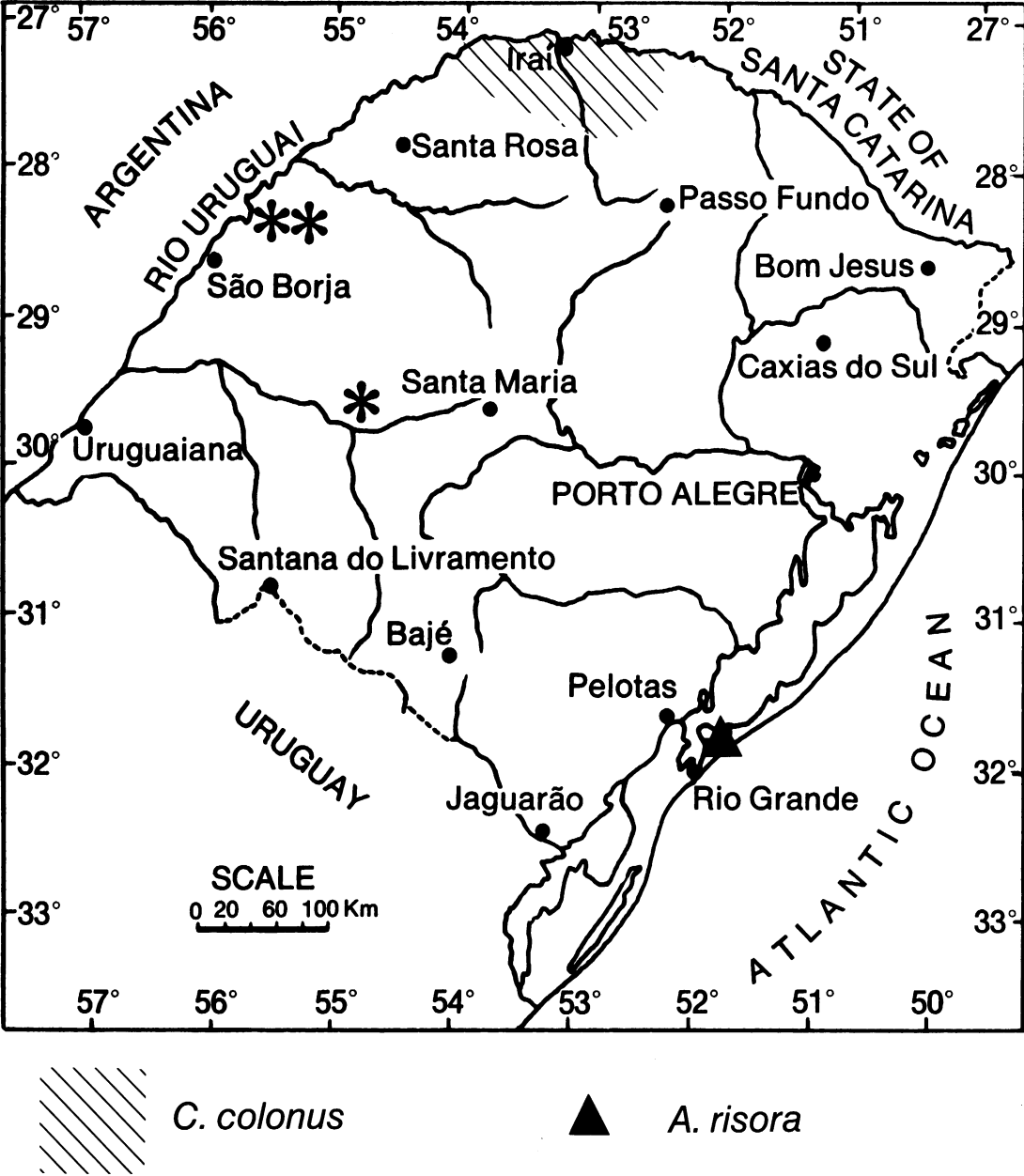
Wied (1831) reported specimen from Rio



MAP 163. Geographical distribution of *Hymenops perspicillata* and *Fluvicola leucocephala* in Rio Grande do Sul.

Grande do Sul, as did Burmeister (1856). Pinto (1944, p. 113) suggested Rio Grande do Sul be considered type locality for species. Gliesch (1930) collected specimen at São José do Norte in winter of 1914. I have been unable to find any more recent record for state.

Gubernetes yetapa
Map 164
Streamer-tailed Tyrant
Tesoura-do-brejo
(Bog Scissors)
DISTRIBUTION AND STATUS: First noted for



MAP 164. Geographical distribution of *Colonia colonus*, *Alectrurus risora* and *Gubernetes yetapa* in Rio Grande do Sul.

Rio Grande do Sul in 1973 (Belton, 1978a), this species has been observed only few times, all but once in pairs in open marshy areas

along small streams running through grass-land in limited area near and to W of Santo Antônio das Missões. One flock of four was

perched on bush at marshy end of lake N of São Vicente do Sul on May 14, 1974. Probably resident near Santo Antônio, although data insufficient for certainty. Registered there in August and November.

FIELD MARKS: Large, gray; white throat separated from gray breast by broad chestnut collar; two extremely long tail feathers.

SIZE: One male: 440 mm, 64 gr. One female: 370 mm, 70 gr.

SOFT PART COLORS: Male: tarsus blackish gray; bill brownish gray, mandible lighter; iris light brown. Female: tarsus black; bill blackish brown, base of mandible brownish gray; iris grayish brown.

VOICE: (R, in Federal District at Brasília National Park, December 8, 1978) Melodious, clear, quick whistled "wheeee we WUU." In response to playback of taped recording of this song, presumed male flew some distance to bush where mate was perched, where they then duetted, one (male?) repeating above song and both participating in variations of loud, clear, excitedly whistled "crEEper crEEper tree crEEper" with much bill clapping at start and during performance. While thus singing, one (male?) held wings wide open and extended above level of back. Other opened wings and beat them while vigorously moving body up and down in rhythm with singing. This spectacular display was repeated number of times at intervals of approximately 10 to 15 seconds. In long intervals between normal singing, brief, light "wheep" occasionally emitted.

BREEDING: Female collected August 3, 1973 had inactive ovary. Male of November 1, 1975 had moderately enlarged testes.

BEHAVIOR: Usually perches on fences, bushes, high grasses, and other projections above low vegetation of its habitat.

SPECIMENS: MCN: 1015*, 1016*.

Satrapa icterophrys

Map 165

Yellow-browed Tyrant
Suiriri-pequeno
(Little Suiriri)

DISTRIBUTION AND STATUS: Never abundant but widely encountered S of southern escarpment as well as on NE coast and highlands. Less common along Rio Uruguay N

to 28°W and rare in central planalto. No records for extreme N. Although some authors (Olrog, 1959; de Schauensee, 1970) say it is woodland or forest species, in Rio Grande do Sul it almost always found in open situation, frequently near marshes or other wet areas, but not unusual around farm dwellings with trees. I have also seen it on dry hills and once even on ground in middle of dusty road. Although reported as partially migratory (Short, 1975) it occurs consistently throughout year here with no noticeable seasonal fluctuation in numbers. However, two central planalto records for July might represent wandering migrants from S.

FIELD MARKS: Prominent bright yellow superciliary and underparts. Immatures have gray breast and whitish superciliaries.

SIZE: Two males: 162–173 mm, 19.5–21.5 gr. One female: 156 mm, 20 gr.

SOFT PART COLORS: Tarsus and bill black; iris (live bird) Dark Grayish Brown.

VOICE: Normally silent. I have heard very mild but sharp "whee" and very low double cheep, latter when young being fed. Voss (personal commun.) reports song as "rising laughter": "whuee---whee whee whee whee whee."

BREEDING: Attempted copulation seen October 18, 1974, nesting material being carried on November 19, 1972, and young being fed December 12 and 14, 1974. Female collected October 11, 1972 had active ovary and male of October 16, 1973 much enlarged testes. Another male of February 20, 1974 had inactive testes.

BEHAVIOR: Quiet, relatively inconspicuous species, usually seen singly or in pairs. Perches on medium to high exposed branches. One displayed by repeatedly raising its wings. One carried what appeared to be long, black caterpillar.

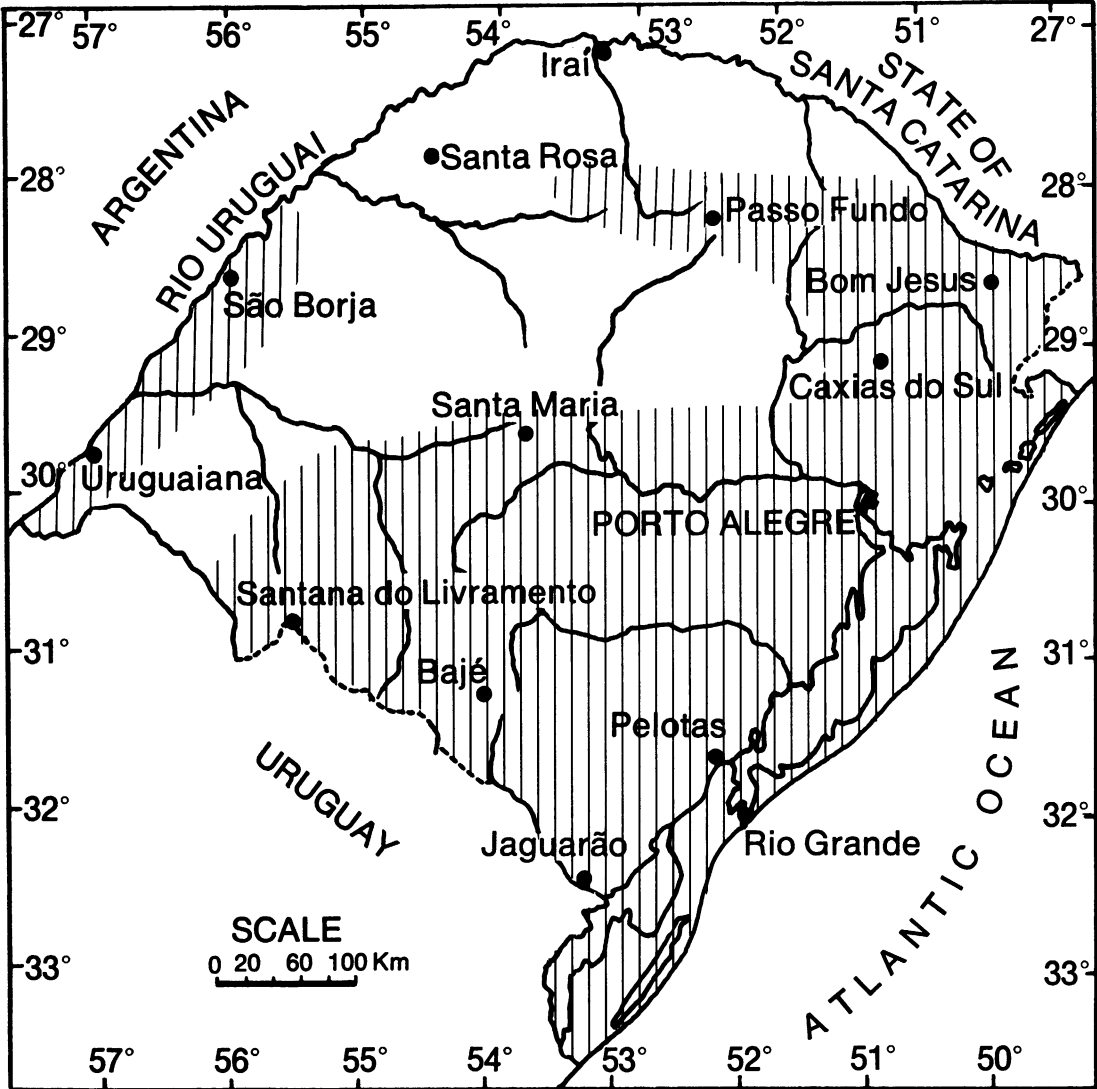
SPECIMENS: MCN: 1009–1010*. AMNH: 314994–314999, 321339, 321340, 321931–321933, 812756*.

Hirundinea ferruginea

Map 166

Cliff Flycatcher
Birro

DISTRIBUTION AND STATUS: Widely scattered, uncommon summer resident found

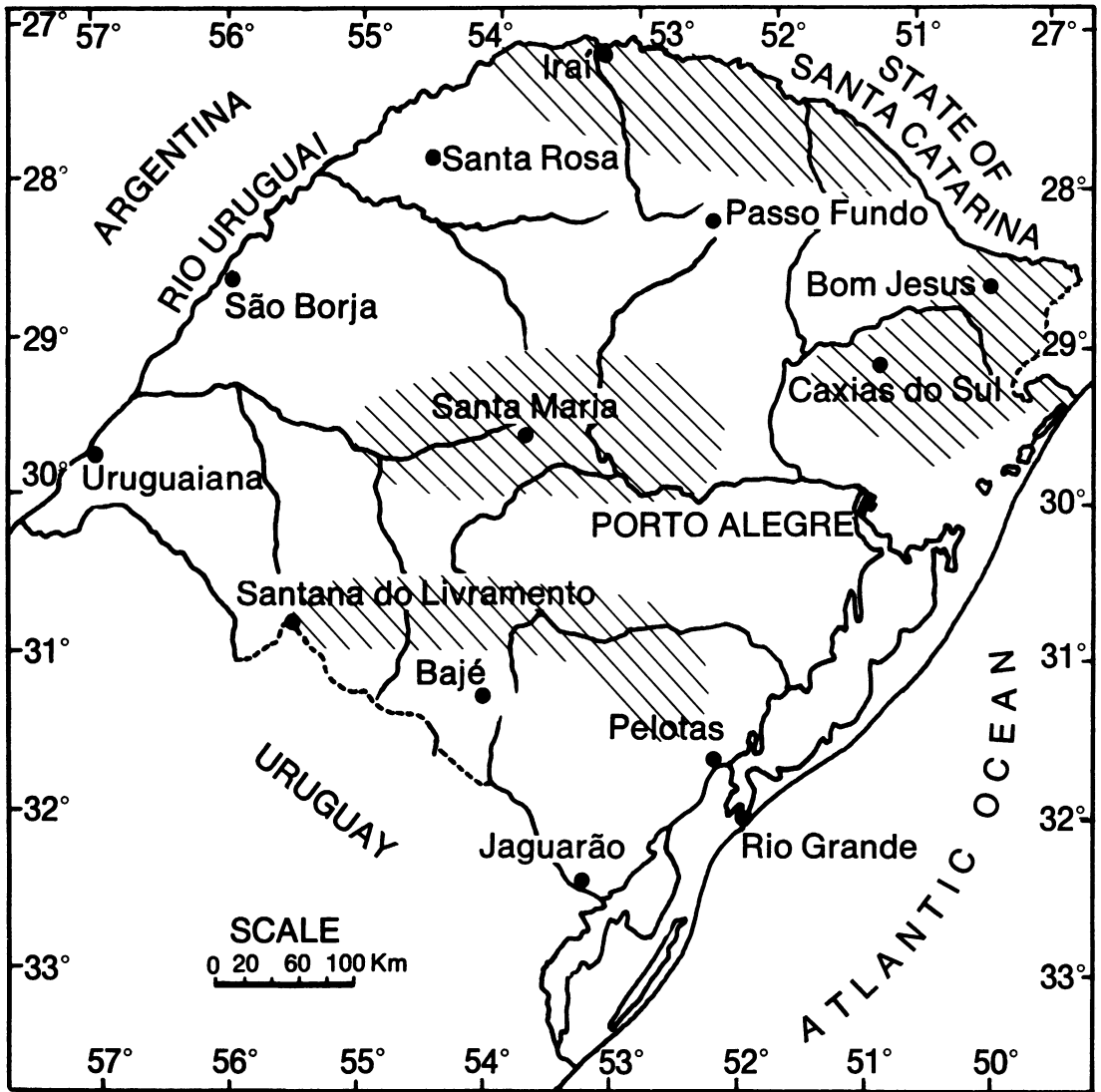


MAP 165. Geographical distribution of *Satrapa icterophrys* in Rio Grande do Sul.

mostly in general area of escarpment and in granitic hills of S. Occasionally in extreme N. While often found some kilometers from any significant cliffs, distribution pattern within state shows its affinity for rocky precipices. In summer of 1968 pair with fledglings perched on rocks near cliff-top viewing platform at Caracol State Park, near Canela. While several other encounters have been in immediate vicinity of steep, rocky areas, species also appears on fence or telephone

wires in open grassland. My earliest record is for September 14 in extreme N, latest for April 21 near beach at Tôrres. Although Gore and Gepp (1978) state this species is permanent resident in Uruguay, at my request Gepp (personal commun.) kindly rechecked his data and did additional field work. He now believes it summer resident there also. *Hirundinea f. bellicosa*.

FIELD MARKS: Dark brown head and back contrast with uniformly bright rufous under-



MAP 166. Geographical distribution of *Hirundinea ferruginea* in Rio Grande do Sul.

parts and extensive patches of rufous in wings, rump, and base of tail, which especially visible during swallow-like flight.

SIZE: One male: 178 mm, 25 gr. One unsexed: 166 mm, 23 gr.

SOFT PART COLORS: Tarsus and bill black; two males collected January 21, 1975 near Canguçu had white iris, but that of bird of undetermined sex, collected January 30, 1971 near São Francisco de Paula, brown.

VOICE: Weak, short, high-pitched

“eeeeeeeee” dissolving into brief, rapid trill which ends rather gutturally, all on same pitch.

BREEDING: Cup-shaped nest was under construction on protected ledge of rocky cliff at edge of and about 9 m above Taquara-Gramado highway near Moreira on November 8, 1983. One of pair of birds present was bringing damp moss from cliff face to add to heavier fibrous material already in structure. On November 24 and 27 bird was seen on

nest. Having seen a pair in Minas Gerais nesting under roof tiles, I suspected same of pair seen on tile roof near Três Coroas on February 6, 1974.

SPECIMENS: MCN: 1100–1101*. AMNH: 315377–315383, 824015*.

Machetornis rixosus

Cattle Tyrant

Suiriri-cavaleiro

(Horseman Suiriri)

DISTRIBUTION AND STATUS: Statewide resident in open country and farmyards, usually in vicinity of livestock. Very common in most areas, somewhat less so in extreme N. *Machetornis r. rixosus*.

FIELD MARKS: Whitish throat and upper breast, light brown upper plumage. Terrestrial habits and horizontal stance when perched. Concealed bright orange crest seldom displayed.

SIZE: One male: 197 mm, 36 gr. One female: 192 mm, 37 gr. One unsexed (live): 202 mm, 34 gr.

SOFT PART COLORS: Tarsus and bill black; iris reddish chestnut.

VOICE: (R: song in southern Paraná, notes in Rio Grande do Sul.) Song: series of shrill squeaks, stuttered in very high-pitched phrase beginning with few short squeaks, then accelerating and becoming more intense and assuming rhythmic pattern which varies from call to call. Note: high-pitched, low volume, unstructured tinkling sounds.

BREEDING: On September 18, 1972 one was carrying material into pom-pon of araucaria where it appeared to be occupying abandoned *Anumbius anumbi* nest. Of pair collected October 11, 1972, male had much enlarged testes, whereas female ovary enlarged but follicles only beginning to expand. On December 3, 1974 in garden at Fazenda das Casuarinas, pair were caring for nestlings in man-made bird house. Entrance had been partially blocked with mud or dung previous year, but I could not learn whether current tenants responsible for this.

BEHAVIOR: Cattle Tyrants here spend large portion of time running on ground in pursuit of insects, frequently accompanying livestock to obtain prey stirred up by grazing. In addition to perching on fence posts and trees

they often utilize backs of cattle and horses, unconcernedly staying aboard as animals walk. Brazilian name refers to this habit, and in some areas of state bird is called "Ginete" = "Jockey." Voss and Sander (1980) found it eating fruits of *cha-de-bugre* (*Cassearia silvestris*) Sw.

SPECIMENS: MCN: 153, 241, 1011–1012*. AMNH: 315060–315070, 321356–321358.

Muscipira vetula

Map 167

Shear-tailed Gray-Tyrant

Tesoura-cinzenta

(Gray Scissors)

DISTRIBUTION AND STATUS: Scarce and sparsely distributed. Records concentrated N of 30°30'S and E of 53°W, except, perhaps, for specimen collected near Santo Cristo by Gliesch (1930), who was uncertain of identification. In open grassland or brushy areas, often near forests, probably throughout year. Registered every month except January, April, and June, and in Gramado/Canela area in all seasons but not between March 14 and July 28.

FIELD MARKS: Gray body with black wings and unusually, but not extremely, long (105 mm), divided, black tail.

SIZE: One male: 220 mm, 28 gr. One female: 198 mm, 26 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

BREEDING: Male of pair collected September 28, 1972 near Canela had much enlarged testes, whereas female had enlarged ovary with undeveloped follicles.

BEHAVIOR: Quiet, fairly inconspicuous in spite of unusual tail, normally found in pairs perched silently on open vantage points, either high in trees or lower in brushy areas, from which they launch out after passing insects.

SPECIMENS: MCN: 1018*, 1019*. AMNH: 315093.

Attila (Pseudattila) phoenicurus

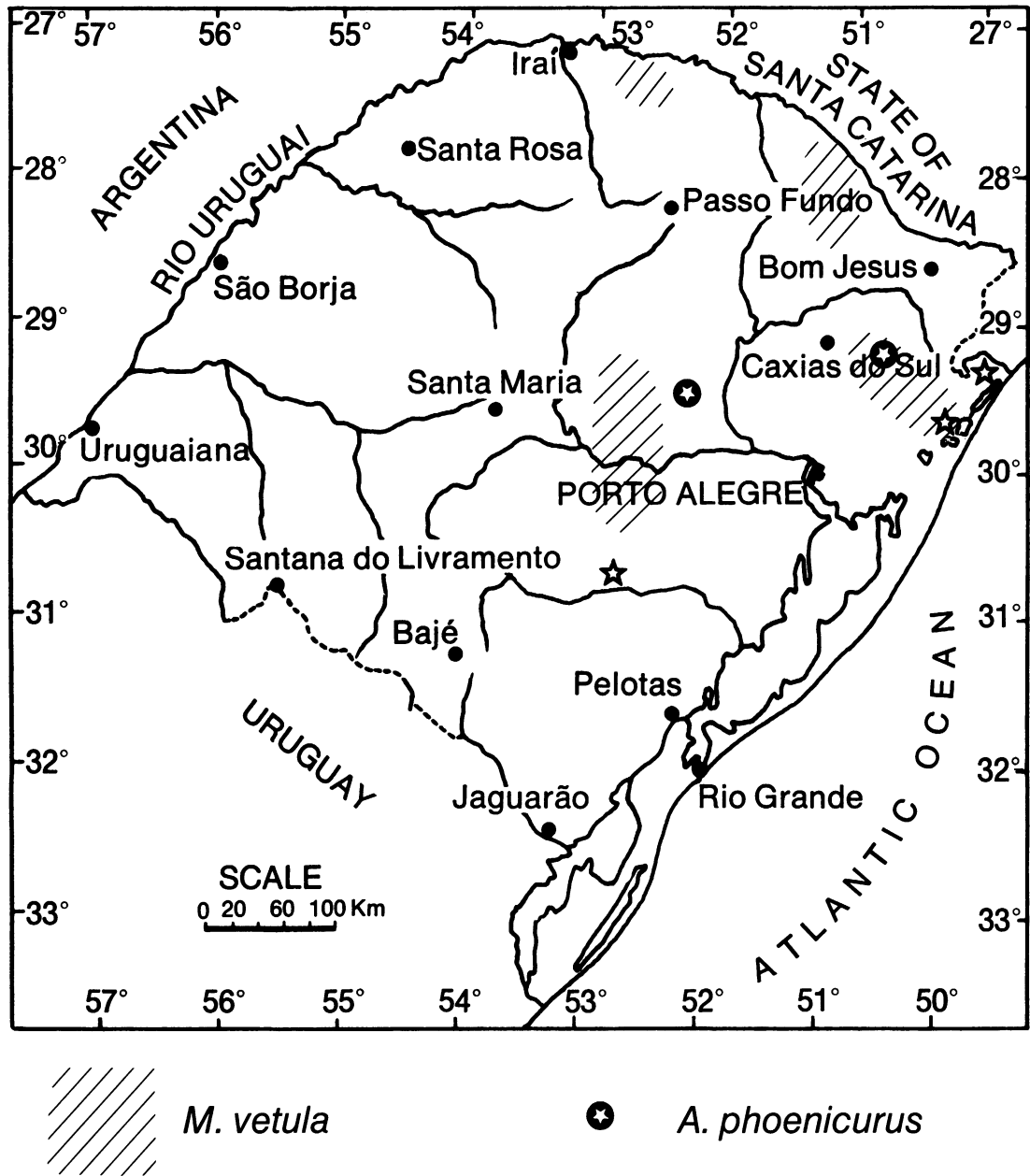
Map 167

Rufous-tailed Attila

Capitão-castanha

(Chestnut Captain)

DISTRIBUTION AND STATUS: Scarce occupant of forest canopy, so far registered only



MAP 167. Geographical distribution of *Muscipipra vetula* and the two species of *Attila* found in Rio Grande do Sul.

locally in Canela/São Francisco de Paula area and high along escarpment N of Santa Cruz do Sul. Summer resident, presumably breed-

ing here, registered only between November 13 and March 24.

FIELD MARKS: Dark, brownish gray head

and wings contrast with rich rufous back; bright rufous tail, and buff to ochre underparts. Could be confused with female *Pachyramphus validus* but is much more slender and more brightly colored. Also see *Attila rufus*.

SIZE: One female: 198 mm, 35 gr.

SOFT PART COLORS: Tarsus gray to light gray; bill: female had dark brown maxilla and brown mandible with whitish base and tip; an unsexed specimen had black bill with whitish rami, white extending distally along tomia about half bill length; iris brown.

VOICE: (R) Loud, vigorously whistled "please free PhOEbe." Occasionally only "PhOEbe," or "free PhOEbe," and sometimes "please, please free PhOEbe." Also a plaintive, low, whistled "peeur," slurring downward from major into minor key.

BREEDING: Female collected March 24, 1974 had inactive ovary.

BEHAVIOR: In late March 1974 and mid-January 1977 several individuals were flying about actively in high, dense canopy of forest patch N of Santa Cruz do Sul singing so vigorously and continuously they were most conspicuous birds in area.

SPECIMENS: MCN: 1033*, 1034*. AMNH: 315585.

Attila rufus

Map 167

Gray-hooded Attila
Capitão-de-saíra
(Captain of Tanagers)

DISTRIBUTION AND STATUS: Rare in or on edge of wet coastal forest of NE littoral. One, presumably accidental, seen once, February 6, 1972, in SE hills at edge of gallery forest. Migratory status uncertain. Registered as early as September 1 and as late as June 30, but may occur here only irregularly. I have not encountered it in recent years. *Attila r. rufus*.

FIELD MARKS: Gray head, throat, and neck with various shades of rich ochre on remainder of body. *Attila phoenicurus* resembles it somewhat, but is smaller, has much darker head and shorter bill, lacks light gray throat.

SIZE: One male: 211 mm, 42 gr.

SOFT PART COLORS: Tarsus gray; maxilla brown to grayish brown; mandible reddish gray to grayish white; iris reddish to brown.

VOICE: (R) Song: slow series of up to 10 vigorous, loud, separate whistled notes, rising in pitch and intensity until final note, which is weaker and drops down scale. Attractive three-noted "wEEt-ee-pO," or quick run of whistled notes all on same pitch are sometimes interspersed between renditions of song. Responds vigorously to voice playback.

BREEDING: Male collected December 16, 1971 had much enlarged testes, those of one taken June 25, 1974 inactive.

SPECIMENS: MCN: 996*. AMNH: 824007*.

Sirystes sibilator

Map 168

Sirystes
Suiriri-assobiador
(Whistling Suiriri)

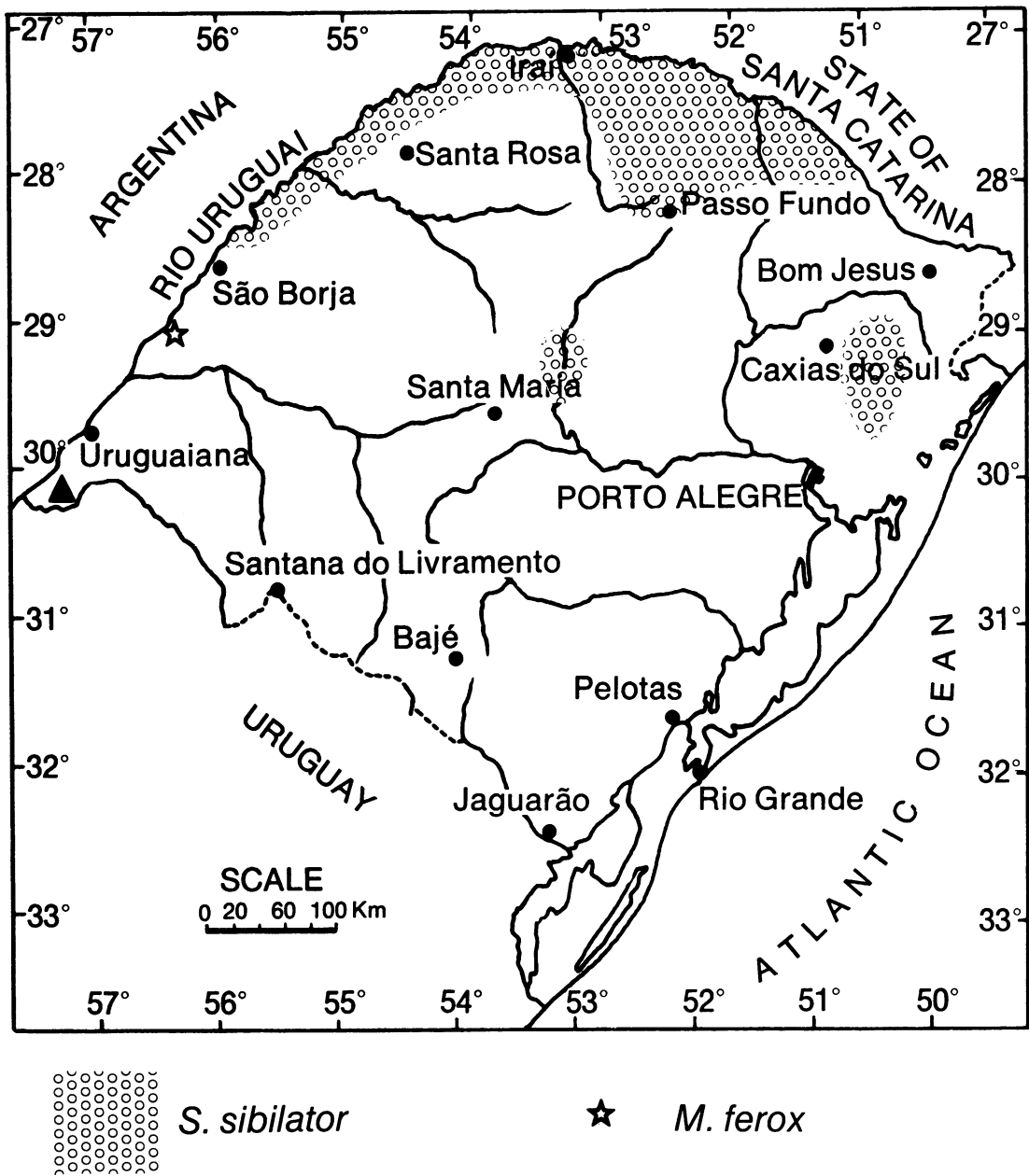
DISTRIBUTION AND STATUS: Common in forest canopy of extreme NW and N in strip paralleling upper Rio Uruguay from Garruchos to Barracão; rare at scattered localities in central plateau and along southern escarpment. This pattern suggests that before bulk of forest cover of northern plateau destroyed, *sirystes* may have occupied most of region. Possibly resident, but no records between May 22 and August 4. Evidence at hand indicates many, if not all, individuals may retire from state during winter months. However, because it most easily found by noisy voice, if silent during mid-winter it could have been overlooked. *Sirystes s. sibilator*.

FIELD MARKS: Gray with loose black crest and two wide, light wingbars. Resembles *Myiarchus swainsoni* in size and outline, but lacks yellow on underparts, crest much darker, more prominent.

SIZE: One male: 183 mm, 27.5 gr.

SOFT PART COLORS: Tarsus dark gray to black; bill black; iris between Dark Brown and Deep Brown.

VOICE: (R) Noisy and persistent. Plaintive, demanding song, consisting usually of anywhere from four to 17 vigorously whistled, short, rapidly repeated notes, those in middle of phrase having greater volume and rising slightly in pitch. When phrase extended, it usually has secondary brief crescendo in middle of extended portion. While interesting and ear-catching, constant repetition causes voice to lose "pleasing" and "sweet" qualities attributed to it by Mitchell (1957, p. 168).



MAP 168. Geographical distribution of *Sirystes sibilator* and two species of *Myiarchus* in Rio Grande do Sul.

BREEDING: Male collected August 5, 1973 had slightly enlarged testes, whereas those of one of October 24, 1975 fully active. On Jan-

uary 17, 1977 adults were feeding juvenal at Fazenda do Umbu.

BEHAVIOR: *Sirystes* is vigorous, active

species, sort of forest version of *Pitangus sulphuratus* in its constant noisy activity. Adults with juvenal in tow in vicinity our camp at Fazenda do Umbu were heard throughout day, and were aggressive toward other species which approached. Sirystes keep almost entirely to higher levels of forest.

SPECIMENS: MCN: 997*. AMNH: 315343, 315344, 824012*.

Myiarchus swainsoni

Swainson's Flycatcher

Irré

DISTRIBUTION AND STATUS: Summer resident found in forests, woodland patches, and scrubby areas with some trees, almost throughout state; no records for Mostardas peninsula or S tip, probably due to shortage of suitable habitat. Earliest record September 13 in extreme N, latest April 6 on southern escarpment. *Myiarchus s. swainsoni*.

FIELD MARKS: Head appears disproportionately large due to almost constantly erect crown feathers. Long, prominent, heavy bill distinguishes it from similarly colored *Elaenia flavogaster*.

SIZE: Six males: 190–214 mm, 24–33 gr. Four females: 180–191 mm, 23–28 gr.

SOFT PART COLORS: Tarsus black; bill black with lighter area at base of mandible; iris brown.

VOICE: (R) One of state's most persistent vocalists. Singing before dawn, it competes with *Nyctidromus albicollis*, *Caprimulgus rufus*, and *Crypturellus tataupa*. As late in season as February 22, when many species have fallen silent, I have heard one well after sundown accompanying *Otus choliba*. During day it sings constantly at all hours, sometimes with only very fine, high-pitched, simple whistle. Most characteristic song is raucous "PUT-it-here. . . PUT-it-here," varying to "PUT-it" and "here-PUT-it," which Lanyon (1978) appropriately calls a rasp-roll. Dawn song is strong, short, mournful whistle, interspersed and sometimes alternating with another phrase, essentially a rolling trill introduced and terminated by momentary whistles.

BREEDING: Female collected October 26, 1972 had enlarged ovary, and six males collected on various November dates all had

moderately to greatly enlarged testes. Of 12 individuals netted at Itapuã November 17–20, 1983, only one showed evidence of brood patch. Male of January 29, 1971 had moderately enlarged testes, but three February females had inactive ovaries.

On January 17, 1975 nest in hollow gate post in Municipality of Encruzilhada do Sul had opening about 75 cm aboveground facing clump of bushes very close by. Three nestlings, clothed in mixture of feathers and blackish down, had mouths outlined in white. They were noisy when we first approached, but remained quiet during unsuccessful try to reach them for close inspection. Fully feathered juvenal with distinct rufous edges to wing and tail feathers being fed by female on February 27, 1971 at Fazenda das Amoreiras.

BEHAVIOR: Usually perched fairly high on barer branches under canopy of forest trees, it would be relatively inconspicuous were it not for constant vocalization. Perches normally less prominent than those of most large flycatchers of Rio Grande do Sul. This species tends to change perches frequently, rather than returning to same one after each sally for prey. Although essentially upper-level forest species, it occasionally utilizes open or semi-open habitats, as witnessed by nest mentioned above, by female I found perched on fence wires and low bushes in open near São Nicolau, and by pair at Carázinho feeding on insects only about 30 cm aboveground. Nestlings are fed insects and berries by both parents. Fledgling at Fazenda São Roberto on February 19, 1975 was fed dragonfly.

SPECIMENS: MCN: 1117–1124*. MN: 32219*, 32220*. AMNH: 315404–315439, 321939, 802165–802168, 812574*, 812744–812747*.

Myiarchus ferox

Map 168

Short-crested Flycatcher

Maria-cavaleira

(Mary the Horsewoman)

Only Rio Grande do Sul record is male collected by Garbe at Itaquí in August 1914 (Pinto, 1944). Lanyon (1978, p. 580) examined this specimen and confirmed identity. Conversely, he examined other specimens of

this genus originating from Rio Grande do Sul, including all those in my collection not previously identified by voice, and confirmed they are not *ferox*. *Myiarchus f. australis*.

Myiarchus tyrannulus

Map 168

Brown-crested Flycatcher

Maria-cavaleira-rabo-ferrugem

(Mary the Rusty-tailed Horsewoman)

Snethlage collected female on October 15, 1928 at Passo da Cruz near extreme W tip. No other record known for Rio Grande do Sul. *Myiarchus t. tyrannulus*.

SPECIMEN: MN: 12963.

Pitangus sulphuratus

Great Kiskadee

Bem-te-vi

(I see you well—onomatopoetic)

DISTRIBUTION AND STATUS: Abundant resident everywhere all year except in winter in higher altitudes of NE from where it then disappears entirely. Work needed to determine whether there may be substantial migratory movement of individual birds in Rio Grande do Sul, such as that revealed by one banded in Santiago del Estero, Argentina, June 28, 1963, and found in Campos Novos, Santa Catarina on January 20, 1969 (Olrog, 1969). Usually most common around wet open areas, but occurs in almost any habitat, including ocean beaches, city gardens, forest openings, eucalyptus groves. In October 1972 along N half of Mostardas peninsula—flat, low-lying area with much open grazing land, this and *Vanellus chilensis* were most widely and regularly distributed species. On S half of same peninsula in January 1974 except for occasional *Tyrannus savana*, *P. sulphuratus* was only tyrannid species seen. *Pitangus s. argentinus*.

FIELD MARKS: Black cap fully surrounded by broad white line, below which, on sides, broad black strip passes through eye.

SIZE: Two males: 243–250 mm. One male: 71 gr. One female: 257 mm, 79 gr.

SOFT PART COLORS: Tarsus dark gray to black; bill black; iris brown.

VOICE: (R) “Kiskadee” and “Bem-ti-vi” are onomatopoetic renditions of species’ most characteristic vocalization, delivered with

wide variety of intensities, from mild to shrill or raucous. Occasionally one call follows another with such speed as to constitute continuous series. In addition there are many other calls, often seemingly variations of basic one, such as “bem-ti-whirr,” “ti-vi,” “wheep whurr” with second syllable dropping in pitch, and a much drawn out “wheeeeeerrr” which rises, then drops, in middle.

BREEDING: Nest construction observed as early as September 17 and nest with young as late as February 14. Nest sites vary from orange, araucaria, *Ficus* sp., *Chorisia* sp., and leguminous trees to forked fencepost, and heights from slightly over 1 m to approximately 13 m. High nest near Garruchos observed November 25–28, 1973 appeared to have three nestlings already with typical adult plumage on head and breast. They gave single-noted whining call of adults. Both adults were feeding them regularly with insects and ripe berries. Nestlings stuck heads out opening to receive these offerings. I never saw adult enter nest, which looked too crowded to permit this. While most nests are sloppy-appearing, domed structures in the open made of variety of materials including grass, wool, and *Tillandsia*, one was in abandoned *Furnarius rufus* house in which side wall separating nesting chamber from entrance passage had been destroyed so chamber opened directly to exterior. It was fully but sparsely lined with grasses. The mud structure had been built on top of heavy piling and stood 2 m above water level and 1 m from shore in canal in Taim marsh. Four nestlings, well advanced and fully feathered on February 14, 1974 all leaned back against rear wall as I looked in, but took no other defensive measures. Pair copulating on November 18, 1974 both raised crests during procedure, and female kept hers erect for several minutes afterward as she remained perched on weed where action occurred.

BEHAVIOR: Great Kiskadees are noisy, aggressive, conspicuous, and perch prominently on poles, posts, exposed branches, and treetops from where they seem to dominate immediate surroundings. They sing and call throughout the day, beating wings vigorously as they do so. They often show surprising resemblance to kingfishers as, with large heads

and heavy bills, they perch on fenceposts near roadside ditches or marshy pools waiting to plunge for some bit of aquatic life on or near water surface. Occasionally large numbers perch on wet sand of ocean beach at water line, feeding on small creatures disturbed or stranded by retreating waves. They also eat fruit: one ate passion fruit growing wild on road embankment; another tore persimmon skin to gain better access to soft inside pulp. Voss and Sander (1980, 1981a) registered them eating 20 different species of wild or cultivated fruits, and Voss (personal commun.) saw one eating pellets of cattle ration.

SPECIMENS: MCN: 47, 61, 151, 217, 403, 1817–1819*. MN: 7956. AMNH: 315327–315342, 321392, 321393, 321655–321658.

Megarhynchus pitangua

Map 169

Boat-billed Flycatcher
Neinei (onomatopoetic)

DISTRIBUTION AND STATUS: Summer resident, common in forest openings, edges, and scrub across northern quarter of state. Also found uncommonly through central plateau S to foot of escarpment, and occasionally in gallery forests of central W. Voss (personal commun.) saw one near São Leopoldo November 4, 1981. Earliest record October 18, latest May 14, latter from extreme SW edge of range near Jaguarí. *Megarhynchus p. pitangua*.

FIELD MARKS: Somewhat smaller version of *Pitangus sulphuratus* with much broader, heavier bill. Broad superciliaries do not meet on nape as they do on *P. sulphuratus*.

SIZE: One male: 233 mm, 58 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown; inside of mouth white.

VOICE: (R) Brazilian name, *Neinei*, is version of one common vocalization which to me is hoarsely squealed "weea-wau." Also, a shrill cry, "weeo-ka-weeo," repeated with variations, sometimes so fast it takes on wavering quality with low and high notes almost simultaneously intermingled. Also a short, shrill, bunched trill.

BREEDING: On November 5, 1975 along road between Porto Xavier and Porto Lucena, nest was under construction in exposed situation in highest branches of tall tree. On

November 27, 1973 near Garruchos one of pair was on nest about 11 m up in tree at forest edge. It was simple cup placed in exposed crotch and seemed small for size of bird. I saw no signs of feeding so presume eggs being incubated. Male collected November 28, 1971 had greatly enlarged testes.

BEHAVIOR: Noisy and active, but considerably less so than *P. sulphuratus*.

SPECIMENS: MCN: 1007*. AMNH: 315372–315376.

Myiozetetes similis

Map 169

Vermilion-crowned Flycatcher
Bem-te-vi-pequeno
(Small Kiskadee)

Albuquerque (1980) found pair nesting at Porto Garcia on September 15, 1978, saw species throughout year, and found nesting again in 1979. Species occurred along Rio Uruguay in Turvo Forest Reserve to below mouth of Rio Turvo. Silva (personal commun.) saw one near Iraí on April 17, 1981. Previously known from northern Santa Catarina and Misiones, Argentina. *Myiozetetes s. pallidiventris*.

Myiodynastes maculatus

Map 170

Streaked Flycatcher
Bem-te-vi-rajado
(Streaked Kiskadee)

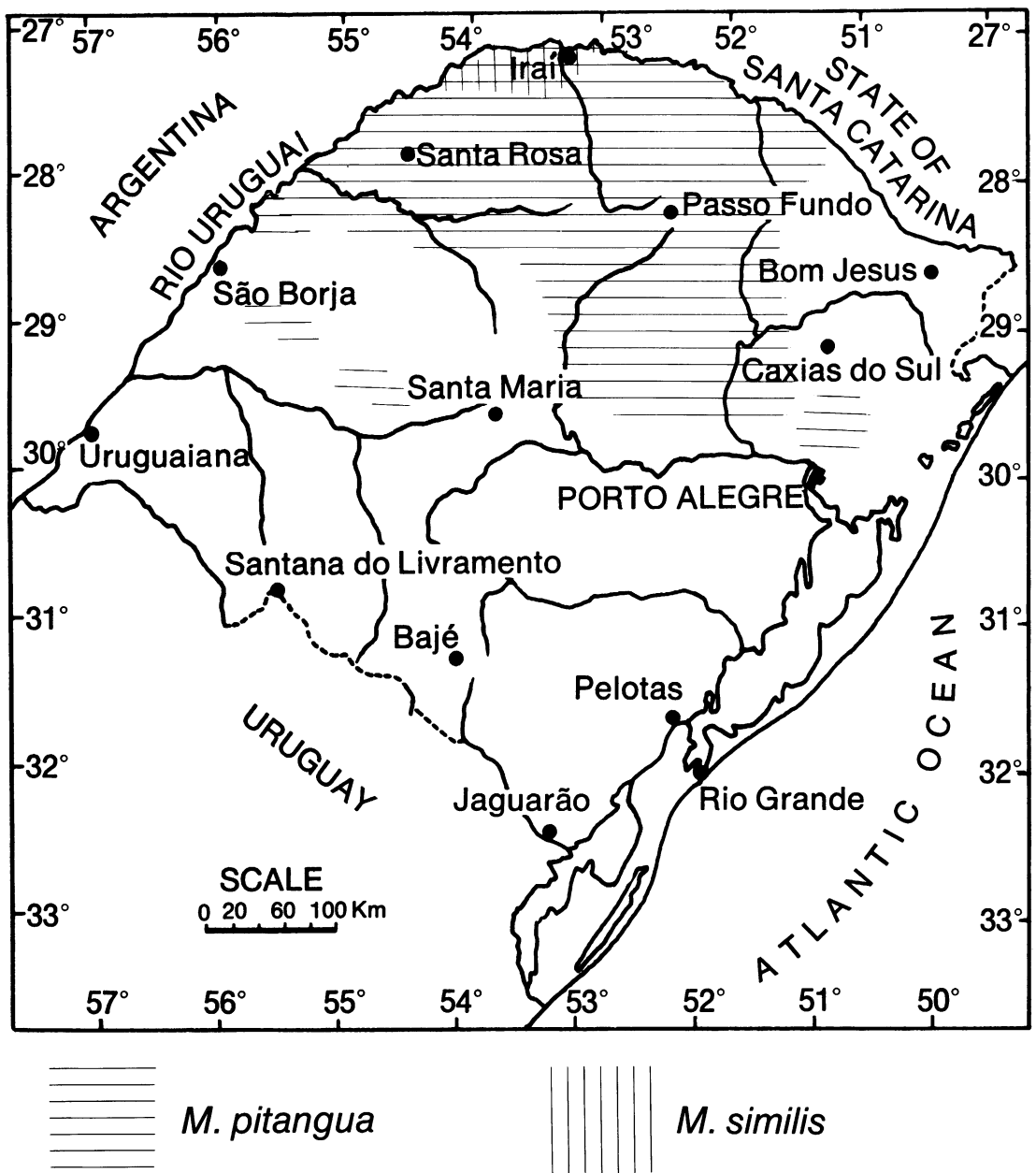
DISTRIBUTION AND STATUS: Summer resident, common in most parts but not recorded for Mostardas peninsula, southern littoral, or central SW. At Turvo Forest Reserve in 1971, none seen before September 18, earliest date registered for state, but by September 20 they were common. Latest date April 8 (Pinto, 1944). Found in forests and eucalyptus plantings. Alternative Brazilian name is *Bem-te-vi-do-mato* = Forest Kiskadee. *Myiodynastes m. solitarius*.

FIELD MARKS: Largest and most heavily streaked of streak-plumaged flycatchers found in Rio Grande do Sul.

SIZE: Two males: 215–217 mm, 43–45 gr.

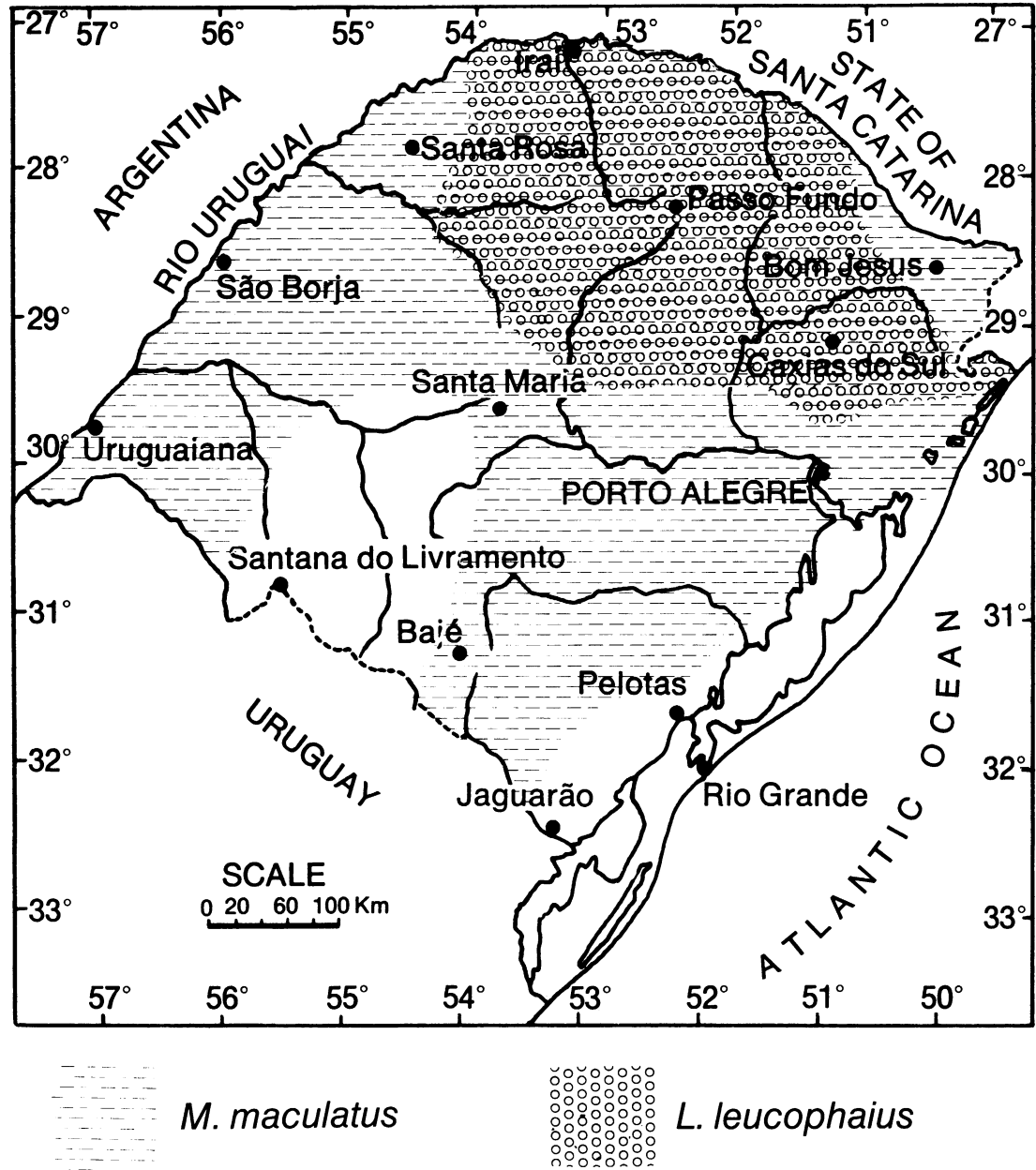
SOFT PART COLORS: Tarsus gray to black; bill black, often light at base of mandible; iris brown.

VOICE: (R) I have never heard attractive



MAP 169. Geographical distribution of *Megarhynchus pitangua* and *Myiozetetes similis* in Rio Grande do Sul.

vesper song described by Skutch (1960, p. 376) for this species in Costa Rica and Panama. Dawn song in Rio Grande do Sul notable for loud, harsh, constantly repeated "tree-creeper," often rendered during day as well. Another common vocalization is "Wicket" or Hiccup," also constantly repeated and sometimes interspersed with several lighter, plaintive, short whiny notes which are closest approximation to "song" I have



MAP 170. Geographical distribution of *Myiodynastes maculatus* and *Legatus leucophaius* in Rio Grande do Sul.

heard from this species. Common call is tirelessly continued “whit whit whit . . .” and I once recorded “wheat wheat wheat purrup.”

BREEDING: Male collected December 17, 1971 had much enlarged testes, one of January 29, 1971 still had moderate enlarge-

ment, but in another of February 6, 1971 they were much reduced.

BEHAVIOR: Conspicuous because of noisy voice and large size, it normally chooses prominent perches from one-half to two-thirds way up in taller forest trees, from where

it can overlook road or other clearing. Voss and Sander (1980) report seeing it eat fruits of six different tree species.

SPECIMENS: MCN: 388, 408, 1029–1032*. MN: 12540, 12557, 12571, 12572. AMNH: 315348–315370, 810488*, 810489*.

Legatus leucophaius
Map 170

Piratic Flycatcher
Bem-te-vi-pirata
(Piratic Kiskadee)

DISTRIBUTION AND STATUS: Summer resident, sparsely scattered across N, south to escarpment in E. So far registered only between November 6 and February 7. Found in forests, edges, and partial clearings. *Legatus l. leucophaius*.

FIELD MARKS: See *Empidonomus varius*.

SIZE: Two males: 152–160 mm, 21–22.5 gr. One female: 156 mm, 23 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

VOICE: (R) Song: piercing, high-pitched, three note, slurred phrase: “wheee-eee-eeee” with second note highest, third note lowest, followed by four, sometimes only three, separate lower notes, first three on same pitch, fourth lower. Interval separates the two parts and is longer than either, creating impression they sung by different birds. Often phrase or separate notes repeated alone several times. Call: series of irregularly timed, single notes somewhat lower in pitch than those of song.

BREEDING: Male collected November 24, 1973 had moderately enlarged testes, while those of one of November 27, 1971 much enlarged. Female of December 16, 1971 had enlarged ovary but no swollen follicles.

BEHAVIOR: Perches high in canopy on exposed vantage points.

SPECIMENS: MCN: 1027*, 1028*. AMNH: 315310, 812741*.

Empidonomus varius
Map 171

Variegated Flycatcher
Peitica
(Importer)

DISTRIBUTION AND STATUS: Common summer resident in most of N, and in central trough and hills of SE. Uncommon in W. No records S of 32°S, or in SW, W tip, or for

littoral except near Osório. Occurs in forests, gallery forests, and open or cutover woodland. October 15 earliest date, noted by Silva near São Leopoldo, latest March 31 near center of state. *Empidonomus v. varius*.

FIELD MARKS: As seen from distance, looks like much smaller version of *Myiodynastes maculatus*, from which it quickly separated by the greater bulk, much longer bill, and much more emphatic streaking of the latter. Distinguishing it from *Legatus leucophaius* more difficult. Somewhat larger *E. varius* best told by longer, narrower bill, and abundant rusty edgings to tail feathers and upper tail coverts. *L. leucophaius* has some rust on coverts, but none on rectrices proper.

SIZE: Four males: 180–190 mm, 26.5–30 gr. One female: 201 mm, 27.5 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

VOICE: (R) Extremely high-pitched, low volume, seven-noted phrase in rhythm of “see see see the CEDartree.”

BREEDING: Four males collected during November all had moderately to greatly enlarged testes, whereas female of November 28, 1973 had enlarged ovary but small follicles. On December 31, 1971, S of Vacaria pair nested very close to top of approximately 25 m high tree on horizontal branch with *Tillandsia* hanging from it. Nest itself appeared to have this material in its construction, so was well camouflaged from below. One of pair sat on nest for about 20 minutes, then both actively moved to and from it as if feeding young, though I could not see food in bills. On January 22, 1975 at Fazenda Tarumã pair fed two fledglings sitting on fence wire.

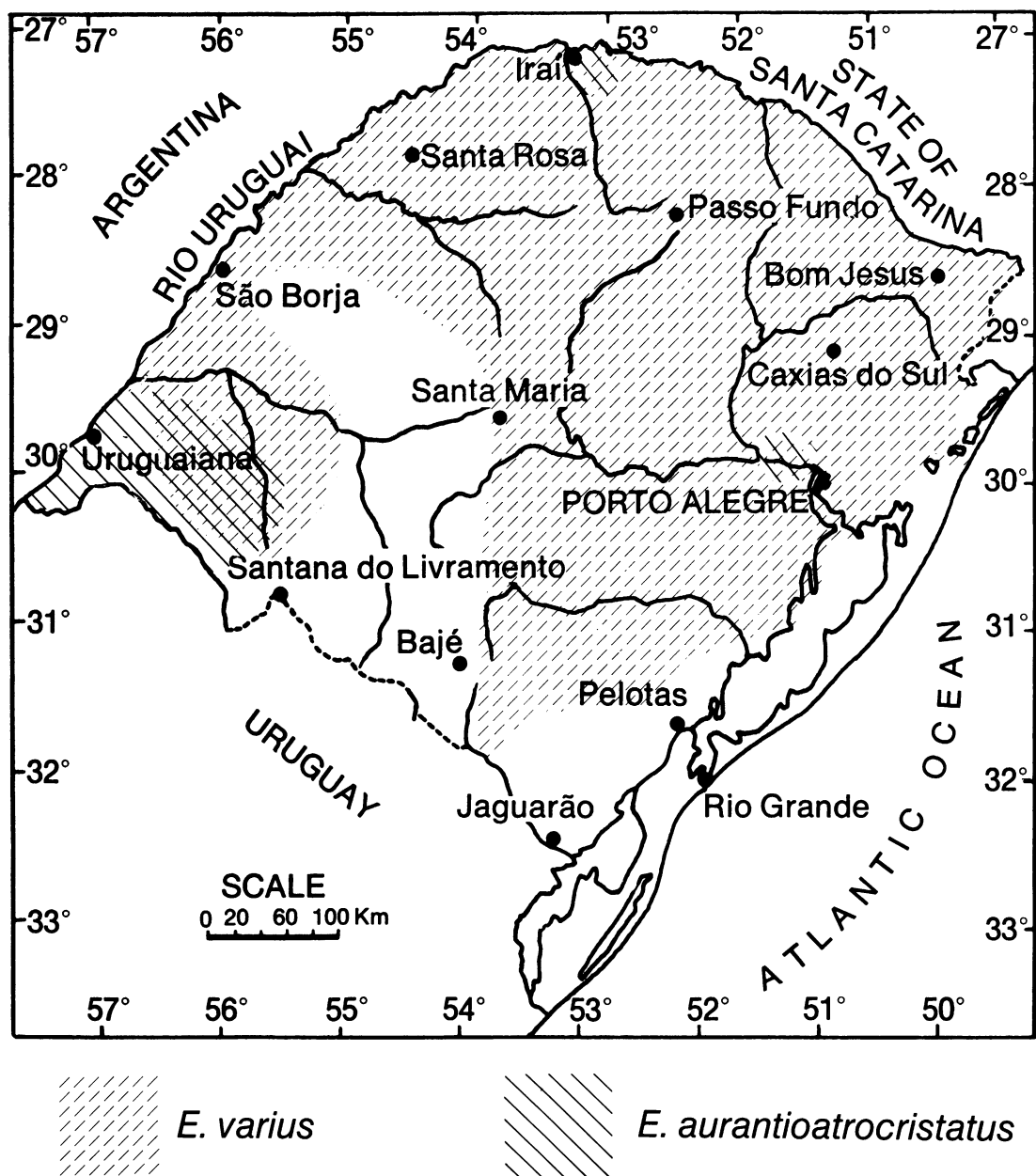
BEHAVIOR: Utilize high, exposed perches on trees from which to sally out for prey. Usually quiet and inconspicuous in their activities. Voss and Sander (1980) noted them eating fruits of *camboatá* (*Cupania vernalis*), and *crindiuva* (*Trema micrantha*).

SPECIMENS: MCN: 240, 1020–1022*. AMNH: 315440–315446, 810487*, 812753*.

Empidonomus aurantioatrocristatus
Map 171

Crowned Slaty-Flycatcher
Peitica-de-chapéu-preto
(Black-hatted Importuner)

DISTRIBUTION AND STATUS: Summer



MAP 171. Geographical distribution of the two species of *Empidonomus* found in Rio Grande do Sul.

resident normally confined to far W, where locally common. Stray appeared near Porto Alegre on January 9, 1975 and one, almost certainly this species, presumably on migration, seen in extreme N on September 22, 1971. Except for this individual, all my records are between October 9 and February 19.

Occurs in espinilho parkland, country gardens, gallery forest edges. *Empidonomus a. aurantioatrocristatus*.

FIELD MARKS: Overall grayish plumage topped by flat-topped black crown with concealed yellow crest. Juvenals might be confused with *E. varius*, with which they share

long white superciliaries, light margins to wing feathers, and rusty edges to tail feathers and upper tail coverts, but immature *aurantio-atrocristatus* have gray underparts typical of adults of own species.

SIZE: One male: 175 mm, 27 gr. One female: 174 mm, 32 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

VOICE: During six days in espinilho parkland in November 1977 where this species common and prominent, two of us never heard any sound from these birds other than rare, extremely short "krrrt," delivered with such low intensity it was difficult to be sure from where it originated.

BREEDING: Female and male collected November 11 and 12, 1970 had active gonads. Male of February 18, 1975 had much reduced testes. Adult fed juvenal on February 17, 1975 at Fazenda São Roberto, although this and other juvenals were also flycatching on their own.

BEHAVIOR: In espinilho parkland Crowned Slaty-Flycatchers usually seen on tops of low trees dominating that landscape, from which they make typical flycatcher forays for passing insects, usually dipping low from their perches.

SPECIMENS: MCN: 1023-1025*. MN: 12375. AMNH: 824013*.

Tyrannus melancholicus

Tropical Kingbird
Suiriri (onomatopoetic)

DISTRIBUTION AND STATUS: Very common summer resident found throughout state in woodland edges and open areas with trees. Earliest record is September 21 in extreme N and September 25 for central trough, but most do not arrive until mid-October. They are present until well into March, with last certain record April 5, and a questionable one for April 10. *Tyrannus m. melancholicus*.

FIELD MARKS: Large, with gray throat and grayish olive upper breast. Yellow of remaining underparts does not always reflect brightness it shows in some lights. Concealed orange crest seldom seen.

SIZE: One male: 219 mm, 39 gr. One female: 212 mm, 40 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

VOICE: (R) Dawn song: extremely high-pitched series of "tsee tsee" notes seeming to wheel up scale in three revolutions. Common daytime vocalization: similarly high-pitched, quick phrase of two notes, "ts - tsee," second not trilled and often slightly lower in pitch than first.

BREEDING: I saw one carrying nesting material on October 18, 1971 and watched three fledglings, about two-thirds adult size, being fed on December 12, 1974. Nesting material was carried December 13, 1972. *Molothrus bonariensis* fledgling was being fed by *T. melancholicus* adults on January 22, 1976. Legitimate fledgling being fed February 4, 1971. Male collected January 17, 1972 still had greatly enlarged testes, whereas female of January 28, 1972 had enlarged ovary but unswollen follicles.

BEHAVIOR: Usually found singly or in pairs, they normally sit very erect on high perches, dashing out in typical flycatcher fashion for passing insects. They vigorously defend territory against potential marauders, often calling on wing when giving chase or soaring down off perch. I have not observed flocking in this species, but Voss (personal commun.) saw flocks moving N along ridge near Vião on February 23, 1980. Voss and Sander (1980) report seeing it eat wild fruits of seven different species.

SPECIMENS: MCN: 157, 1008*, 1026*. AMNH: 315456-315466.

Tyrannus savana (*Muscivora tyrannus*)

Fork-tailed Flycatcher
Tesourinha
(Little Scissors)

DISTRIBUTION AND STATUS: Summer resident, common everywhere in practically any kind of open or semi-open area, but most abundant in rolling upland grazing country. Birds arrive during last 10 days of September. My earliest records are for September 21 in extreme N, September 23 at Santa Maria, and September 28 for Rio Grande. Departure, or perhaps passage of migrants from Argentina and Uruguay through Rio Grande do Sul, commences in early February. Willis (*in litt.*) saw flocks moving N over Nonoai Forest Reserve February 9, 1976 (and subsequent days over Santa Catarina and

Paraná). During three or four days in early February 1972, Fork-tailed Flycatchers very abundant in grassy hills of Encruzilhada do Sul, N of Rio Camaquã, virtually lining fence wires, but when I drove through similar nearby country 200 m lower in Camaquã valley February 7, I saw none. Voss (personal commun.) saw northbound flocks near Viamão February 23, 1980. Flock of about 100 seen in Gramado March 7, 1973. My last record for southern part of state is March 2 near Pelotas, and for state as whole March 15 at Fazenda das Amoreiras. *Tyrannus s. savana*.

FIELD MARKS: Extremely long tail and pure white underparts. In February individuals with much shorter tails are common, presumably juvenals, molting adults, or both. Concealed bright yellow crest rarely visible.

SIZE: One male: 380 mm, 32.5 gr. One female: 274 mm, 29 gr.

SOFT PART COLORS: Tarsus and bill black; iris (live bird) Dark Brown.

VOICE: (R) Rapid series of brief clicks, accelerating to terminal "zzzzt-zt-zt." Also sharp, metallic "taik," often rapidly repeated.

BREEDING: Lamm (personal commun.) observed copulation October 28, 1978 at Rinção dos Pereira. Voss (personal commun.) saw fledglings on November 12, 1962. Active cup-shaped nest at Fazenda São Roberto on November 27, 1974 about 10 m high in garden *paineira* (*Chorisia* sp.) tree, which was in seed, was apparently made of wool, with perhaps some *paineira* fiber mixed in. With white *paineira* fiber abundant in tree, all-white nest was ideally disguised. At Fazenda das Casuarinas on December 3, 1974 nest in exotic conifer, placed 5 m high and 1 m below top of tree, was made of sticks and contained eggs. Nest in tree in small woodland patch on escarpment below Gramado on December 12, 1972 as seen from distance appeared to be made of woven grasses and was 15 to 20 m high near top in crotch formed by branching of vertical limb into several small shoots. Female on nest, with male in close attendance. At Fazenda Caneleira on January 17, 1975 both adults fed four well-feathered nestlings in nest about 7 m up in garden tree near ranch house. On January 24, 1975 at Fazenda São Francisco, short-tailed juvenal being tended by adult.

BEHAVIOR: Fork-tailed Flycatchers are so

common and so spectacular they are among most popular birds of Rio Grande do Sul, where most laymen refer to them as swallows, apparently due to shape of tail. They perch in prominent places at various heights from which they constantly launch out in pursuit of flying insects, intruding birds, or to display. They are notably combative and aggressive toward many other species. During display flights, frequent throughout season, they spread tails widely and beat wings exaggeratedly, feathering them to soar slightly. Tail is opened and closed regularly, giving real scissor effect, and sometimes appears to be distinct impediment to efficient movement. Most food taken in air, but I once saw one diving to surface of pond to take insects. Voss and Sander (1980) have reported them eating seven different species of wild fruits.

SPECIMENS: MCN: 146, 220, 273, 1013-1014*. MN: 6912, 6964. AMNH: 315467-315483, 321934-321938. (No. 315484 may be from state, but has no place name on label.)

Pachyramphus viridis

Map 172

Green-backed Becard

Caneleirinho-verde

Green Little Cinnamonbird

DISTRIBUTION AND STATUS: Uncommon resident of forest canopy, found primarily in central trough and vicinity, but also registered in central N, near Pelotas, and near W tip. *Pachyramphus v. viridis*.

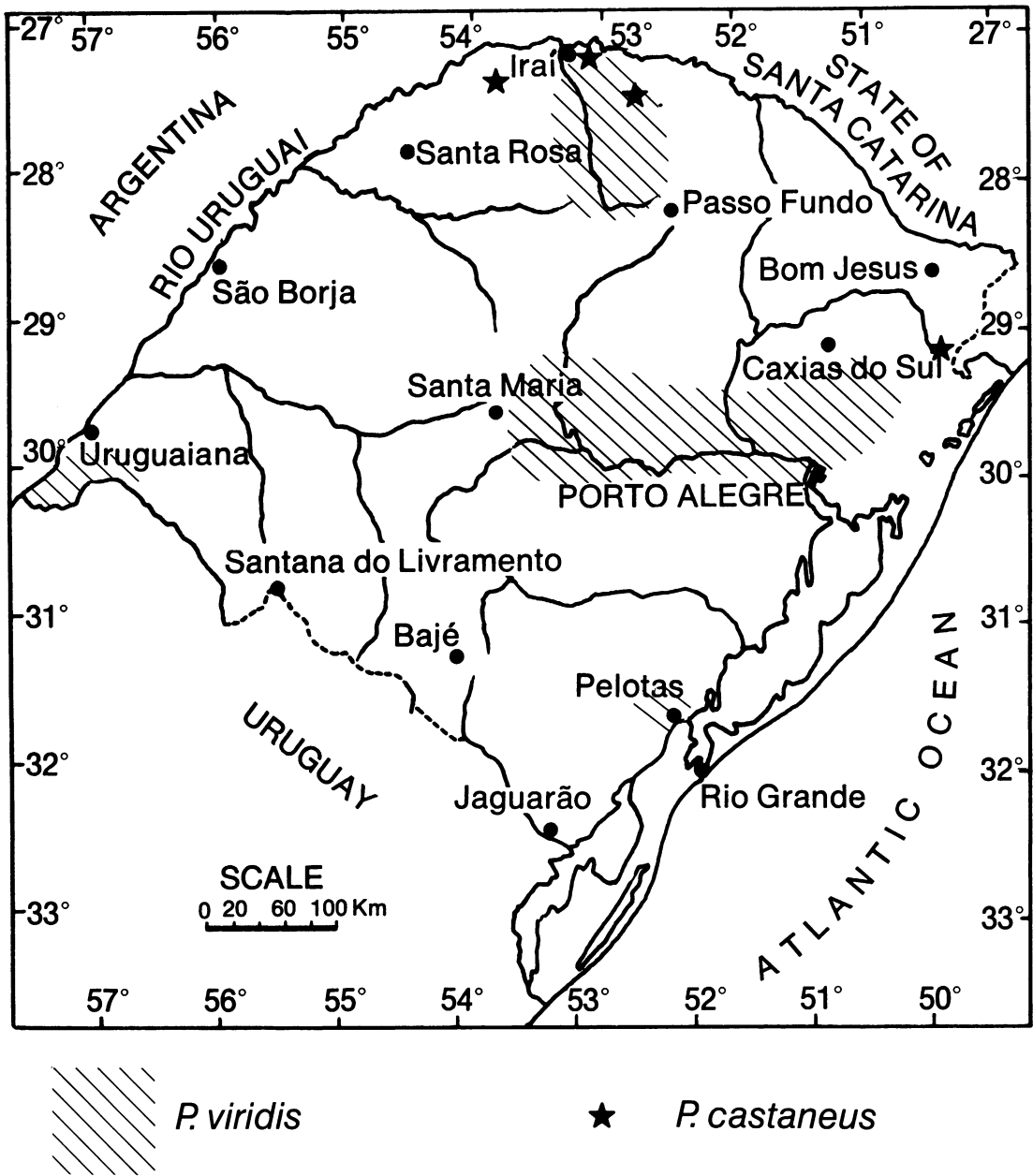
FIELD MARKS: Black cap, green back, yellow breast, buff abdomen.

SIZE: One male (sexed by plumage): 162 mm, 21 gr.

SOFT PART COLORS: Tarsus gray; bill gray, maxilla with black tip; iris dark.

VOICE: (R) Series of individual whistles, the first two to four throaty and climbing scale to high, constant level of following 10 to 15 which are vigorous, emphatic notes with last two or three diminishing in volume. Also a sweetly whistled, almost twittered series of individual notes going rapidly up, then down scale, ending slightly upscale. Also, attractively whistled "peer-oo EE. . .peer-oo EE. . .peer-oo EE."

SPECIMENS: MCN: 1439-1440*. AMNH: 315564.



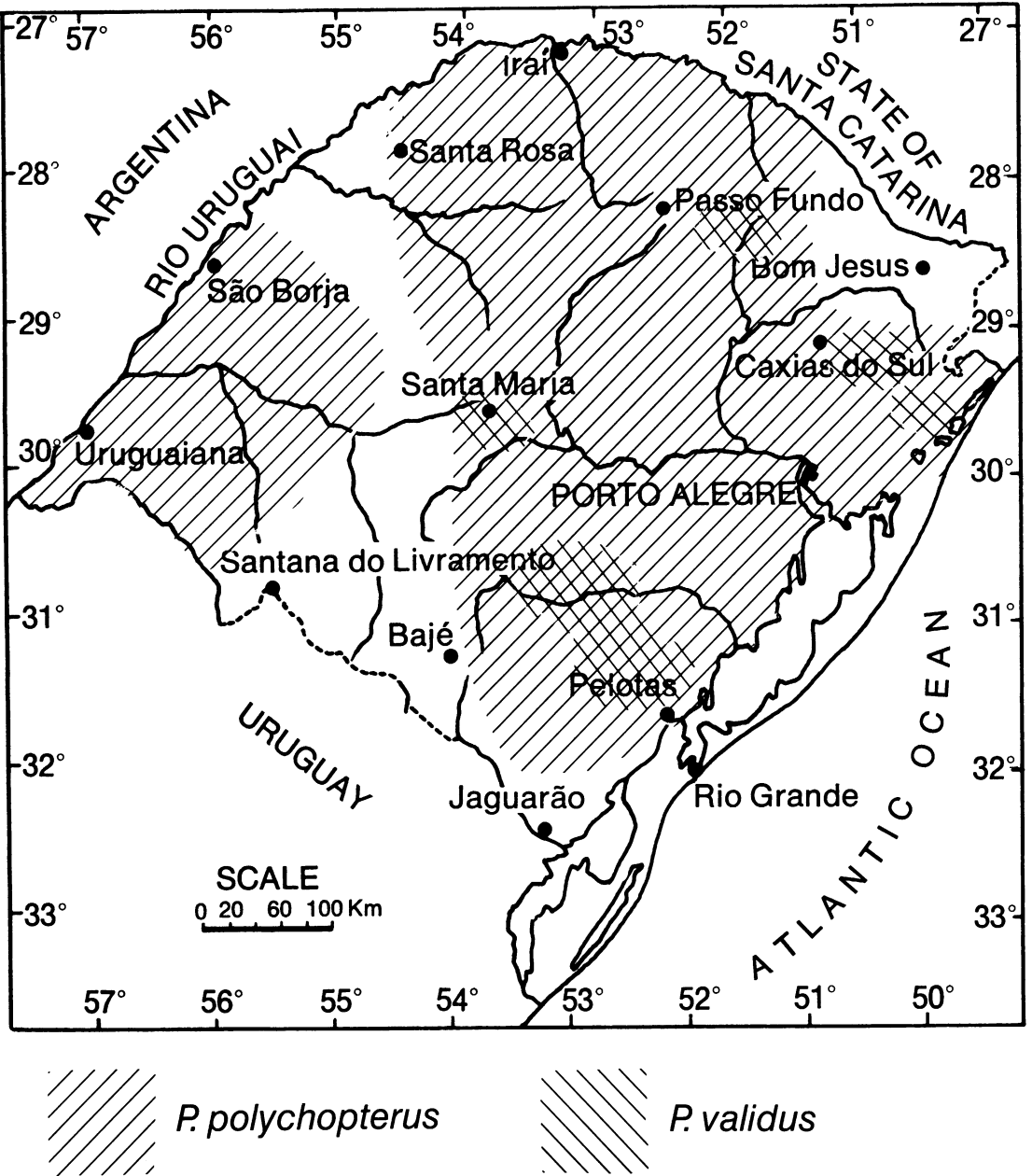
MAP 172. Geographical distribution of two species of *Pachyramphus* in Rio Grande do Sul.

Pachyramphus castaneus
Map 172

Chestnut-crowned Becard
Caneleirinho
(Little Cinnamonbird)

DISTRIBUTION AND STATUS: Very scarce, occurring sporadically in forests of NE and

extreme N, registered in June, August, November, January, and February. *Pachyramphus c. castaneus*.
FIELD MARKS: Gray band around nape from eye to eye contrasts with basic reddish brown coloration.
SIZE: One female: 156 mm, 19 gr.



MAP 173. Geographical distribution of two species of *Pachyramphus* in Rio Grande do Sul.

SOFT PART COLORS: Tarsus gray; maxilla blackish; mandible light gray; iris brown.
 VOICE: (R, by Silva) Attractive, high-pitched, rapid, delicate twittering, wandering around scale without apparent pattern. Also

a single-pitched series of about five high, plaintive notes: "peer peer pee peepee."
 BREEDING: Female collected July 28, 1973 not in breeding condition.
 SPECIMEN: MCN: 1441*.

Pachyramphus polychopterus
Map 173

White-winged Becard
Caneleirinho-preto
Black Little Cinnamonbird

DISTRIBUTION AND STATUS: Common to abundant summer resident in middle levels of open woodlands and forest in much of area E of 54°30'W, except Mostardas peninsula, extreme S, and highest areas of NE corner. Scattered occurrence in W. Earliest record September 29, latest April 20. *Pachyramphus p. spixii*.

FIELD MARKS: Male: broad white wing bars on black wings; white-tipped tail. Female: bulky head, rufous-tipped tail.

SIZE: Two males: 160–168 mm, 22–27 gr.

SOFT PART COLORS: Male: tarsus gray; bill light gray, tip of maxilla sometimes black; iris brown.

VOICE: (R) Four to eight middle-pitched, mild, staccato notes: “chew chew chewchewchewchew” delivered with often irregular, hesitant rhythm which may vary from call to call. Near Tôrres on January 27, 1976 individual in female plumage sang.

BREEDING: Both male and female attended bulky, enclosed nest placed about 5 m up near end of branch of forest tree at Garruchos on November 19, 1977. Specimens collected January 31, 1975, March 30, 1974, and April 8, 1972 had inactive gonads.

BEHAVIOR: Eats fruit of *camboatá* (*Cupania vernalis*) (Voss and Sander, 1980).

SPECIMENS: MCN: 1442*, 1462*. MN: 6088, 6089. AMNH: 315568–315581, 813067–813068*.

Pachyramphus validus
(*Platypsarus rufus*)
Map 173

Crested Becard
Caneleiro-chapéu-preto
(Black-capped Cinnamonbird)

DISTRIBUTION AND STATUS: Uncommon summer resident occupying canopy in open woodlands at scattered localities along escarpment, on planalto, and in southern hills. Earliest record October 16, latest March 14. *Pachyramphus v. validus*.

FIELD MARKS: Male: black above, grayish

brown below. Female: black cap contrasts with remaining rich chestnut upperparts.

SIZE: One male: 189 mm. One female: 193 mm, 49 gr.

SOFT PART COLORS: Tarsus gray; maxilla black; mandible gray; iris dark.

VOICE: (R) Two females confronting each other with spread tails voiced two part phrase: “HO eeee,” first squeaky, second a short, up-trending gargled trill. Variation, probably voiced by male, started with gargled trill and ended with sharp, high squeak, and on one occasion was followed by prolonged varied chattering. Also from female, a low volume, high-pitched squeak. In response to squeaking lure, one voiced extremely high wavering trills.

BREEDING: Male of October 23, 1971 and female of November 17, 1972 both in full breeding condition; female had brood patch. Nesting in progress in pom-pon of araucaria at Aparados da Serra National Park on November 3, 1978.

SPECIMENS: MCN: 1463–1464*. AMNH: 315562, 315563, 321983.

Tityra cayana
Map 174

Black-tailed Tityra
Anambé-branco-rabo-preto
(Black-tailed White Anambé)

DISTRIBUTION AND STATUS: Common in forests and open woodland across state N of 28°30'S, and along escarpment E of 53°W. Although one record exists for August 2 in extreme NW, species may be migratory, all others being concentrated between September 1 and April 6. *Tityra c. braziliensis*.

FIELD MARKS: Base of bill and orbital skin red or purple.

SIZE: One male: 225 mm, 87 gr.

SOFT PART COLORS: Tarsus gray; bill black with purple base and gray at center of base of mandible; iris brown; orbital skin purple.

VOICE: (R) Low, rasping “granite granite granite . . .”

BREEDING: Male collected November 27, 1973 had greatly enlarged testes. Nesting in progress in hole in snag about 10 m above surface on December 29, 1976 at Morro Pelado.

BEHAVIOR: Female caught large green caterpillar. Eats fruit of *camboatá* (*Cupania vernalis*) (Voss and Sander, 1980).

SPECIMENS: MCN: 1461*. AMNH: 315543–315561.

Tityra inquisitor

Map 174

Black-crowned Tityra

Anambé-branco-bochecha-parda

(Brown-cheeked White Anambé)

DISTRIBUTION AND STATUS: Uncommon occupant of open woodland and forest edges, found primarily in extreme N and NW, with two records for escarpment. Registered in NW in July and August, but records for rest of state all for spring and summer months. *Tityra i. inquisitor*.

FIELD MARKS: No red around bill or eye; female has chestnut plumage on cheeks.

SIZE: One male (sexed by plumage) 185 mm, 44 gr. One female: 190 mm, 43.5 gr.

SOFT PART COLORS: Tarsus gray; maxilla black; mandible gray (with black tip in female); iris brown.

BREEDING: On November 19, 1973 at Nonoai Forest Reserve pair was nesting in hole in tree about 30 m aboveground. On November 21, 1977 at Garruchos pair was constructing nest in dead tree open at top, about 3.5 m aboveground. Female appeared to be doing work, with male remaining close by. Eggs apparently being brooded in nest hole about 8 m aboveground in partially dead tree at Osório, December 19–22, 1972.

BEHAVIOR: At Osório only female was observed to enter nest, but male sat on branches above nesting hole while she inside. When female left nest, she displayed by fluttering wings very gently as she flew. On return, usually after about 15 minutes, she flew to nearby branch, waited few minutes, then fluttered in same way while flying into nest.

SPECIMENS: MCN: 1459–1460*.

FAMILY PIPRIDAE

Schiffornis virescens

Map 175

Greenish Manakin

Flautim

(Piccolo)

DISTRIBUTION AND STATUS: Common res-

ident of deep forests in extreme N close to Rio Pelotas/Uruguay downstream to Garruchos; uncommon in vicinity of escarpment from coastal forests behind Tôrres to 52°30'W.

FIELD MARKS: Brown wings and tail separate it from otherwise similar green female *Chiroxiphia caudata*.

SIZE: Four males: 153–160 mm, 21.5–24 gr. One female: 158 mm, 27 gr.

SOFT PART COLORS: Male: tarsus gray to blackish; bill gray, black, or black with some gray; iris brown. Female: tarsus grayish brown; bill brown with gray along tomia and at base of mandible; iris brown.

VOICE: (R) Loud, clear, whistled “near REYkjavIK.” Also “choo-wEEt towit towit towEEt,” and in response to playback of recorded song a strong, loud, whistled single “choo-wEEt” with an occasional low, quick trill interspersed between these calls. Also a strong, clear, whistled “cheer cheer cheer . . .” sometimes ending with “cheery” and occasionally varied to “chee-chee cheer” and other modifications.

BREEDING: Males collected between September 12 and 18, 1971 had enlarged testes.

BEHAVIOR: Food includes insects and caterpillars.

SPECIMENS: MCN: 334, 1447–1449*. AMNH: 315533–315536, 810522*, 813070*.

Piprites chloris

Map 175

Wing-barred Manakin

Papinho-amarelo

(Little Yellow-throat)

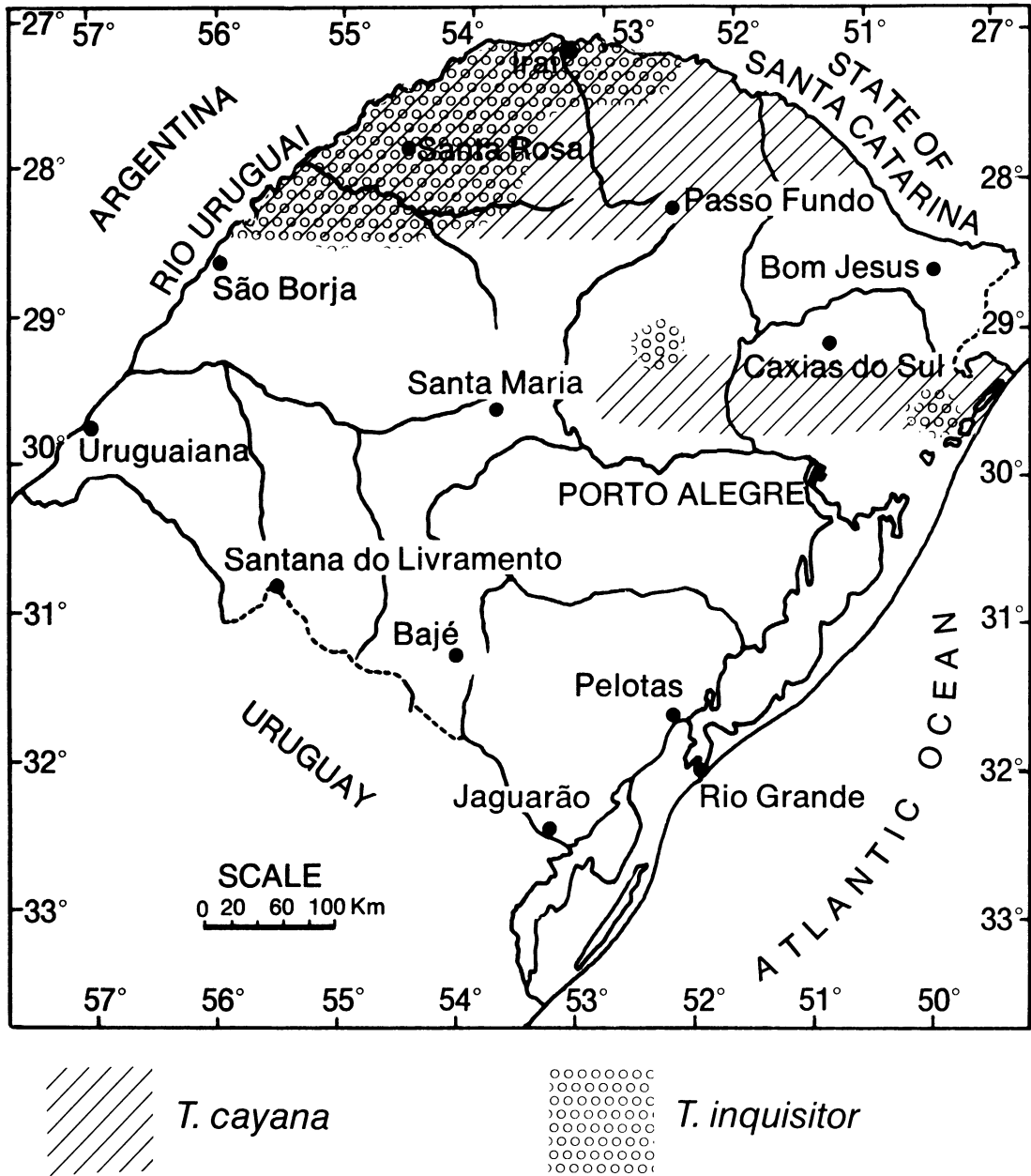
DISTRIBUTION AND STATUS: Found so far only in extreme N at Turvo and Nonoai Forest Reserves in forests at both high and low levels. Registered September 14, November 26, February 9, and May 20. *Piprites c. chloris*.

FIELD MARKS: Small bill, orange-tinged lower forehead.

SIZE: One male: 125 mm, 17 gr.

SOFT PART COLORS: Tarsus and bill gray; iris dark.

VOICE: (R) Willis (*in litt.*) reported song as follows: “Rhythmic whistle, 4-3-2 notes: ‘wi-wi-JI-dip, wi-DI-dip, wi-DIP.’” My subse-



MAP 174. Geographical distribution of the two species of *Tityra* found in Rio Grande do Sul.

quent recording confirms this as reasonable rendition of very high, fast, squeaky, weak-voiced song.

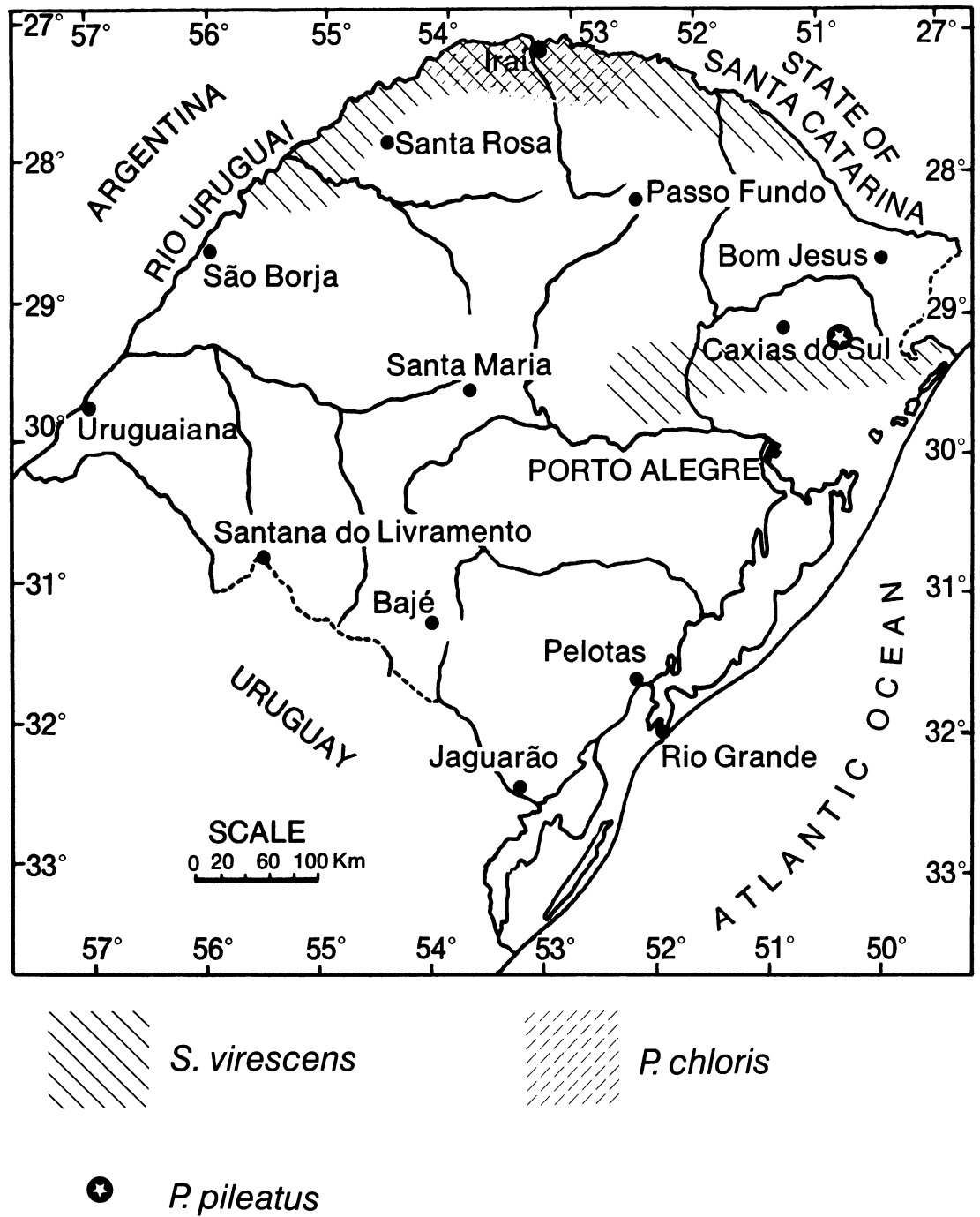
BREEDING: Male collected September 14, 1971 had undeveloped testes.

SPECIMEN: MCN: 1443*.

Piprites pileatus
Map 175

Black-capped Manakin
Caneleirinho-bonê-preto
(Black-bonneted Cinnamonbird)

DISTRIBUTION AND STATUS: Registered only



MAP 175. Geographical distribution of *Schiffornis virescens* and the two species of *Piprites* found in Rio Grande do Sul.

twice, September 25, 1972 and January 21, 1976, both times in forest canopy at Fazenda das Amoreiras.

FIELD MARKS: Black cap and yellow bill contrast with remaining rufous and ochre coloration.

SIZE: One male: 126 mm, 15 gr.

SOFT PART COLORS: Tarsus deep yellow, nails blackish; bill yellow; iris chestnut.

VOICE: (R) Single "whEEu" and longer "whEEu pee pee pee pee pee pEEu." Also more interesting and complicated song heard but not recorded.

BREEDING: On September 25, 1972 pair engaged in courtship display, with both vocalizing, female fanning wings. Male collected that day had much enlarged testes.

SPECIMEN: MCN: 1444*.

Chiroxiphia caudata

Map 176

Swallow-tailed Manakin

Dançador
(Dancer)

DISTRIBUTION AND STATUS: Common resident of forests in most of northern half, but not registered in highest portions of NE and scarce in central W. Uncommon in southern hills as far S as Pelotas.

FIELD MARKS: Female all green, short bill, projecting central rectrices. Males acquire adult plumage slowly, one collected October 17, 1970 still being green except for red cap.

SIZE: One male: 170 mm, 26 gr. One female: 152 mm, 20 gr.

SOFT PART COLORS: One male: Tarsus darker and grayer than Grayish Purplish Red; maxilla Dark Olive Brown; mandible Dark Purplish Gray; iris Dark Reddish Brown.

VOICE: (R) Wide variety of sounds, some quite nonbirdlike, usually emanating from small groups, but not in unison. Single, hard "queeunk"; more resonant "chooweeo" with many variations: "chooe," "choo o o o o," etc.; "poo pink"; "pink pink pink poo pink"; also a catlike mewing, but harder, more nasal, sometimes tremoloed, sometimes accompanied by mechanical, slapping sound which may not be vocal in origin.

BREEDING: Male collected September 26, 1975 at Fazenda do Pontal and female from Garruchos collected November 26, 1973 both in breeding condition. Lek activity noted at Morro Pelado, Lagoa do Jacaré, Fazendo do Pontal, Itapuã, Turvo Forest Reserve and Garruchos.

BEHAVIOR: Voss and Sander (1981a) found the species eating fruits of the chinaberry tree (*Melia azedarach* L.).

SPECIMENS: MCN: 235, 288, 330, 550, 1467-1471*. MN: 11010. AMNH: 315505-315532, 321982, 810521*, 813069*.

FAMILY COTINGIDAE

Phibalura flavirostris

Map 176

Swallow-tailed Cotinga

Tesourinha-do-mato
(Forest Scissortail)

DISTRIBUTION AND STATUS: Very scarce summer resident, occurring at top of escarpment in NE, and in extreme N. Ihering (1899a) reported it from São Lourenço, but no recent records from that area. Earliest record September 23, latest March 24. *Phibalura f. flavirostris*.

FIELD MARKS: White bill, yellow throat, black head, long outer tail feathers curve outward. Juvenals speckled white on crown and back. My female specimen has maroon crest.

SIZE: One male: 236 mm, 43.5 gr. One female: 208 mm, 44 gr.

SOFT PART COLORS: Tarsus yellowish to bluish white; bill pinkish white to white; iris red.

BREEDING: Nestlings being fed and brooded by both male and female in open nest near fork of horizontal limb of broadleaved tree about 8 m aboveground at Fazenda das Amoreiras on December 18, 1974. Species appears on this property annually. Male collected November 9, 1973 had much enlarged testes. Female of January 28, 1971 had inactive ovary.

BEHAVIOR: Usually seen perched on exposed bare limbs or high points of trees in open wooded areas and forest edges.

SPECIMENS: MCN: 1454-1456*. AMNH: 315586-315592.

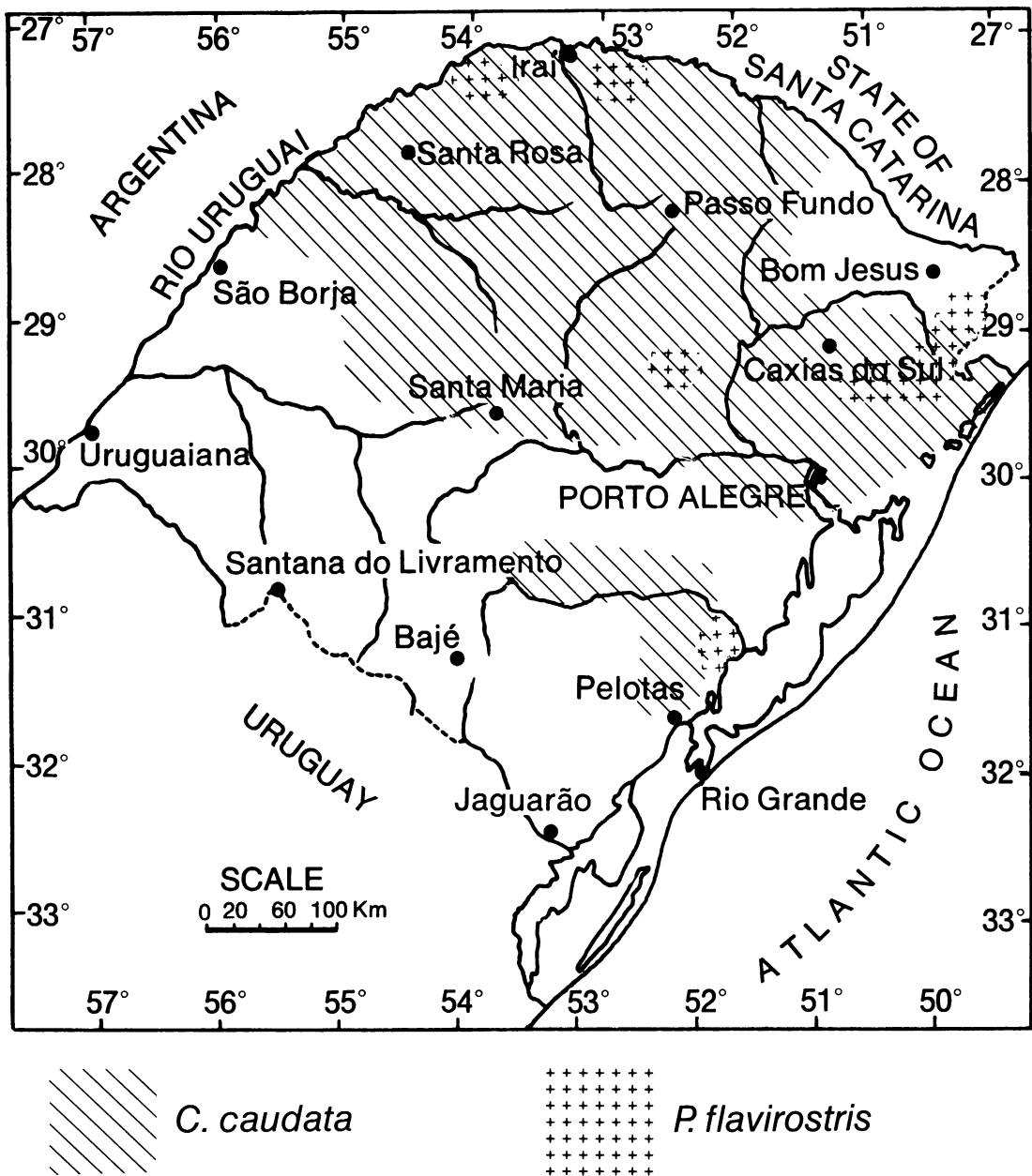
Carpornis cucullatus

Map 177

Hooded Berryeater

Corocochó (onomatopoetic)

DISTRIBUTION AND STATUS: Northern littoral and E end of central trough, occasionally to top of escarpment. Kaempfer found it in southern hills, but no recent records from there. Forest bird, now very uncommon but perhaps common in last century, judging from Ihering collections. Registered in all months except January, March, and April.



MAP 176. Geographical distribution of *Chiroxiphia caudata* and *Phibalura flavirostris* in Rio Grande do Sul.

FIELD MARKS: Black hood extends to breast and upper back, contrasts with bright yellow below.

SIZE: One male: 238 mm, 73.5 gr.

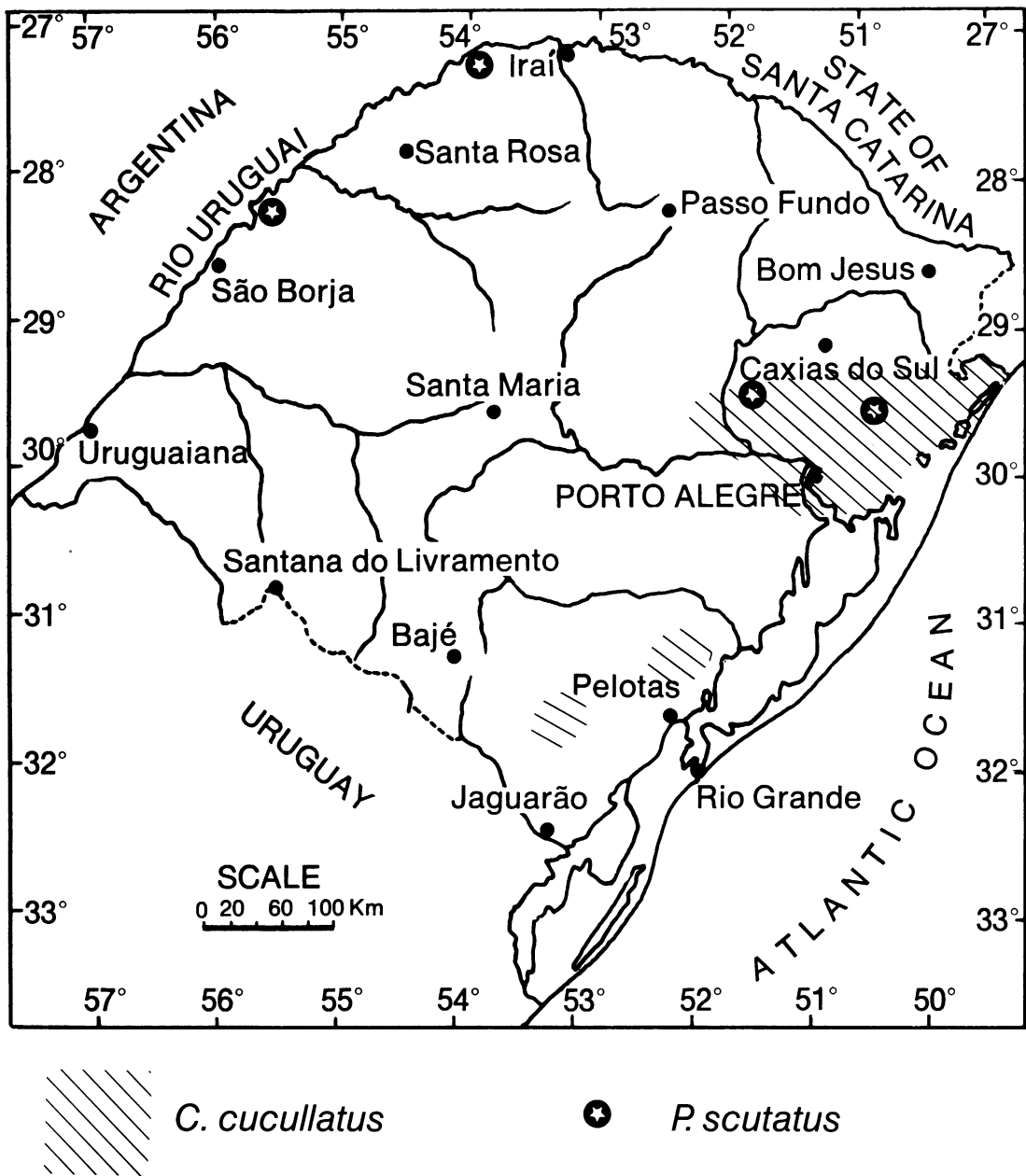
SOFT PART COLORS: Tarsus gray; bill light gray, tip of maxilla dark; iris dark.

VOICE: Loud, clear, medium-pitched “co-

ik co-SHOW,” repeated continuously, but at considerable intervals, particularly in winter and early spring.

BREEDING: Male collected July 17, 1974 had well-enlarged testes.

SPECIMENS: MCN: 1424*. AMNH: 315615–315618, 321984, 321985.



MAP 177. Geographical distribution of *Carpornis cucullatus* and *Pyroderus scutatus* in Rio Grande do Sul.

Pyroderus scutatus
Map 177

Red-ruffed Fruitcrow
Pavó

DISTRIBUTION AND STATUS: Rare. In recent years registered in forest and forest edges only at Turvo Forest Reserve and near Garruchos,

in September, November, December, and March. Found late in last century and early in this along escarpment, but likely extinct there now. *Pyroderus s. scutatus*.

FIELD MARKS: Crow size, black with Deep Reddish Orange breast.

SIZE: One female: 433 mm, 390 gr.

mon in forests along southern escarpment, with recent records all from top edge, except reported presence 50 km SW of Porto Alegre as late as 1979. Earlier records included lower edge escarpment and farther N near Passo Fundo. Older residents near São Lourenço say species regularly appeared there many years ago during spring and summer. Summer resident, earliest date October 3, latest March 13.

FIELD MARKS: Male all white plumage; female large, brown, heavily streaked.

SIZE: One male: 310 mm, 193 gr.

SOFT PART COLORS: Tarsus light gray; maxilla black; mandible dark gray; iris medium light gray; facial skin Brilliant Bluish Green blending to Moderate Bluish Green on lower throat. Subadult facial skin Light Blue Green blending to gray on lower throat.

VOICE: (R) One loud, explosive, resonant, metallic note, mostly low with few high overtones, followed by series—up to eight or so—of similar but less intense notes which are separate but accelerate in speed with increasing number of high overtones and lead into series of up to 30 connected notes given continuously. All notes on same pitch. One full performance lasted 60 seconds, but some others not more than 20.

BREEDING: Adult and subadult males collected November 30, 1975 both had enlarged testes, those of adult approximately twice size of subadult. Female started nest about 6 m aboveground on tree branch at Morro Pelado, but abandoned it before completion.

BEHAVIOR: Males perch on prominent high points in middle of forest to deliver incessant, reverberating call. In calling, mouth opens unusually wide and lower mandible appears longer than upper. Bare throat skin reminiscent of pelican's.

SPECIMENS: MCN: 1457–1458*. AMNH: 315624–315627, 316132.

FAMILY PHYTOTOMIDAE

Phytotoma rutila

Map 178

White-tipped Plantcutter

Corta-ramos-de-rabo-branco

(White-tailed Twig-cutter)

DISTRIBUTION AND STATUS: Only Brazilian record of Phytotomidae family consists of five

individuals of this species found near W tip May 5 and 6, 1974 (Belton, 1978a) perched on tops of bushy, broadleaved trees in ecotone between low, spiny trees of espinilho parkland and thick gallery scrub of Arroio Quaraí-chico. *Phytotoma r. rutila*.

FIELD MARKS: Reminiscent of fringillid.

SIZE: One male: 186 mm, 30.5 gr. One female: 198 mm, 35 gr.

SOFT PART COLORS: Tarsus gray; maxilla: (male) greenish gray culmen, sides of base green; (female) brown; mandible light gray; iris (female) pale orange.

BREEDING: Male and female collected; each had inactive gonads.

BEHAVIOR: Male was one of flock of four all perched on the same tree top.

SPECIMENS: MCN: 1207–1208*.

FAMILY HIRUNDINIDAE

Tachycineta albiventer

Map 179

White-winged Swallow

Andorinha-do-rio

(River Swallow)

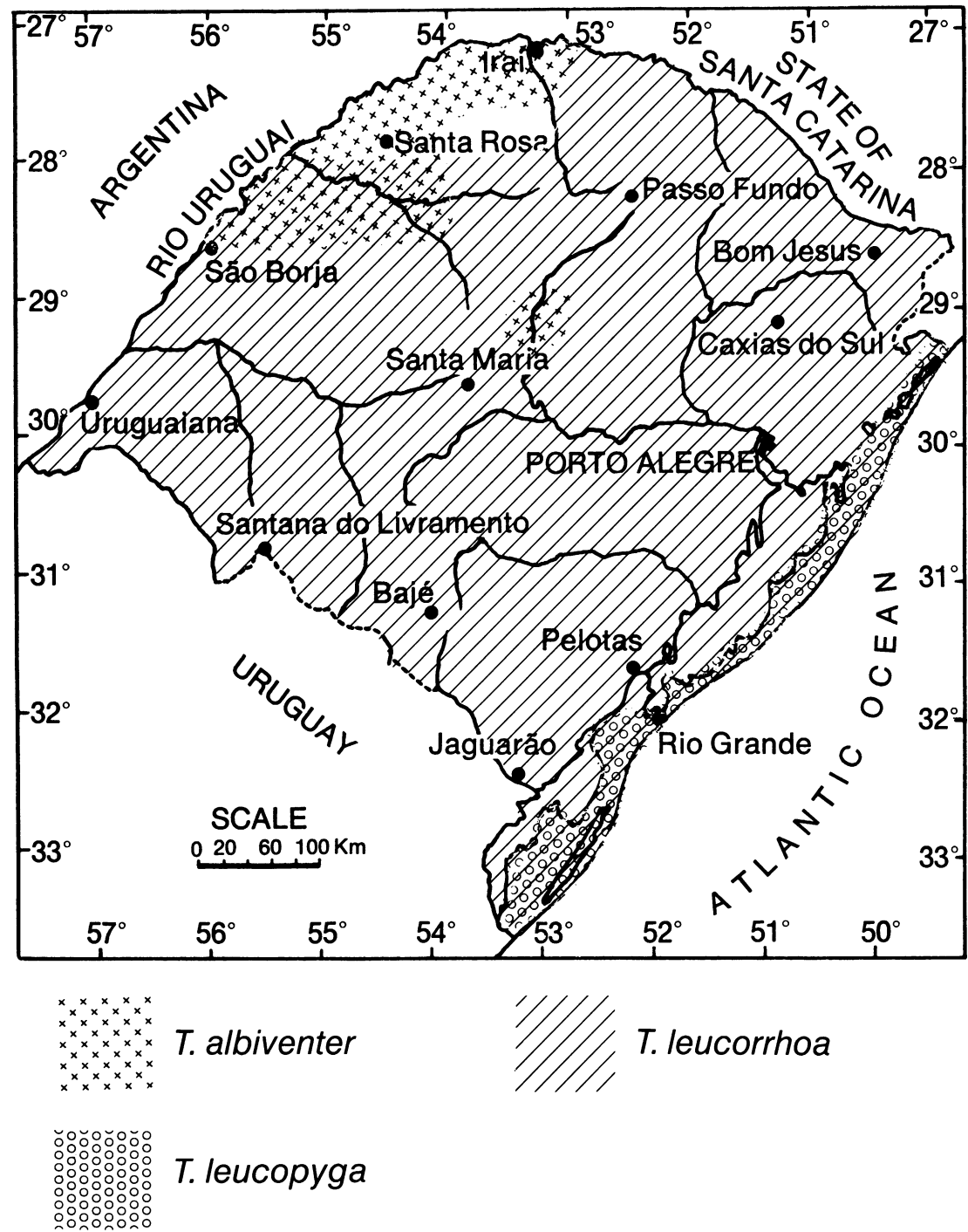
DISTRIBUTION AND STATUS: Common in immediate vicinity of rivers in far NW, and occurs rarely along upper Rio Jacuí near center of state. Disappears from state in winter, with earliest date September 17 and latest April 18, except for possibly resident birds seen on Rio Uruguay near Iraí August 24, 1981.

FIELD MARKS: No other Rio Grande do Sul swallow has appreciable amount of white in wing.

SIZE: One male: 146 mm, 20 gr. One female: 142 mm, 21 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

BREEDING: Pair collected on Rio Piratini S of São Nicolau on November 4, 1975 in breeding condition. Female had brood patch. One bird flew around ferry carrying feather, and one perched on ferry. Later same day, while crossing Rio Ijuí N of São Nicolau, I saw White-winged Swallow leave hold of ferry barge, passing through 5 cm space between undersurface of decking and vertical side of vessel. Ferryman said birds were nesting inside his vessel and that this happened in previous years as well. Although impossible to



MAP 179. Geographical distribution of the three species of *Tachycineta* found in Rio Grande do Sul.

see nest inside, there were plenty of beams where one could have been supported. Ferries make regular crossings of these rivers,

guided on constant course by cables strung from bank to bank.

BEHAVIOR: Swallows perched on snags

overhanging river or on ferry cable when not swooping over water to feed on flying insects.

SPECIMENS: MCN: 1224–1225*.

Tachycineta leucorrhoa

Map 179

White-rumped Swallow

Andorinha-de-testa-branca

(White-browed Swallow)

DISTRIBUTION AND STATUS: Throughout state except in far NW, where not yet registered. Prefers campo and vicinity of ponds and marshes, but appears in forest openings and inhabited areas. Present all year, but in late fall and winter primarily along littoral and in far W. Seasonally abundant, especially in late summer, but numbers much diminished in winter.

FIELD MARKS: Thin white supraloral lines, which usually meet above bill, are diagnostic and separate it from *T. leucopyga* which present in winter months. Innermost secondaries often broadly tipped white, giving ladder-like effect when perched. Young dull brown above, but show forehead line. Although *leucopyga* is intense deep blue above, rather than blue-green, this difference frequently difficult to discern due to light conditions.

SIZE: Five males: 135–141 mm, 17–21 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

BREEDING: On October 11, 1974 at Banhado do Pontal, pair was carrying nesting material under roof tiles of small house. On November 27, 1974 at Fazenda São Roberto nestlings continuously chirping inside loose stone wall at point about 1.5 m aboveground level. Bulk of nest out of sight behind stone 40 cm within wall. On frequent visits with food, adults flew directly into hole in wall without pausing for prior reconnaissance. On December 3, 1974 at Fazenda das Casuarinas, adults were carrying food to nestlings under roof tile of garage. Two males collected October 10, 1970 and October 11, 1972 had much enlarged testes, whereas those of four collected between February 21 and May 5 small.

BEHAVIOR: In late summer and autumn, after breeding at nest sites isolated from conspecifics, White-rumped Swallows usually gather in large flocks, often with other swallow species. On February 7, 1974 near Pa-

chea, I found very large assembly of *Hirundo rustica* and *T. leucorrhoa*, with latter in majority and approximately 500 in immature plumage. On February 17, 1975 N of Livramento several hundred adult and immature *leucorrhoa* were sitting on fence wires and flying over small pond. A few were in mixed flock of *H. rustica*, *Progne tapera*, and *Petrochelidon pyrrhonota* on March 7, 1971 near São Borja. They often show curiosity and fearlessness in presence of man. While wading in marshes, where they fly quite close to surface, I have frequently had them hover within few feet of me. Ihering (1899a) wrote that they often accompany horsemen as they ride across open campo. Although soybeans are reputed here to hold no attraction for birds, I have seen flocks of *leucorrhoa* hawking over fields of this crop, in one case where it had recently been treated with insecticide.

SPECIMENS: MCN: 1209–1211*, 1213–1215*, 1828. AMNH: 315628–315635, 321659, 321660, 321988, 321989, 810524*, 824033*.

Tachycineta leucopyga

Map 179

Chilean Swallow

Andorinha-chilena

(Chilean Swallow)

DISTRIBUTION AND STATUS: Uncommon winter visitor along outer littoral, over marshes and flat, open campo bordering ocean, coastal lakes, and lagoons. Earliest date May 11, latest September 10. This species usually greatly outnumbered by *T. leucorrhoa*, even though numbers of latter at low ebb during winter. However, at Lagoa do Peixe on July 23–24, 1981, *leucopyga* only member of family seen.

FIELD MARKS: See under *T. leucorrhoa*.

SIZE: One female: 139 mm, 20 gr.

SOFT PART COLORS: Tarsus and bill black; iris dark.

BEHAVIOR: Associates in loose flocks with *T. leucorrhoa*.

SPECIMENS: MCN: 1212*. MN: 4504.

Progne (Phaeoprogne) tapera

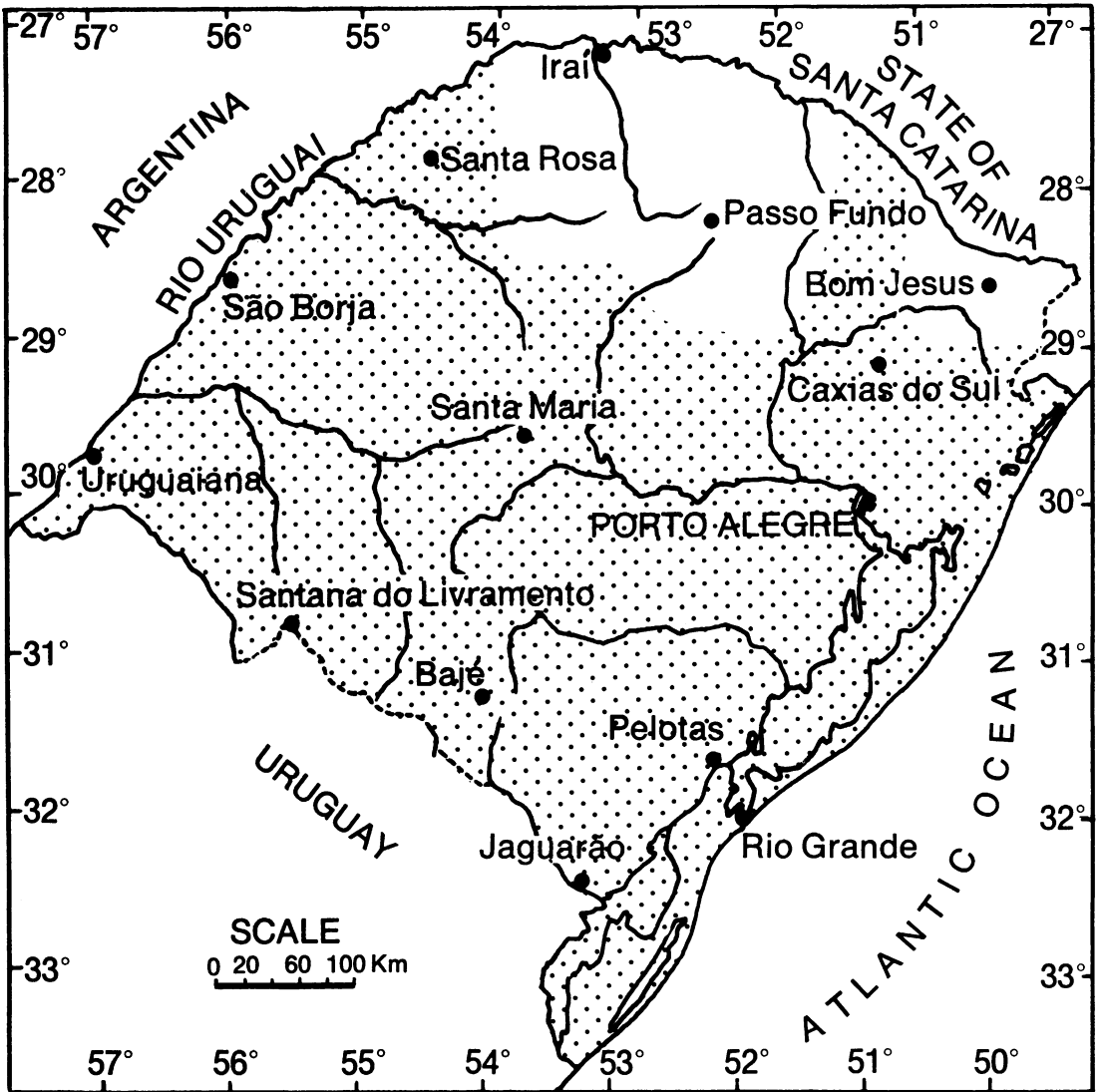
Map 180

Brown-chested Martin

Andorinha-do-campo

(Field Swallow)

DISTRIBUTION AND STATUS: Summer



MAP 180. Geographical distribution of *Progne tapera* in Rio Grande do Sul.

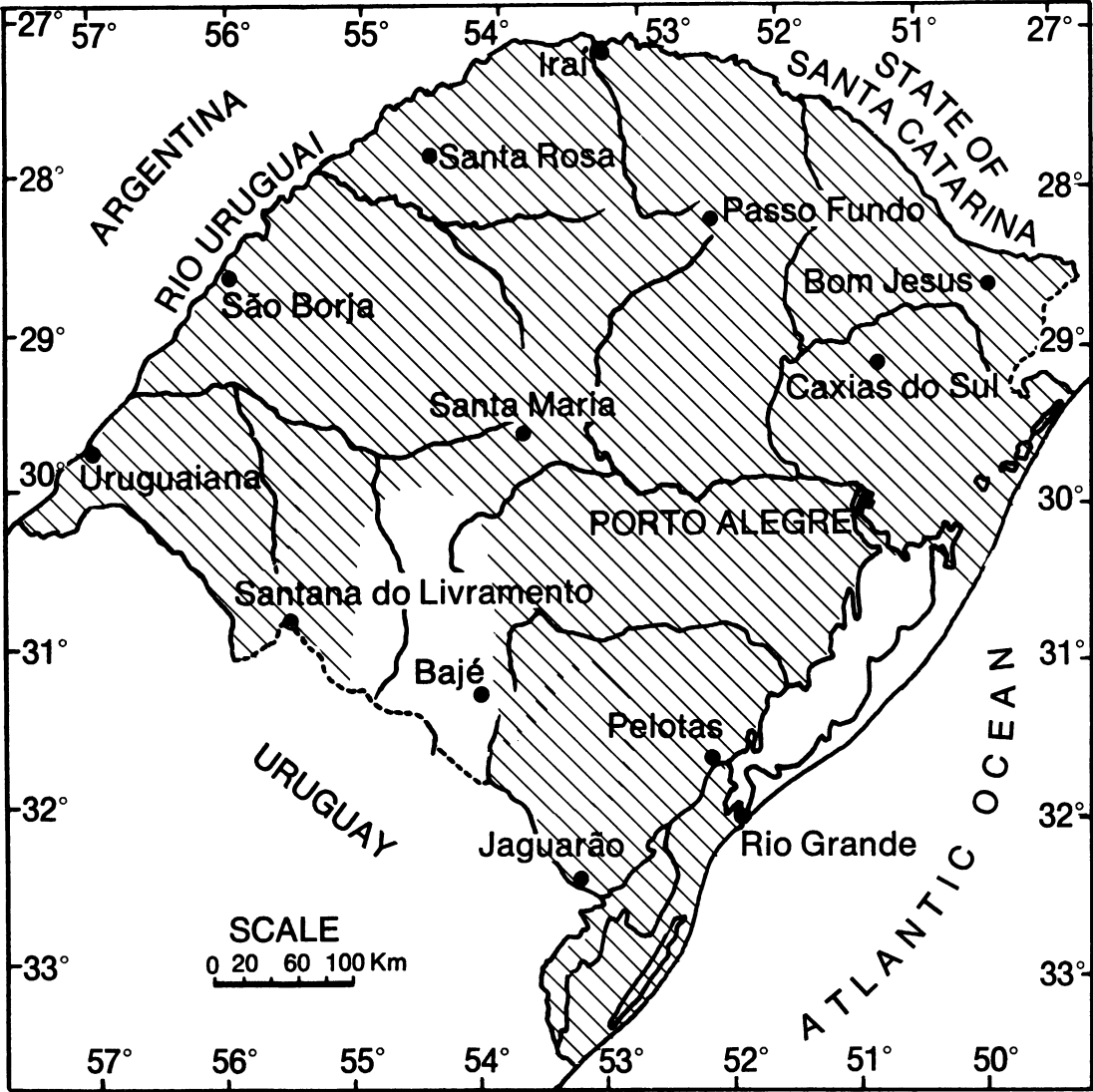
resident, abundant in most of state, uncommon to absent in much of N and NE. Occurs in grasslands, farms, areas with scattered trees. Earliest record September 6, latest May 13. Voss (personal commun.) saw flocking as early as February 6 in 1979, but my observation is that most depart in early March. I saw almost none in southern hills between March 22 and 25, 1975, in contrast to large numbers there previous month. They are scarce in April along littoral, where especially abundant in nesting season. *Progne t. fusca*.

FIELD MARKS: Of two large swallows in Rio Grande do Sul, this one is dull brown above and has ill-defined brown band across breast.

SIZE: Four males: 181–193 mm, 36–40 gr. One female: 184 mm, 40 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

VOICE: (R) Harsh, guttural sounds with squeaky overtones and occasional almost musical burbling, uttered rapidly in series of unpatterned variations, usually seesawing up and down.



MAP 181. Geographical distribution of *Progne chalybea* in Rio Grande do Sul.

BREEDING: Partial to mud structures of *Furnarius rufus* for nesting. It is common to see succession of these houses on roadside utility poles mostly occupied by Brown-chested Martins. On January 25, 1974 I saw one feeding nestlings through hole in wall of *F. rufus* house, enabling it to tend young in nesting chamber without entering structure. Another was feeding nestlings in *F. rufus* house on February 27, 1975. Three males and female collected between November 26 and January 16 were in full breeding condition,

while male of October 10, 1970 had small testes.

SPECIMENS: MCN: 222, 223, 291, 1216-1218*. MN: 4499. AMNH: 315636-315640, 321986, 321987, 810523*, 824032*.

Progne chalybea
Map 181

Gray-breasted Martin
Andorinha-doméstica-grande
(Large Domestic Swallow)

DISTRIBUTION AND STATUS: Common

summer resident found in most regions of state but no records for sizeable area in central S, nor for Mostardas peninsula. Utilizes wide range of habitats, but less likely than *P. tapera* to be found in open flatlands of littoral and more apt to occur in originally forested regions where remnants of tree cover persist. Earliest record August 10, latest registered fall presence April 8, with one record for unspecified June date. *Progne c. domestica*.

FIELD MARKS: Largest Rio Grande do Sul swallow. Glossy dark blue upper plumage, gray throat and breast, whitish belly.

SIZE: One male: 204 mm, 50 gr. One unsexed: 195 mm, 48 gr.

SOFT PART COLORS: Tarsus and bill black; iris dark.

VOICE: (R) Querulous, scratchy, rather like Donald Duck saying "Right here."

BREEDING: Pair nested one year during December under roof tiles of Gramado Golf Club. One was feeding nestlings in *Furnarius rufus* house on eucalyptus snag on December 12, 1974. On January 12, 1973 one disappeared into presumed nesting hole in highway embankment S of Vacaria. Male collected October 10, 1970 near Lagoa dos Quadros had much enlarged testes, while those of one collected January 16, 1975 only moderately enlarged.

BEHAVIOR: I have seen this species roosting on top beam of an occupied garage, sheltering under tiles of roof peak. Voss (personal commun.) reports flocking on high tension wires during afternoons at zoo in Sapucaia do Sul from early January until early April when in few days all disappear. On January 24, 1978 he estimated 2000 on wires, spaced about 4 to 5 to the m, and another 500 in air.

SPECIMENS: MCN: 224, 1242-1244*. MN: 4619. AMNH: 824031*.

Notiochelidon cyanoleuca

Blue-and-white-Swallow
Andorinha-pequena-de-casa
(Little House Swallow)

DISTRIBUTION AND STATUS: Found throughout state. Common E of 54°W, with records W of that line much scattered. Present all year, but scarce in winter. *Notiochelidon c. cyanoleuca*, with some *patagonica* appearing in winter. More collecting required

to determine relative abundance of two races and dates their appearance.

FIELD MARKS: Small; clear white below. Immature birds have dark on breasts and dull, very dark brownish upperparts.

SIZE: One male: 128 mm, 13 gr.

SOFT PART COLORS: Tarsus and bill black; iris dark.

BREEDING: Nesting observed in highway embankments, but more common in tree holes and under roof tiles. One brought fecal sac out of tree hole on November 14, 1971 near Canela, and pair was feeding nestlings under tiles of our Gramado house between January 20-25, 1979. In mid-January 1972, well-feathered nestlings which had been placed in bird cage from nesting hole in storm-felled tree in Gramado garden were fed regularly by adult birds until released by garden owners when capable of flight. At Estância Ipiranga in very flat country, pair on September 21, 1974, examined hole in edge of small dike only about 30 cm aboveground level.

BEHAVIOR: Voss (personal commun.) observed flock of 40 to 50 juvenals perched in dead eucalyptus at zoo at Sapucaia do Sul on February 6, 1979.

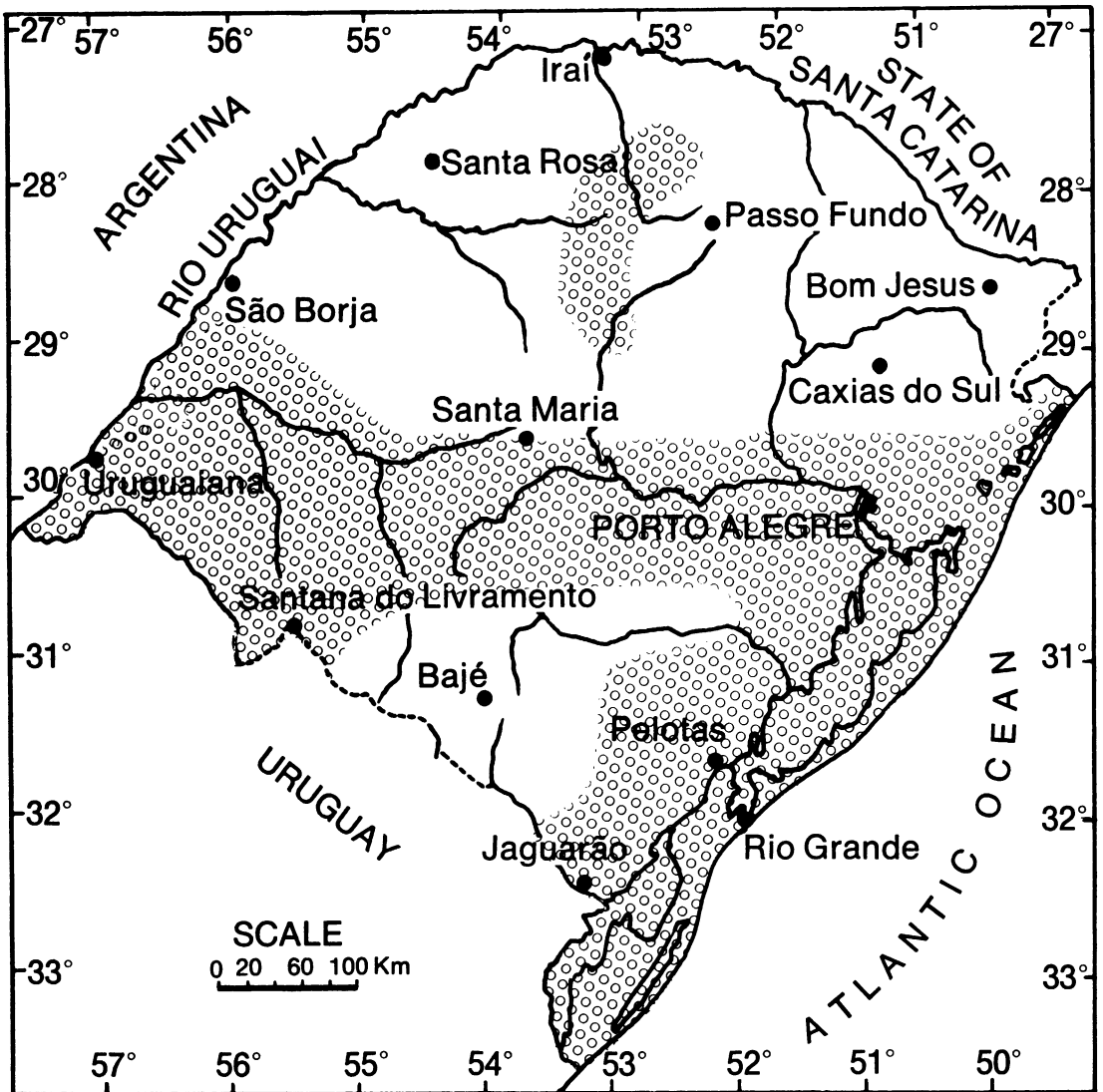
SPECIMENS: MCN: 1226-1228*. AMNH: 315641 (*patagonica*), 315642-315644 (*cyanoleuca*), 321990.

Alopocheilidon fucata Map 182

Tawny-headed Swallow
Andorinha-morena
(Brown Swallow)

DISTRIBUTION AND STATUS: Uncommon, found primarily along littoral, through central depression, and in far W, with occasional occurrences in central N and southern hills, most frequently in open or partially open areas. Here at all seasons, but perhaps more present in late fall and winter. Cuello and Gerzenstein (1962) reported it absent from Uruguay from April through July, so Uruguayan population may winter partially in Rio Grande do Sul.

FIELD MARKS: Rufous on side of head joins across nape. Same color on forehead in front of blackish cap not always easily visible. Throat and breast Tawny (AMNH), belly white. In immatures, rufous and tawny replaced by yellowish fawn.



MAP 182. Geographical distribution of *Alopochelidon fucata* in Rio Grande do Sul.

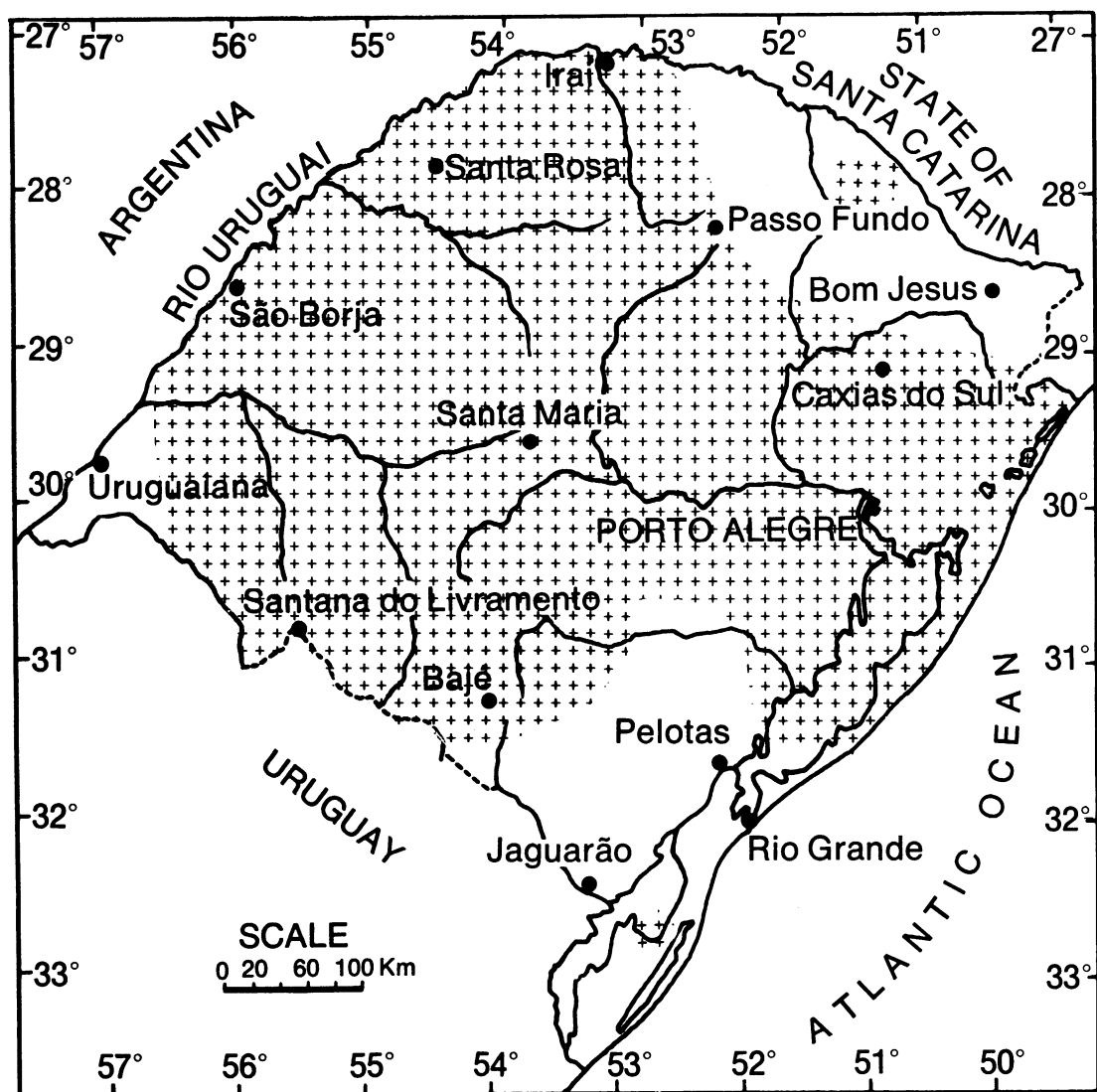
SIZE: One male: 137 mm, 15 gr. One female: 118 mm, 13 gr.

SOFT PART COLORS: Tarsus reddish gray to black; bill black; iris brown.

BREEDING: Nest found at Army Training Center on October 12, 1971 was in rather large chamber lined with grass and feathers at end of tunnel approximately 1.3 m long. Entrance hole about 2.5 m above small stream running through breach in abandoned dam. Tunnel, passing through very hard clay, and nesting chamber, in sandy soil, appeared large to have been constructed by this small species

and could have been made by *Chloroceryle amazona*, for one was nesting immediately across stream. Three nestlings with wing and tail feathers well sprouted weighed 15.5, 16.0, and 16.5 gr, whereas female attending them weighed only 13 gr. In flat area of sandy soil S of Osório on September 25, 1975 I found pair using nesting hole in side of shallow ditch. Entrance only about 10 cm below surface of adjacent field.

BEHAVIOR: Although usually found in pairs or small family groups, I saw two flocks of this species on wires in marshy areas on



MAP 183. Geographical distribution of *Stelgidopteryx ruficollis* in Rio Grande do Sul.

February 18, 1971. One had well over 100 individuals.

SPECIMENS: MCN: 1222–1223*. MN: 4562, 4563, 32195*. AMNH: 321394, 321395, 321991, 321992.

Stelgidopteryx ruficollis

Map 183

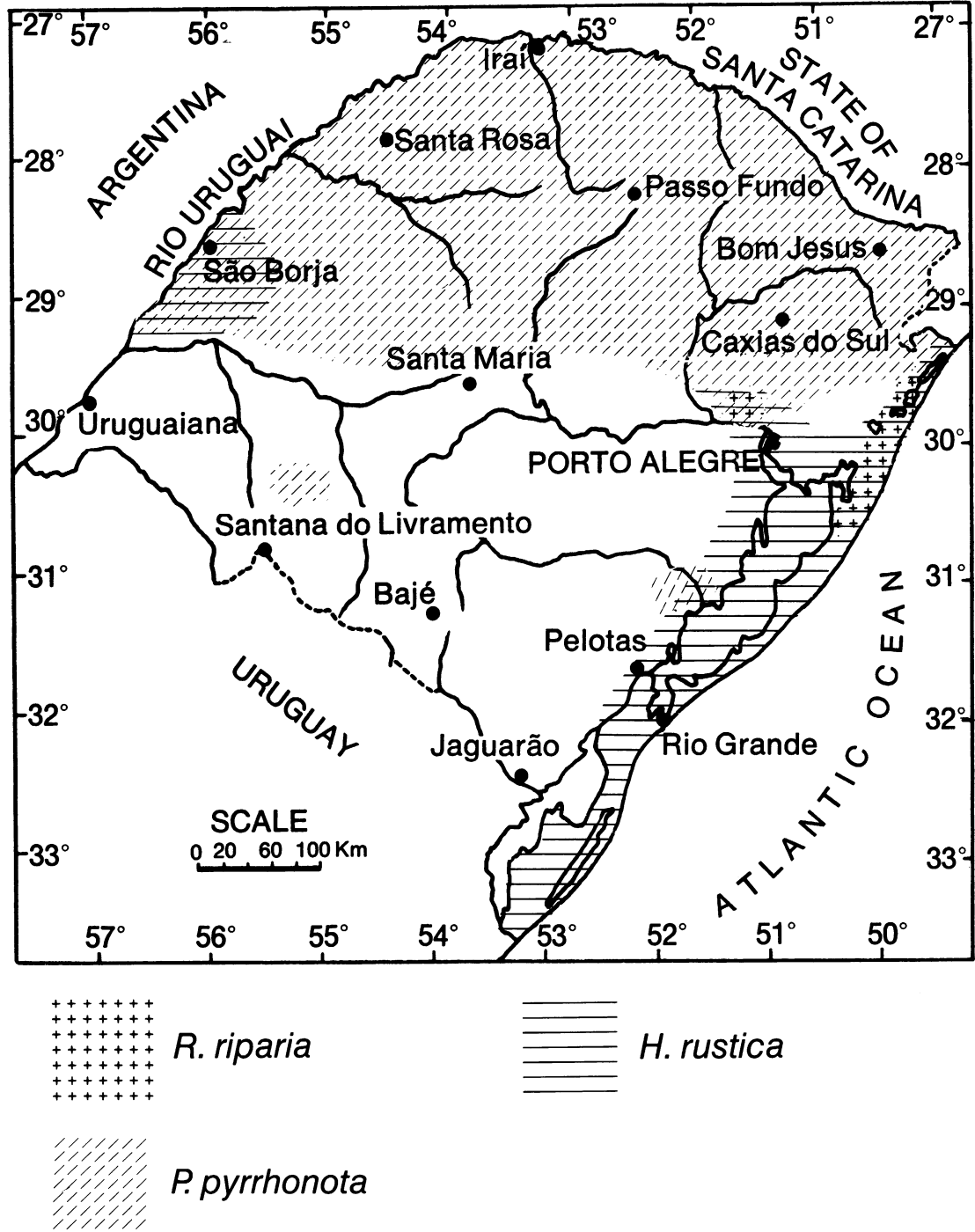
Rough-winged Swallow

Andorinha-serradora

(Sawyer Swallow)

DISTRIBUTION AND STATUS: Uncommon

and sparsely scattered through most of state in open country and clearings with only two records S of 31°30'S and heaviest concentration within 100 km radius of Porto Alegre. Most are summer residents. Berlepsch and Ihering (1885) reported specimen collected June 6, 1882 near Nova Petrópolis. I have one doubtful record for June 27, 1974 near Tramandaí, and saw one N of São José do Norte July 26, 1981, but all remaining records fall between late August and February 15. *Stelgidopteryx r. ruficollis*.



MAP 184. Geographical distribution of *Riparia riparia*, *Hirundo rustica* and *Petrochelidon pyrrhonota* in Rio Grande do Sul.

FIELD MARKS: Differs from more northern subspecies by rump not being appreciably lighter than back.

SIZE: One female: 129 mm, 15.5 gr.
SOFT PART COLORS: Tarsus and bill black; iris brown.

BREEDING: On October 21, 1972 at Army Training Center I saw two attempted copulations and watched pair enter hole in embankment, but found no evidence of nesting activity in hole when excavated.

SPECIMENS: MCN: 430, 596, 1220*. MN: 4475, 4483, 4590, 4591. AMNH: 315647.

Riparia riparia

Map 184

Bank Swallow

Andorinha-do-barranco

(Bank Swallow)

DISTRIBUTION AND STATUS: Rare North American summer visitor first registered December 20, 1972 (Belton, 1974a) and since seen several times in January, as late as January 26, mostly along NE littoral with one record from slightly W of Porto Alegre. One probable sighting at Taim marsh. Perches on fence wires and reeds near and in marshes and reedy lakes. *Riparia r. riparia*.

FIELD MARKS: Miniature version of *P. tapera*.

SIZE: One unsexed: 125 mm, 14 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

BEHAVIOR: One or more individuals occasionally found in large flocks of *Hirundo rustica* or *Petrochelidon pyrrhonota*.

SPECIMEN: MCN: 1221*.

Hirundo rustica

Map 184

Barn Swallow

Andorinha-de-bando

(Flock Swallow)

DISTRIBUTION AND STATUS: Summer visitor from North America found in flat, moist pastureland and marshes along littoral and inland to slightly W of Porto Alegre. Also in W near São Donato marsh. Earliest record is September 19, latest March 29. Locally abundant, sometimes appearing in flocks of thousands. *Hirundo r. erythrogaster*.

FIELD MARKS: Only Rio Grande do Sul swallow having all reddish underparts. Long outer tail feathers usually missing until late in season.

SIZE: One male: 156 mm, 18 gr. One female: 139 mm, 16.5 gr. Both lack tail streamers.

SOFT PART COLORS: Tarsus and bill black; iris brown.

BEHAVIOR: On December 15, 1971 near Lagoa dos Quadros, large numbers were flying over flooded fields about 30 cm above water surface, while those not flying perched on small weed stalks only 15 to 30 cm above water. Near Pacheca on February 7, 1974 thousands lined telephone wires in rice and grazing area. Intermingled were occasional *T. leucorrhoea*, fewer *P. tapera*, and rarely a *P. pyrrhonota*.

SPECIMENS: MCN: 1229–1231*. MN: 31868*, (WB)1768*. AMNH: 824034–824035*.

Petrochelidon pyrrhonota

Map 184

Cliff Swallow

Andorinha-de-sobre-acanelado

(Cinnamon-rumped Swallow)

DISTRIBUTION AND STATUS: Summer visitor from North America found in open country, marshes, upland campo at scattered locations in E, N, and W. Earliest date September 21 in extreme N; latest fall observation April 1 in NE corner. Usually seen as few individuals scattered among large flocks of *H. rustica*. However, on January 22, 1976 there were large flocks of Cliff Swallows on fence wires at Banhado do Pontal, with few *H. rustica* and occasional rare *R. riparia*. Between February 6 and 10, 1976, Willis (personal commun.) saw "huge numbers of Cliff Swallows late in day—and sometimes early too—at many locations N of Santa Maria" to Santa Catarina border. On March 7, 1971 there was flock of 200 to 300 on telephone wires near São Borja, with one *H. rustica* in flock.

FIELD MARKS: Broad buffy forehead and tawny rump distinctive among Rio Grande do Sul swallows.

SIZE: One male: 135 mm, 22 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

SPECIMENS: MCN: 1219*. MN: (WB)313*.

FAMILY MOTACILLIDAE

Anthus furcatus

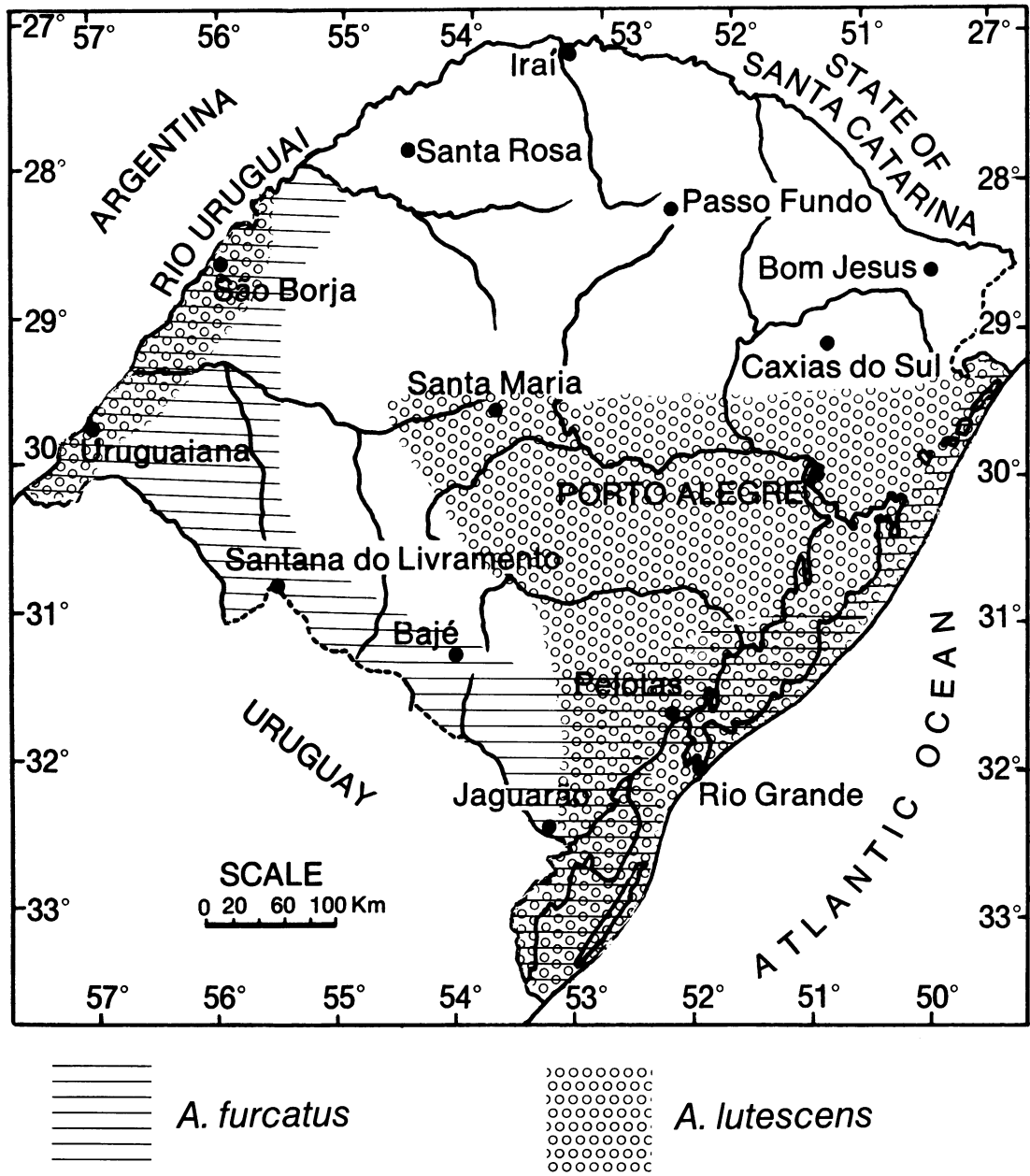
Map 185

Short-billed Pipit

Caminheiro-de-unha-curta

(Short-clawed Walker)

DISTRIBUTION AND STATUS: Common res-



MAP 185. Geographical distribution of two species of *Anthus* in Rio Grande do Sul.

ident of open grasslands in littoral, Uruguayan border region, and area W of 55°W. *Anthus f. furcatus*.

FIELD MARKS: Difficult to distinguish from *A. hellmayri* and *A. correndera*, especially in worn plumage. Richest coloration found March through July, when basic breast color

Pale Orange Yellow with broad dark brown streaking, compared with Pale Yellow breast streaked black of *correndera*. Both have white bellies. Breast markings extend farther onto belly of *correndera* than of *furcatus*. This even more noticeable in worn summer plumage when *furcatus* belly grayish, streaking of breast

much diminished, size of streaks much smaller, and Orange Yellow background faded.

SIZE: 16 males: 140–161 mm, median 152.5 mm, 19.5–23 gr, median 21 gr. Six females: 137–156 mm, 20–22 gr. Seven unsexed: 143–159 mm, 17.5–23 gr.

SOFT PART COLORS: Tarsus Pale Yellowish Pink; maxilla dark brown to black; mandible Pale Pink to whitish at base, darkening to tip; iris brown.

VOICE: (R) On January 4, 1976 at Estância Ipiranga I recorded male flight song: "chink. .chink.chuuuiiii ch ch chee chink." First two "chink's" made while beating wings, "chuuuiiii" accompanied soaring dip, followed by further wing strokes and upward flight for "ch ch chee chink." This performance repeated on average every 5.5 seconds. Flight display in progress at time I first observed bird and continued without interruption for 55 minutes until I played back recorded song, when bird came down immediately and lit about 10 m away. Bird flew at heights varying from estimated 30 to 60 m, and during entire time scarcely went beyond radius of 100 m except one occasion when out of sight (but still audible) for about one minute and perhaps 200 m away.

BREEDING: On October 11, 1972 NE of Mostardas I watched male singing similarly, but he came down several times after 10 minutes or so aloft, to alight near female, where he continued to sing before flying to her side. At this she would fly perhaps 100 m, chased by him. He then paused briefly on ground before flying aloft for another display flight. I found no evidence of nest, but female had brood patch which male lacked. While male was aloft, female remained on ground feeding, occasionally giving very slight vocal response to his song. On February 13, 1974 near Lagoa da Mangueira nest found in grass at edge of ditch by roadside, entirely open to view without protection from above, was perfectly round, quite deep cup of woven grasses. Contained three young with well-developed plumage but not yet covering center of belly. Blackish brown back plumage matched nesting material, providing excellent camouflage. Chicks remained absolutely quiet even when removed for banding. Three birds flying above in distress gave impression

helper-at-nest involved. Many display flights and at least one territorial pair observed July 23–24, 1981 at Lagoa do Peixe.

SPECIMENS: MCN: 340, 467, 475, 1310–1320*, 1519–1525*, 1825. MN: 14171–14174, 32166–32167*, 32173*. AMNH: 315871, 321413–321416, 321673, 321674, 822138–822145*.

Anthus lutescens

Map 185

Yellowish Pipit

Caminheiro-zumbidor

(Buzzing Walker)

DISTRIBUTION AND STATUS: Common resident along littoral, flat areas within SE hills, and much of central trough, becoming scarce W of 53°W, but occurring occasionally along Rio Uruguay N to Garruchos. Has stronger preference for flatlands than any other Rio Grande do Sul pipit, eschewing other habitats. *Anthus l. lutescens*.

FIELD MARKS: Perceptibly smaller than other local pipits, with distinct yellow cast to underparts.

SIZE: Three males: 120–133 mm, 15–17 gr. Eight females: 130–139 mm, 14–16.5 gr. Seven unsexed: 132–138 mm, 15–17 gr.

SOFT PART COLORS: Tarsus yellowish or grayish white to light brown; maxilla blackish brown to blackish; mandible pink, grayish or bluish white on base, darkening to blackish tip; iris brown.

VOICE: (R) While aloft in flight display, sings "dee dee dssssssseeeee," last note having buzzing quality which is basis for vernacular name in Brazil.

BREEDING: Fledglings were being fed near Taquara November 24, 1970. Specimens collected October 9, 1970 and November 22, 1972 had active gonads.

SPECIMENS: MCN: 1321–1328*, 1532–1537*. AMNH: 322022, 822126–822133*.

Anthus correndera

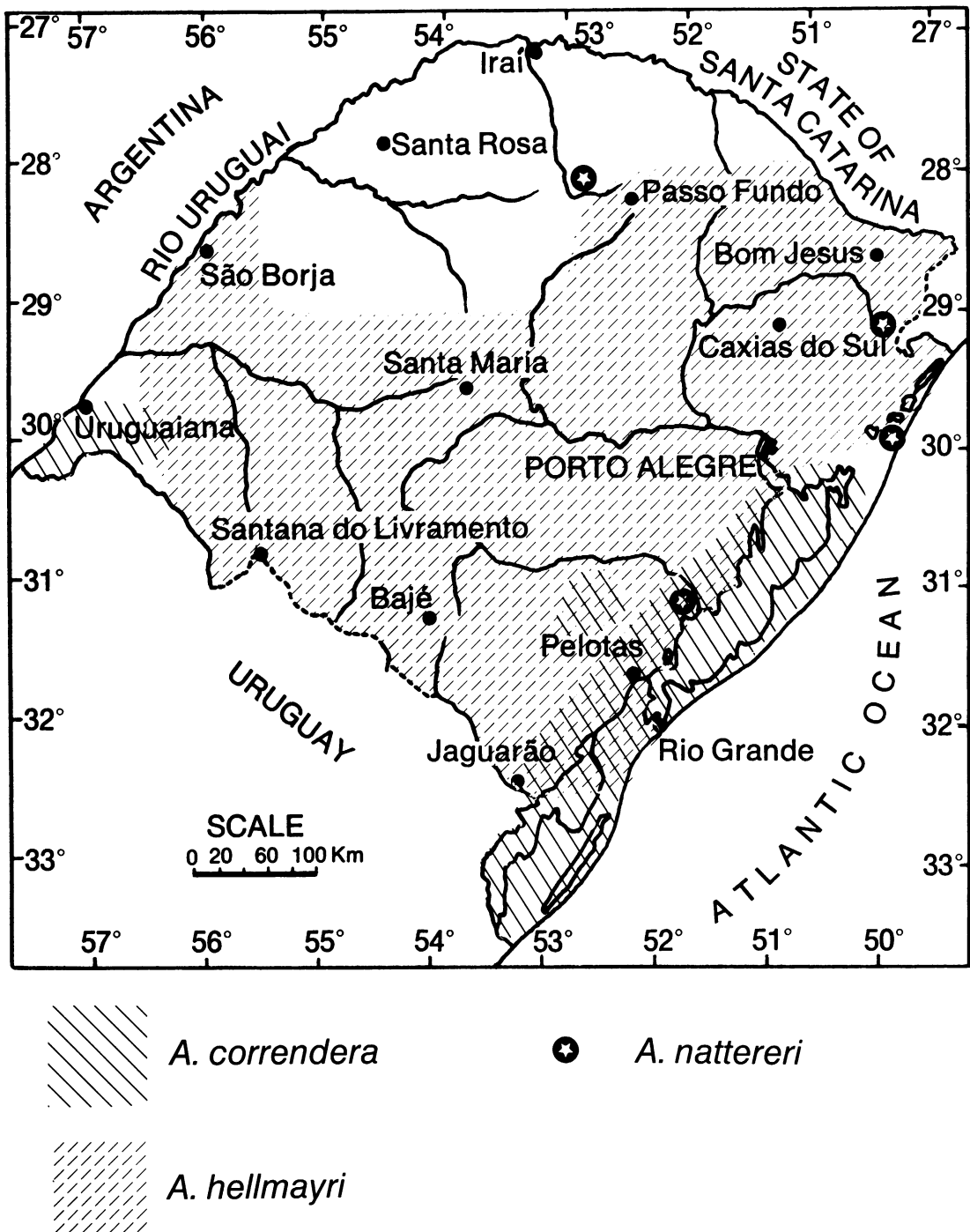
Map 186

Correndera Pipit

Caminheiro-de-espora

(Spurred Walker)

DISTRIBUTION AND STATUS: Common resident in southern tip and probably resident in smaller numbers farther N along littoral



MAP 186. Geographical distribution of three species of *Anthus* in Rio Grande do Sul.

almost to 30°S, where February, May, Sep- winter records for SE hills and far W may be
tember, and October records obtained. Sparse migrants from more southerly latitudes.

Found in moist flatlands, even mildly flooded areas, but more abundant in somewhat drier situations. *Anthus c. correndera*.

FIELD MARKS: See under *A. furcatus*. Broad black breast streaking of fresh plumage is most marked of any common Rio Grande do Sul pipit, but when badly worn this resolves into spots on dull gray background.

SIZE: Eight males: 143–160 mm, 18–21 gr. Two females: 147–155 mm, 18–19.5 gr. Three unsexed: 149–153 mm, 20–23 gr.

SOFT PART COLORS: Tarsus very light brown; maxilla dark brown to blackish; mandible bluish pink to pink, blending into blackish tip; iris brown.

VOICE: (R) Vocalizes both on ground and in flight, primarily latter, with high, mostly scratchy song usually rendered in parts, but in most complete form as follows: “awakyquakyquIT” followed immediately by high, guttural snarl “quaaaaaaaaaaaa,” then “awakyquIT.” “Ky” syllable in my interpretation usually has metallic, clinking quality. While recording one song in flight I also got heavy, rapid throbbing or drumming sound which presumably came from same individual but seemed non-vocal in character. Song in flight given while mounting gradually higher by long steps, with occasional soar, but seems much less coordinated with flight pattern than that of *A. furcatus*.

BREEDING: Two males collected January 4, 1976 at Estância Ipiranga were in breeding condition and behaving territorially.

SPECIMENS: MCN: 1513–1518*. MN: 32165*, 32169*, (WB)781*, (WB)1018*. AMNH: 321675, 322023, 822134–822147*. Nos. 322024–322026 are from Uruguayan side of mouth of Rio Jaguarão.

Anthus nattereri

Map 186

Ochre-breasted Pipit
Caminheiro-grande
(Big Walker)

DISTRIBUTION AND STATUS: Rare, encountered only four times, at São Lourenço on unknown date in last century (Ihering, 1899a), Osório August 24, 1928, Carazinho November 10, 1978, and São Francisco de Paula January 23, 1979. There were several individuals in vicinity at Carazinho. These and

São Francisco bird were in dry, upland weedy pasture.

FIELD MARKS: Strongly streaked with black on breast, like *A. correndera*, but background color much darker, Medium Orange Yellow, compared with Pale Yellow of *correndera*.

SIZE: Two males: 159–161 mm, 19–20 gr.

SOFT PART COLORS: (One male) Tarsus brownish pink; maxilla brown; mandible pinkish gray blending to brown tip; iris brown.

VOICE: (R) Has very short song flight. Flies up almost vertically, singing complex, multi-syllable, high-pitched, finchlike warble which ends with brief tremolant “eeeeeeeeee.” This song repeated several times while aloft at estimated 25 m above surface. Final song ends with several high-pitched, nasal buzzes: “twaaaaaaaa twaaaaaaaa twaaaaaaaa. . .” during which bird makes almost vertical descent to ground.

BREEDING: São Francisco de Paula and Carazinho specimens had enlarged gonads, and birds at Carazinho were displaying and acted strongly territorial in response to playback of song.

SPECIMENS: MCN: 474. MN: 32231*. AMNH: 315866.

Anthus hellmayri

Map 186

Hellmayr's Pipit
Caminheiro-de-barriga-acanelada
(Cinnamon-bellied Walker)

DISTRIBUTION AND STATUS: Common resident, most widely distributed pipit, found in most parts of state but not registered N of 28°S, or N of 29°S west of 53°W, except close to Rio Uruguay. Records also lacking for W tip, S tip, and Mostardas peninsula. Only one of four common pipits appearing in planalto. Prefers dry, rocky hillsides in grassland, but occasionally appears in moister, flatter terrain. *Anthus h. brasilianum*.

FIELD MARKS: Difficult to distinguish from *A. furcatus* when latter not in fresh plumage, but characterized by light buffy to cinnamon wash over underparts, including belly which, however, often becomes quite gray in worn summer plumage. Breast streaks less prominent than on any other local pipit.

SIZE: Twenty-one males: 138–157 mm, median 150 mm, 16.5–20 gr, median 19 gr. Four females: 140–155 mm, 17–20 gr. Eight unsexed: 136–168 mm, median 144 mm, 17–21 gr, median 19 gr.

SOFT PART COLORS: Tarsus straw to pinkish; maxilla dark brown to black; mandible pinkish to bluish white at base, becoming blackish at tip; iris brown.

VOICE: (R) Song: “tu tee DEEE tu” is short and sung both on low perches, such as rocks or fence posts, and during short flights. (Another version, not certainly of this species, but heard at Cerca Velha, Soledade, where other three common pipits not found, was noted as “tch tch tch tch tch tch” with third note lower and fourth note lower still than others all on same pitch.)

BREEDING: Nest found November 4, 1978 at Fortaleza da Serra, almost certainly of this species, was on ground under overhang of rock in paramo type country at edge of escarpment. Almost as deep as wide, made of tightly woven grasses, it contained three eggs, one different from others and apparently of parasite. On November 23, 1971 pair of adults carried food to nest I did not find among bunch grass at edge of boggy areas S of Vacaria. Specimen collected July 29, 1973 W of Carazinho was labeled by taxidermist as female with active ovary and egg nearly formed, but this probably error. Males with enlarged testes have been collected between August 30 and January 26.

BEHAVIOR: More inclined than other local pipits to perch and sing on slight elevations above ground level.

SPECIMENS: MCN: 1329–1345*, 1526–1531*. MN: 32170–32172*, 32232*. AMNH: 315856–315865, 315867–315870, 315872, 315873, 321412, 322020, 322021, 822146–822153*.

FAMILY TROGLODYTIDAE

Campylorhynchus turdinus

Map 187

Thrush-like Wren

Garrinchão

(Great Wren)

Sick heard this species calling at Fazenda da Invernada on November 25, 1972. Al-

though new for the state and well beyond normal range, Sick (*in litt.*) informs me he feels absolutely sure of it, as voice is very easy to recognize with nothing similar to it. He assumes it would have reached Rio Grande do Sul from Mato Grosso, where it not uncommon.

Cistothorus platensis

Map 187

Grass Wren

Corruíra-do-campo

(Field Wren)

DISTRIBUTION AND STATUS: Rare, known here from very few specimens. One reported from near Porto Alegre by Ihering (1899a) without date, probably in 1880s. Kaempfer collected two males September 10, 1931 near Candiota and three males at Cassino December 1–2, 1931. Silva collected one October 17, 1977 SW of Rosario do Sul in open grassland. Voss (*in litt.*) reported species in October 1982 at Aracuri-Esmeralda Ecological Station where former pasture now scrubby. *Cistothorus p. polyglottus*.

SIZE: One unsexed (by Silva): 103 mm, 9 gr.

SOFT PART COLORS (by Silva): Tarsus yellow; bill black; iris chestnut.

SPECIMENS: MCN: 398. AMNH: 321996–322000.

Troglodytes aedon

House Wren

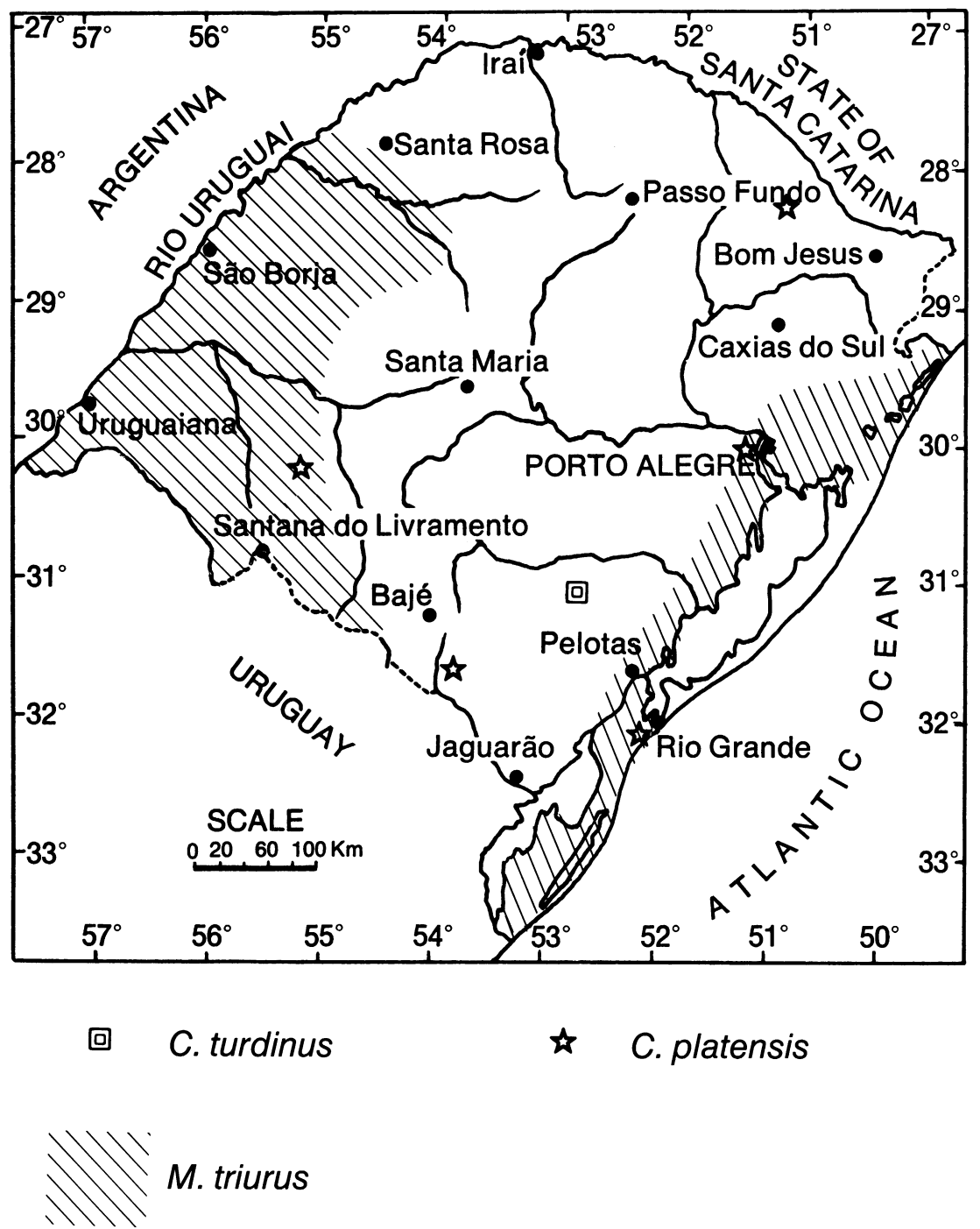
Corruíra

DISTRIBUTION AND STATUS: Common all over state, in capoeira, woodland edges, marsh edges, espinilho parkland, gardens, groves. Although Short (1975) lists it as migratory in Chaco, I have registered it at all seasons in many parts of Rio Grande do Sul and during every month in Gramado without noting any fluctuation in numbers. *Troglodytes a. bonariae*.

FIELD MARKS: Barring on both wings and tail unique among Rio Grande do Sul passerines.

SIZE: One female: 122 mm, 11 gr. Four unsexed: 120–124 mm, 12–12.5 gr.

SOFT PART COLORS: Tarsus gray, reddish gray, olive gray, brown, or black; maxilla dark brown, gray, or black; mandible light gray to



MAP 187. Geographical distribution of *Campylorhynchus turdinus*, *Cistothorus platensis* and *Mimus triurus* in Rio Grande do Sul.

grayish pink, with dark tip; iris (live bird)
Dark Grayish Yellowish Brown.

VOICE: (R) Varied song consisting mainly
of rich, full-throated, bubbling trills, but with

some dry squeaks, often ending with long trill. One unusually short version began with insect-like dry squeal before a high, bubbling trill which ended with one or two jumps to lower notes: "hehhhhhhhhh wewewewewewee-ho-wee-ho." Also a scolding "tchtchtchtchtch."

BREEDING: On November 14, 1970 at Arroio Quaraí-chico I found nest in hollow tree trunk with entrance about 70 cm above-ground through natural split in tree. One nearly naked nestling could be seen on nest of grasses. On November 17, 1970 N of Ijuí, two adults fed nestlings in old woodpecker hole in dead snag about 8 m aboveground. On November 19, 1974 adults were carrying food to nestlings in roof area of abandoned house, and on November 26, 1970 adults fed nestlings in nest under tiles of our garage roof in Gramado. On December 10, 1979 at Fazenda das Casuarinas one was feeding *Molothrus bonariensis* juvenal.

SPECIMENS: MCN: 1232–1233*, 1235–1238*, 1787. MN: 16391, 16395. AMNH: 315655–315666, 321400–321402, 321663–321667, 321994, 321995, 824037*.

FAMILY MIMIDAE

Mimus saturninus

Chalk-browed Mockingbird
Sabiá-do-campo
(Field Thrush)

DISTRIBUTION AND STATUS: Resident throughout, usually in open country with low trees, bushes, clumps of vegetation, or small groves. Abundant in hilly grasslands of SE with their many isolated small trees and patches of open woodland, while common to uncommon in W and N. *Mimus s. modulator*.

FIELD MARKS: Long prominent white superciliary and extensive white tips on outer tail feathers distinguish it from smaller *M. triurus*, which has much less prominent superciliary, all-white outer tail feathers, and extensive white wing patches very noticeable in flight.

SIZE: Two males 267–271 mm, 77–83 gr.

SOFT PART COLORS: Tarsus and bill black; iris (two live birds) Grayish Olive on inside, blending outward to Grayish Yellow Green

in one specimen, Grayish Greenish Yellow in other.

VOICE: (R) Widely varying series of warbles, chirps, trills, whistles and miscellaneous sounds without pattern or regularity, each series usually of only two or three seconds duration and not often duplicated, even in singing bout lasting many minutes. Many sounds throaty and coarse, but overall effect pleasing and attractive. I have rarely identified any mimicking, with *Poliophtila dumicola* song only one identifiable. Also a quick, insect-like "tzeet" and several "tzzzzt's" starting low and running up scale.

BREEDING: One carried nesting material on September 21, 1971 at Turvo Forest Reserve. Sick observed adult feeding fledgling November 1, 1983 at Arroio Quaraí-chico. On November 17, 1972 at Fazenda São José one carried food to nestlings. On November 27, 1974 at Fazenda São Roberto large nest made of small sticks and grass, lined with wool, was about 1.8 m up in low, spiny, mimosa-type bush standing alone in open field. It contained one blue-green egg with dark speckles at 10 A.M. and two eggs at 3:30 P.M. Following morning at 8:10 both eggs gone, with remains of one on ground below nest, but by 12:25 P.M. nest again had one egg. On January 17, 1975 W of Encruzilhada do Sul nest under construction had no lining yet. On January 18 lining had been started. On January 22, 1976 at Fazenda do Pontal speckle-breasted juvenal seen, unattended by adult. Two males collected March 25, 1975, and May 5, 1974 had small testes.

BEHAVIOR: Prefers low, open perches in trees, tops of bushes, or on fenceposts, moving between these with low, rather labored flight. SW of Pelotas it competes with *Pitangus sulphuratus* as most common fencepost sitter. Higher perches often chosen for singing, from which, in midst of enthusiasm of spring song, one will sometimes launch itself 3 or 4 m into air, then return to perch, singing constantly. On November 22, 1972 in Seival Valley at dusk one walking on ground would stop every meter or so, raise its wings, give them quick flip, then walk on. On very hot early afternoon of January 21, 1975 along Canguçu-Piratini road several were at various places in exposed spots perching at sideways tilt of about 30° from horizontal,

holding heads much cocked to one side. Without seeing any other motive for this behavior, I associated it with heat, especially since I did not see it later in cooler hours of afternoon. On December 1, 1973 S of Tupanciretã one was feeding on ripe mistletoe berries. Voss and Sander (1980, 1981a) reported it feeding on fruits of *mamica-de-cadela* (*Fagara rhoifolia*) (Lam. Engl.), *camará* (*Lantana camara* L.) and guava (*Psidium guayava* L.).

SPECIMENS: MCN: 48, 49, 76, 221, 441, 1240–1241*. MN: 15950–15952. AMNH: 315667, 321403, 321404, 321668, 322001, 824036*.

Mimus triurus

Map 187

White-banded Mockingbird

Calhandra-de-três-rabos

(Three-tailed Mockingbird)

DISTRIBUTION AND STATUS: Uncommon winter visitor which I have always registered as single individuals at widely scattered locations along littoral in as far as Porto Alegre, and in SW and W, N as far as 27°30'N. Occurs in open country with low bushes and scattered trees and in gardens. Earliest record April 30, latest September 30 in NE corner near Tôrres.

FIELD MARKS: Easily distinguished from only other mockingbird in Rio Grande do Sul by smaller size, tri-sectional black and white tail, rufous rump, and large white wing patches.

SIZE: One female: 212 mm, 49 gr. One unsexed: 238 mm, 54 gr.

SOFT PART COLORS: Tarsus blackish; bill black with gray at base of mandible; iris light brown to brownish gray.

BEHAVIOR: Quiet, relatively inactive species while in Rio Grande do Sul.

SPECIMENS: MCN: 1239*. MN: (WB)960*.

FAMILY TURDIDAE

Platycichla flavipes

Map 188

Yellow-legged Thrush

Sabiá-una

(Black Thrush)

DISTRIBUTION AND STATUS: Uncommon summer resident found usually at middle to

upper levels of forests in NE corner near escarpment, primarily near top. Gliesch (1930) reported it from Porto Alegre and Viamão, somewhat farther S than any recent records. Earliest spring record October 25 near Tôrres. Latest summer record February 8, near São Francisco de Paula. Stragglers occur, for there are late June and July records for Taquara/Osório region and I had poor view of what may have been male and female at Itaim-bezinho on July 6, 1974. *Platycichla f. flavipes*.

FIELD MARKS: All black male with yellow legs, eye ring, and bill unmistakable. All brown female has more uniform coloration on underparts than any other local thrush, to extent that not even streaking on throat is easily noted under field conditions; yellow legs.

SIZE: Two males: 205–215 mm, 57–66 gr. One female: 213 mm, 61 gr.

SOFT PART COLORS: Tarsus yellow; bill of male light yellow, sometimes with dark stains, of female brown with yellowish tinge; iris dark brown; eye ring yellow.

VOICE: (R) Cheerily and vigorously rendered variety of high, loud, sharp and squeaky whistles, warbles, cheeps, and chirps, sung randomly and without pattern, often over extended periods with only slight pauses.

BREEDING: Female collected December 12, 1970 had moderately enlarged ovary, whereas two males of January 28 and 29, 1971 had much enlarged testes. Voss (personal commun.) saw fledglings at Gravataí December 14, 1970.

BEHAVIOR: As reported by French (1973) for Trinidad, in Rio Grande do Sul this species usually found due to singing of male, female being seldom seen.

SPECIMENS: MCN: 433, 1472–1475*. AMNH: 315668–315671.

Turdus nigriceps

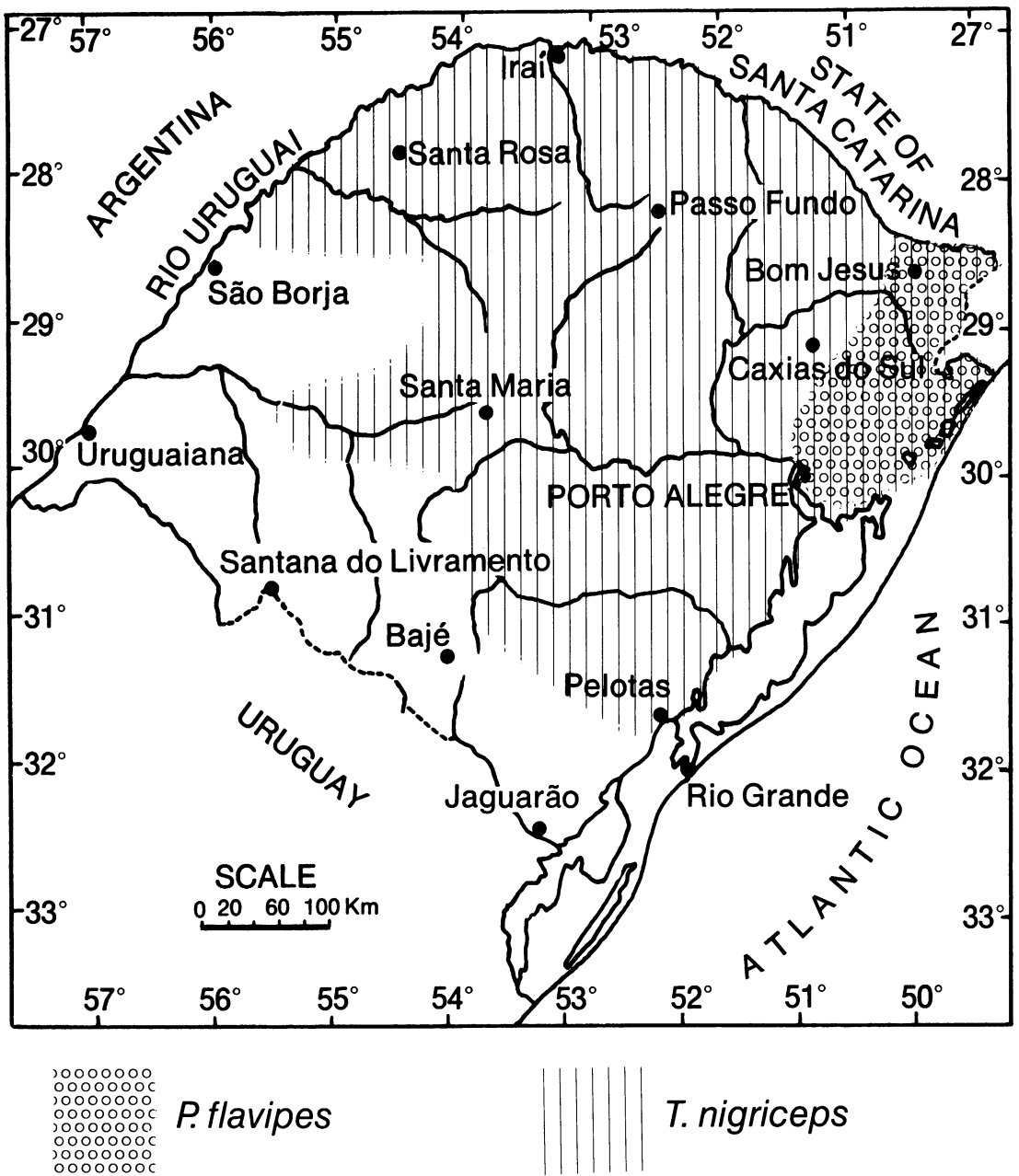
Map 188

Slaty Thrush

Sabiá-ferreiro

(Blacksmith Thrush)

DISTRIBUTION AND STATUS: Locally abundant summer resident across N and in E south to 32°S, except on Mostardas peninsula. Occasional occurrences S and W of Santa Maria. In favored breeding areas, such as Gramado,



MAP 188. Geographical distribution of *Platycichla flavipes* and *Turdus nigriceps* in Rio Grande do Sul.

it much outnumbers any of other four members of family found here in spring and summer. In 12 days of netting in small woodland patch in Gramado between November 18 and December 18, 1975, I caught and banded 95 different Slaty Thrushes, 57 males and 38

females. Prefers upper levels, below canopy, of forests, gardens with tall shade trees, heavily wooded parklike areas. Is often numerous where ground well cleared, as in parks or woods used for cattle shelter. On November 22, 1979 it was abundant and singing near

Morro Pelado in high eucalyptus forest with low understory of native growth. At Fazenda da Invernada in late November 1972 it was common and noisy in woodland and garden areas around home buildings high on hill overlooking extensive surrounding grasslands but not seen or heard once in gallery forest about 100 m lower and only 1.5 km away. In third area of thicker, more ample woodland, we found it infrequently.

Enters state in force in latter half of September. My earliest record is September 16 (1971) in extreme N. However, it is slow to make its way to NE highlands, perhaps being governed by weather conditions. My first record for Gramado/São Francisco de Paula area is October 13, this considerably before main body arrived in 1973. In warm, dry spring of 1977 Slaty Thrushes were singing in Gramado when I arrived on October 28, but during wet, cold year of 1975 we heard them for first time on November 16. Latest autumn record is April 19 (1971). On July 4, 1974 I heard Slaty Thrush voice at Aparados da Serra National Park, apparently from straggler. One questionable record from São Leopoldo area for August 24, 1973.

Surprisingly, Ihering (1899a) did not include *T. nigriceps* in his list of Rio Grande do Sul birds, although he lived where it now occurs and its voice is not one he could have missed. Gliesch (1930) collected it in Porto Alegre during period 1914–1927, but Kaempfer did not collect any during his visits in 1929–1931. Presumably species extended its range between latter date and 1954 when Camargo (1962) reported specimens. *Turdus n. subalaris*.

FIELD MARKS: Adult male distinctly grayer than any other Rio Grande do Sul thrush, especially on breast, which contrasts sharply with white patch at base of throat. Vertical streaking on white throat is black, not brown, and heavier on sides than in center. Both sexes considerably smaller than *T. amaurochalinus*, with which this species most likely to be confused. In field female *nigriceps* can only be distinguished from *amaurochalinus* by smaller size and by darker, blackish lores of latter species.

Juvenals: Upperparts of juvenal *nigriceps* are olive brown, with many feathers, particularly on wing coverts, having delta-shaped

pale orange markings in center of terminal edge and running up shaft. These markings are darkest on wing coverts, where they become Deep Orange. Throat and breast feathers vary from Light to Moderate Orange Yellow and have broad, blackish terminal edges, giving appearance of fine, irregular barring or of series of overlapping concentric arcs across breast. Belly feathers are white, but have same dark terminal edges. Differentiation in field between juvenals of this species and those of *amaurochalinus* difficult, since dark lores of latter not so well defined as in adult. Some juvenal *amaurochalinus* have much more white and less yellow-orange on breast, but certain identification probably depends on measurement in hand.

Although blackish lores of *amaurochalinus* usually useful field mark to separate it from *nigriceps* females, individual variations create problems even with bird in hand. For such cases, emargination of fifth, sixth, seventh, and eighth primaries in *nigriceps* starts appreciably closer to end of feather than it does in *amaurochalinus*. Emargination of fifth much less definite and sometimes almost absent as compared with that of *amaurochalinus*. Wing and tail measurements of *amaurochalinus* exceed those of *nigriceps* on average, but there is some overlap. Same true of tail/wing ratios, all my specimens (three not available for measurement) of *nigriceps* falling below 0.79, whereas all my specimens of *amaurochalinus* and all but three of those from Rio Grande do Sul in AMNH above that figure (see table 1).

SIZE: Twelve males: 200–225 mm, 44–53.5 gr. Six females: 202–219 mm, 45–55 gr. Nine immatures: 186–225 mm, 46–55 gr.

SOFT PART COLORS: Male: tarsus yellowish brown to brownish gray; bill varies from Strong Orange Yellow with brownish stains to brown with yellow stains or blotches; iris Dark Brown; eye ring from Moderate Orange Yellow to yellowish green and yellowish brown. Female: tarsus from Light Yellowish Brown to light brownish olive; maxilla from Light Yellowish Brown to black; mandible from Moderate Yellowish Brown to black; iris Dark Brown; eye ring light yellowish green to Moderate Olive Brown. Immature: tarsus gray to Dark Reddish Gray; bill Olive Black; iris brown—one specimen gray.

TABLE 1
Ratio of Tail Length to Wing Length (Measurements in Millimeters) in Rio Grande do Sul Specimens
of *Turdus nigriceps* and *Turdus amaurochalinus*

<i>Turdus nigriceps</i>				<i>Turdus amaurochalinus</i>			
Specimen no. ^a	Wing	Tail	Ratio	Specimen no. ^a	Wing	Tail	Ratio
Adult Males				Adult Males			
241	113	87	.770	1342	113	92	.814
517	111	86	.775	1749	113	90	.796 ^b
519	106	82	.774	315690	112	84	.750
520	107	78	.729	315691	119	85	.714
664	108	79	.731	315693	121	98	.810
926	105	80	.762	315694	116	67	.578 ^c
1052	110	80	.727	—	—	—	—
1082	108	84	.778	—	—	—	—
1542	109	82	.752	—	—	—	—
1705	111	86	.775	—	—	—	—
1787	111	79	.712	—	—	—	—
1805	106	79	.745	—	—	—	—
Immature Males				Immature Males			
927	110	84	.764	639	108	87	.806
1126	104	81	.779	1518	116	98	.845
1786	104	77	.740	—	—	—	—
Adult Females				Adult Females			
208	108	82	.759	315701	109	89	.817
251	105	80	.762	322005	114	95	.833
1701	108	78	.722	802172	113	96	.850
1702	104	78	.750	—	—	—	—
1703	105	77	.733	—	—	—	—
1704	109	75	.688	—	—	—	—
Adult Unsexed				Immature Females			
339	105	80	.762	315699	110	87	.791
849	109	79	.725	315700	105	86	.819
—	—	—	—	Adult Unsexed			
—	—	—	—	042	116	95	.819
—	—	—	—	400	118	99	.839
—	—	—	—	590	120	99	.825
—	—	—	—	315692	118	95	.805
—	—	—	—	315695	113	99	.876
—	—	—	—	315702	113	92	.814
—	—	—	—	321669	119	93	.782
Immature Unsexed				Immature Unsexed			
239	106	78	.736	340	111	95	.856
338	103	74	.718	599	109	88	.807
586	103	78	.757	600	116	94	.810
640	107	84	.785	315696	108	91	.843
1358	110	84	.764	315697	114	94	.825
1359	104	80	.769	315698	109	88	.807

^a Three and four digit numbers refer to my specimens. Six digit numbers refer to AMNH specimens other than mine.
^b Tail much worn.
^c Tail in molt.

VOICE: (R) Distinctively different from other Rio Grande do Sul thrush voices. Song: series of single, non-resonant, high-pitched bell-like notes, giving rise to Brazilian vernacular name. Also a harsh, seesawing squeaky hinge sound. High-pitched "seeeeEEE" often precedes other types of vocalization. Notes: "tick tick tick. . . ." and "keck keck keck. . . ."

BREEDING: Silva identified nest of this species with three eggs November 20, 1983 at Itapuã. Of 26 individuals banded November 17–20 at Itapuã, several females had brood patches, but none found on males. On December 19, 1976 I found cup-shaped nest about 8 m up in flat, open crotch of slender, broadleaved tree which was one of small clump in forest. From below it looked quite large and bulky, with much excess construction material—moss, sticks, and vines—dangling from it. Female was incubating, and male nearby briefly. On December 21 I watched this female on nest for nearly an hour, during which time male did not approach. On December 28 three blue eggs entirely covered with brown speckling still being incubated. Another nest in same area, believed to be of same species, had four eggs. Adults collected between October 13 and January 29 had enlarged gonads, but female of January 30, 1971 with exceptionally worn plumage had inactive ovary. Birds in juvenal plumage common in Gramado area during January and February. On December 21, 1977 I found flightless juvenal which had fallen from nest.

BEHAVIOR: Slaty Thrushes usually keep to shady, tree covered areas, so less often seen on garden lawns and in meadows and pastures than *T. amaurochalinus* or *T. rufiventris*. On December 21, 1976 male courted female by vibrating wings while stretching out neck and whole body to maximum and opening mouth as if singing, but no sound came forth. She drove him away. Voss and Sander (1980, 1981a) reported this species feeding on fruits of *canela* (*Ajonea saligna* Meissn.), *figueirão-brabo* (*Ficus diabolica* Hert.) and japonese persimmon (*Diosporos kaki* L.).

SPECIMENS: MCN: 1497–1512*. MN: 31870–31874*, 31951–31953*, 32213, 32215. AMNH: 822163–822167*, 824042–824043*.

Turdus rufiventris

Rufous-bellied Thrush
Sabiá-laranjeira
(Orange-tree Thrush)

DISTRIBUTION AND STATUS: Abundant resident throughout state in forests, open woodland, capoeira, fencerows, gardens. In forests most frequently found at midlevel but occurs at all levels, and often on ground in gardens. Not usually seen in large numbers together, but certainly one of most ubiquitous, common, and best known birds in Rio Grande do Sul as well as in most other populous parts of Brazil. Although usually present everywhere, occasionally it very scarce or entirely absent from an area, presumably due to local movement dictated by availability of wild fruits and berries. *Turdus r. rufiventris*.

FIELD MARKS: Deep Orange belly below grayish brown breast, reversing color arrangement of American Robin, *T. migratorius*. Juvenals have gray throats and breasts with much dark brown on feathers. Orange belly feathers, acquired in initial plumage, have broad brown terminal edges.

SIZE: One male: 249 mm, two males: 78–82 gr. Three females: 223–248 mm, 74.5–79 gr.

SOFT PART COLORS: Male in breeding condition at Fazenda do Pontal on September 26: tarsus Dark Purplish Gray; maxilla Grayish Olive; mandible Dark Greenish Yellow; tomia Strong Greenish Yellow; iris Deep Brown; eye ring Strong Orange Yellow. Live unsexed bird at Fazenda São Francisco on October 20 had tarsus Light Grayish Brown; iris Dark Grayish Yellowish Brown; eye ring Strong Orange Yellow.

VOICE: (R) Rich, flutelike, melodious, whistled song with much individual variation, usually faster than songs of other local *Turdus* species. Shorter versions often sung repetitiously without intervening pause: "peur peeAY peur peeAY peur peeAY peur peeAY. . . ." for many seconds. Other, more complex versions, with rather weak and indeterminate beginnings and endings, continue for up to six seconds or so, but have pauses between songs, which themselves vary. Several different calls include a squeak and whistle "see owi," a resonant squawk: "squirrl," a whistled "oooowe," and a high, whiny squeak.

BREEDING: Nest construction under way in forest W of Carazinho on November 23, 1973. In Gramado cup-shaped nest made mostly of green moss almost complete when examined December 21, 1976, about 2.4 m up in crotch of small tree in dense low woods. On December 28 it contained one egg with blue background and brown spots heavily concentrated on large end. Another Gramado nest in exotic pine had one well-feathered nestling on January 9, 1972. Male collected September 26, 1975 at Fazenda do Pontal and females collected December 19, 1972 and December 26, 1974, respectively, in Osório and Gramado all in breeding condition.

BEHAVIOR: Although in appearance and habits, including searching of lawns, gardens, and orchards for food, it very reminiscent of *T. migratorius*, *rufiventris* much shyer and flees at approach of man more quickly than northern counterpart. In forests responds quickly to squeaking, but always warily maintains considerable distance from lure and usually remains quite motionless after initial approach. Voss and Sander (1980, 1981a) reported it feeding on fruits of 28 different wild and cultivated plants.

SPECIMENS: MCN: 215, 255, 442, 616*, 1477-1480*, 1482-1483*, 1779. MN: 16550, 16690. AMNH: 315713-315728, 322002, 824038-824039*.

NOTE: Adult male with much enlarged testes collected October 17, 1973 at Army Training Center was partially albino, having most of normal rufous area white as well as multiple small white splotches on remaining plumage. Although of normal length—240 mm, its weight of 57 gr was lighter than that of any other individual of this species collected.

Turdus leucomelas

Map 189

Pale-breasted Thrush

Sabiá-barranco

(Ravine Thrush)

DISTRIBUTION AND STATUS: Common in forests of NW north of 28°30'S and W of 53°W, especially close to Rio Uruguay. Probably resident, being present in midwinter period of late July and early August as well as regularly during breeding season. *Turdus l. leucomelas*.

FIELD MARKS: Most uniformly colored thrush of Rio Grande do Sul. English name misleading, for grayish brown breast no lighter than that of any other member of *Turdus* genus found in state, and in some cases it darker. Most likely to be confused here with *T. amaurochalinus*, but latter darker above and lighter below.

SIZE: One female: 233 mm, 75 gr.

SOFT PART COLORS: One female: tarsus gray; maxilla dark gray; mandible gray; commissure yellowish; iris red.

VOICE: (R) Similar in general character to most other *Turdus* voices of Rio Grande do Sul, but much less attractive, song consisting of series of short, unconnected notes, many rather harsh and most trilled, often in guttural fashion. One call is rattly, wooden sound: "kwaaa kwaaa kwaaa kwaaa. . ."

BREEDING: On November 21, 1977 near Garruchos Silva found nest with three nestlings, placed in open hollow of tree. Nestlings departed as photographs taken. Female collected near Garruchos January 26, 1973 had much enlarged ovary.

BEHAVIOR: Seldom ventures out of heavy cover of woodland, although I saw some, together with *T. amaurochalinus* and *T. rufiventris*, feeding on fallen avocados and tangerines in small orchard at Santo Cristo. One also fed on small blue fruits growing on trunk of unidentified tree.

SPECIMEN: MCN: 1476*.

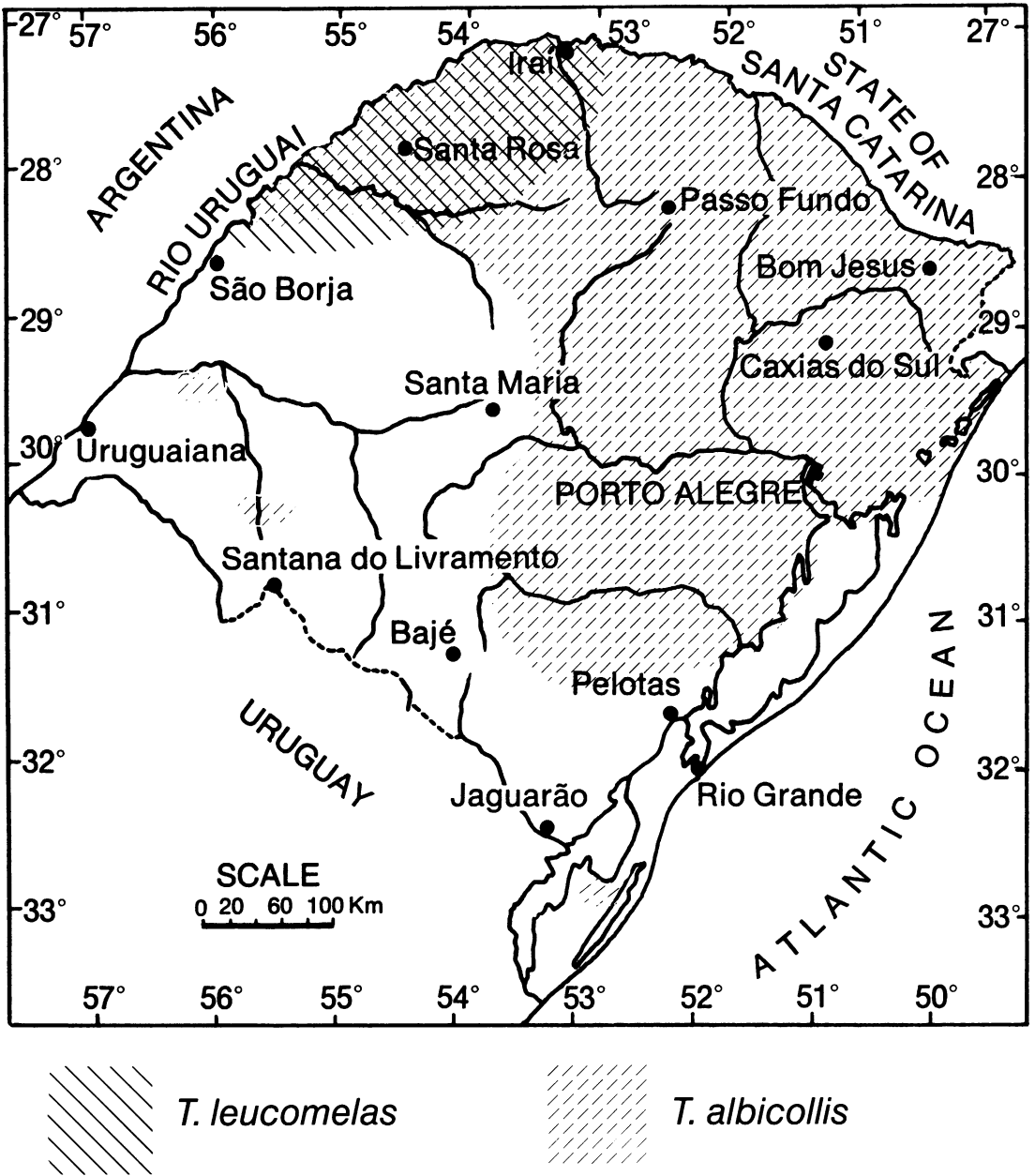
Turdus amaurochalinus

Creamy-bellied Thrush

Sabiá-poca

(Popping Thrush)

DISTRIBUTION AND STATUS: Found throughout state at middle to lower levels of forests and woodland, also on ground in gardens, meadows, and other open areas not too far removed from protective cover. Occurs in most areas in every season of year, but numbers fluctuate sharply, varying from very abundant to absent at different times in same place. At Sete Leguas in late March 1974 it was abundant, but 60 km farther W at lower altitudes I saw no thrush of any kind during 24 hours, in spite of careful search. By mid-August it was entirely absent from Sete Leguas, but was present in lowlands of central trough. In November 1975 it was scarce SW



MAP 189. Geographical distribution of two species of *Turdus* in Rio Grande do Sul.

of Soledade, but there were many in Agudo area, not far away but at lower altitudes. In late July 1974 it was notably abundant at edge of Mundo Novo marsh on W side of Lagoa Mirim, but none were seen in same place in late January 1975. In May 1972 thrushes of all kinds were rare in high altitude areas of

extreme N. All this points to significant local movement with perhaps some altitudinal migration or migration in or out of state. If there is movement from high to lower areas in winter, this not complete for I have found it during every month in Gramado. Large numbers observed in midwinter in southern littoral

areas may represent influx from Argentina and Uruguay, but banding needed to confirm this.

FIELD MARKS: Blackish brown lores. Bobs tail white perched, and frequently voices "pok" note. See discussion under *T. nigricans*.

SIZE: Two males: 231–235 mm, 55–70 gr. Three unsexed: 229–232 mm, 69–73.5 gr.

SOFT PART COLORS: Tarsus light gray to brownish gray; bill (live bird) between Brilliant and Strong Yellow, others from light greenish yellow with brown stains to all brown; iris (live bird) between Dark Grayish Reddish Brown and Dark Grayish Brown.

VOICE: (R) Song: random, whistled, pure and trilled notes, much less musical in quality than either *T. rufiventris* or *T. albicollis*, with each note giving impression of lack of connection with others, and no pattern of rhythm discernible. Trills more frequent than in songs of above-mentioned species, and with more guttural quality. Note: distinctive "pok," source of Brazilian name.

BREEDING: Silva found nest with two eggs about 60 cm aboveground in small bush at Arroio Quaraí-chico on November 16, 1977. Nest about 1.6 m up in hedge in our Gramado garden had three eggs on January 9, 1974. One egg hatched on each of three following days. Plumage of nestlings reflected different hatching dates for next eight or ten days. By evening of January 22, adult having difficulty brooding nestlings because they so large. On evening of January 23 all three still in nest, but only two remained on evening of 24th, and by 8:30 A.M. of 25th all were gone. On January 19, 1974 Adroaldo Ferreira and I found nest N of Santana da Boavista in fork of oleander bush about 60 cm aboveground. It contained three blue-green eggs with reddish spots covering them densely all over. On February 16 nest appeared to have been abandoned for some time. Basic construction was mud and cattle dung binding sticks, vines, moss, *Tillandsia*, and roots. Lining was coarse, almost entirely of thin rootlets. Inside diameter varied from 95 to 105 mm, with depth slightly over 50 mm. Thickness of wall at top edge varied slightly above and below 10 mm.

BEHAVIOR: Bases activities in wooded areas, but ventures well out into pastures, gardens,

and other short grass open places, from which it rapidly retreats to cover when human or other source of potential danger appears. Among local thrushes, several of which occasionally bob their tails while perched, it is most persistent at this practice. This is one of many species in state which launches itself into air like tyrannid to catch flying termites on occasions when these emerge from underground nests. In early August 1973, this species was most abundant of three congeners, the others *rufiventris* and *leucomelas*, which fed in small orchard near Santo Cristo on fallen avocados and tangerines. Voss and Sander (1980, 1981a) reported this species feeding on 19 species of wild and cultivated fruits. I saw one eating eucalyptus flowers July 26, 1981.

SPECIMENS: MCN: 216, 469, 1484–1489*. MN: 16453, 16666, 32212*. AMNH: 315690–315702, 321669, 322005, 802172, 802173, 810526*, 824040–824041*.

Turdus albicollis

Map 189

White-necked Thrush

Sabiá-coleira

(Collared Thrush)

DISTRIBUTION AND STATUS: Resident; across N and in much of E, with scattered and occasional occurrence in W and far S, at all levels of forest. Common, but less often seen than other widespread resident thrushes. All available specimens are from eastern and southern Rio Grande do Sul and appear to be *T. a. albicollis*. *Turdus a. paraguayensis* should be watched for in NW corner of state.

FIELD MARKS: Pure white base of throat contrasts sharply with gray-brown breast and heavily streaked upper throat. Belly, with white center and dull orange on sides and flanks, distinctive among local thrushes.

SIZE: Four males: 217–237 mm, 51–61 gr. Three females: 214–234 mm, 64–73 gr.

SOFT PART COLORS: Five adults in breeding condition at Fazenda do Pontal on September 26: tarsus Light Brownish Gray; maxilla black to blackish brown with yellow tomia matching mandible (one had distal half of maxilla medium brown); mandible ranging from Pale Yellow to Strong Yellow; iris Deep Brown; eye ring Strong Orange Yellow.

VOICE: (R) Song not always readily distinguishable from that of *T. rufiventris*, having same clear, flutelike, whistle, but usually notes slower, more random, and less patterned, often alternating from low to high and back, without scheme or clear-cut rhythm, and with perhaps more trilled notes than *rufiventris*. However, I have heard one simple, generally repetitive pattern. Note: "kwuk" and "kwow," each with distinctly whiny, squawking character.

BREEDING: Adult found on nest at Itapuã November 20, 1983 about 6 m up in vertical crotch. Nest 1.2 m aboveground in rotted niche in side of *guabiju* tree (*Eugenia pungens*) on December 14, 1979 at Rincão dos Pereira contained three nearly naked nestlings, eyes not yet open. Nest in bottom of niche, lower section woven of roots and thin twigs, with no lining. Upper portion, including entire exposed side, made of green moss with few dangling bits of creeping fern stalk. Where nest snug against inside wall of niche there was no moss wall or rim, but where rot had eaten farther into tree leaving holes in niche wall, these were blocked with moss as on outside edge. Adult would feed nestlings, then brood them, always facing out of niche. Stayed on nest as I approached and stopped within half m, but fled when I moved closer. Like specimens mentioned above from Fazenda do Pontal, pair collected along upper Rio Camaquã SE of Lavras do Sul November 23, 1972 was in prime breeding condition, but female from Fazenda das Amoreiras on November 29, 1971 had small ovary. Pair from Fazenda do Pontal on June 24, 1974 also had small gonads.

BEHAVIOR: Occasionally seen at forest edge on pastures and lawns, but normally does not venture out of cover. Voss and Sander (1980, 1981a) reported this species feeding on fruits of *aroiera-do-campo* (*Schinus terebinthifolius* Raddi.), *figueira-de-folha-miuda* (*Ficus organensis* Miq.), *pau-de-arco* (*Guarea lesosoniana* A. Juss.) and cactus (*Cereus peruvianus* Mill.).

SPECIMENS: MCN: 147, 217, 605, 1481*, 1490–1496*. AMNH: 315677–315689, 315677bis, 321405, 321406, 322003, 322004, 802176, 810525*, 822168–822170*.

FAMILY SYLVIIDAE

[*Ramphocaenus melanurus*]

[Long-billed Gnatwren]

Voice of unseen bird recorded at Turvo Forest Reserve November 25, 1977 has been identified by Sick as quite probably of this species. It consists of extended, wavering, high whistle with bell-like overtones, working up scale until close to end when it drops slightly. I have compared it with recordings of this species from Venezuela, Trinidad, Mexico, and Panama, obtained through courtesy of James Gullledge, Cornell Laboratory of Ornithology. While the character of these voices is similar to that in my recording, similarity not so great as to provide positive confirmation of identity. Inclusion of this species on state list should remain tentative until a specimen is sighted or collected.

Poliophtila lactea

Map 190

Cream-bellied Gnatcatcher

Balança-rabo-leitoso

(Milky Tail-twitcher)

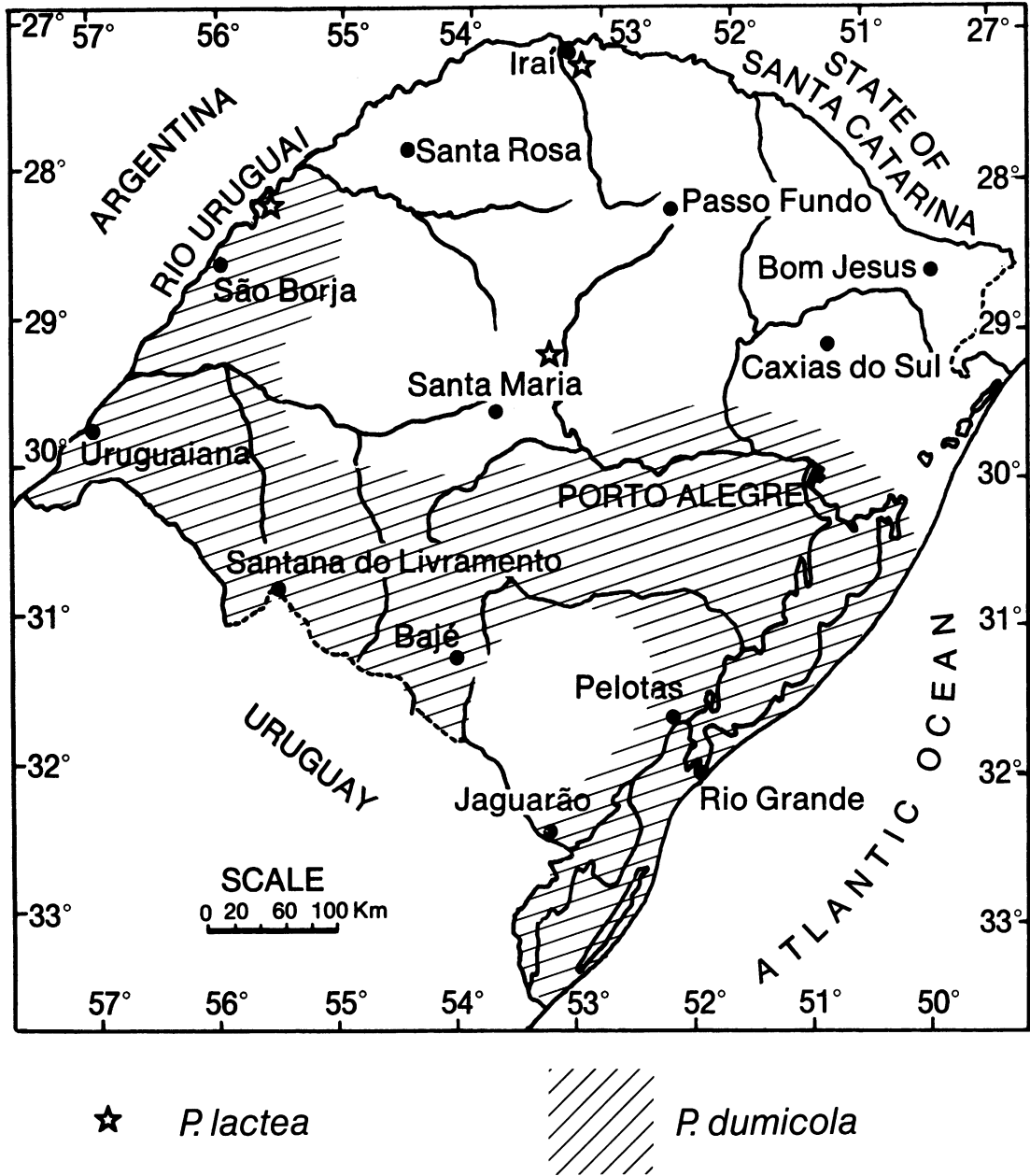
DISTRIBUTION AND STATUS: First found in state in 1973 (Belton, 1978a) and so far registered only in three rather widely separated areas—Garruchos, Iraí, and Fazenda do Umbu in more open areas of mixed forest. Usually seen high in canopy, but pair also observed singing in low bush. Probably resident. Found at Garruchos in August, October, November, and December, Iraí in August, and at Fazenda do Umbu in July. One of less common birds, though seen several times on each visit to Garruchos.

FIELD MARKS: Black cap of male and creamy underparts on both sexes distinguish it from *P. dumicola*.

SIZE: One male: 111 mm, 5.5 gr. One female: 109 mm, 7 gr.

SOFT PART COLORS: Tarsus dark gray; maxilla black; mandible dark gray with black tip; iris dark.

VOICE: (R) Series of about seven rapidly repeated, high-pitched, short whistles, all on same key. Also a single, constantly repeated note. Voice weak and often does not carry more than 8 to 10 m.



MAP 190. Geographical distribution of the two species of *Polioptila* found in Rio Grande do Sul.

BREEDING: Male collected November 27, 1973 had enlarged testes, ovary of female collected August 6, 1973 inactive.

BEHAVIOR: Usually seen in pairs or as members of mixed flocks including *Hemi-*

thraupis guira, *Conirostrum speciosum*, and *Philydor rufus*. Movement light and quick, similar to *P. dumicola*.

SPECIMENS: MCN: 348, 1564*. MN: 32317*.

Poliophtila dumicola

Map 190

Masked Gnatcatcher

Balança-rabo-de-máscara

(Masked Tail-twitcher)

DISTRIBUTION AND STATUS: Resident, in spiny fencerows, open scrub, or espinilho parkland along littoral N to 30°S; in parts of central depression; W of 55°W; and in lower altitudes of SW. Occurs uncommonly near coast, increasingly common westward, abundant in espinilho parkland. *Poliophtila d. dumicola*.

FIELD MARKS: Long black and white tail contrasts with blue-gray upperparts and gray ventral surface.

SIZE: Two males: 122–123 mm, 7–7.5 gr. One female: 130 mm, 9.5 gr.

SOFT PART COLORS: Tarsus gray; maxilla black; mandible gray with black tip; iris dark.

VOICE: (R) Song: sweet, quiet, melodious whistling, mostly on one note or alternating between two, with considerable variation in pattern. At Arroio Quaraí-chico song constant in October and November, but in February only calls and notes heard.

BREEDING: Nest in vertical crotch 60 cm aboveground at Arroio Quaraí-chico on November 1, 1983 contained three naked young. Both sexes fed young. Female removed and swallowed fecal sac. At same place on November 12, 1970 nest on horizontal branch of small thorny tree about 1.2 m aboveground resembled hummingbird nest, constructed of plant down and entirely covered with lichens fixed in place with spider webs. Shape was squat cup, with inside diameter halfway down considerably wider than at top or bottom. Female sat on two very light blue-green eggs with heavy covering of brownish-red spots. Three eggs in similar nest in crotch about 1.80 m aboveground level being incubated by female on November 14. On October 11, 1971 in same area nest under construction was already well formed and nearly ready for use, whereas on October 12, 1972 N of Mostardas one about 4 m up in crotch of small tree was attended by adults but had no eggs yet.

BEHAVIOR: Active, bouncy little bird that constantly flits and hops through open foliage with tail cocked or flipping up and down. Almost always seen in pairs or family groups.

SPECIMENS: 1565–1566*. MN: 14067–14070, 32197*. AMNH: 321396–321399, 321661, 321662, 321993, 812757*, 812760*.

FAMILY EMBERIZIDAE

Subfamily Emberizinae

Zonotrichia capensis

Rufous-collared Sparrow

Tico-tico

DISTRIBUTION AND STATUS: Common to abundant in all sectors at all seasons. Found in practically all habitats from deep forest (rarely) to marsh edges some kilometers from closest tree, but prefers field and forest edges with bushes, capoeira, gardens, especially in higher, more temperate areas. *Zonotrichia c. subtorquata*.

FIELD MARKS: Striped crest, black patches on side of throat.

SIZE: Two males: 152–154 mm, 20.5–25 gr. Six females: 146–156 mm, 19–23 gr.

SOFT PART COLORS: Tarsus Light Gray Reddish Brown to whitish; maxilla brown to blackish; mandible light gray to gray; iris brown.

VOICE: (R) High, rather plaintive, sweetly whistled short song, varying considerably throughout state though general character sufficiently constant for recognition. Among versions are: “two cheer chee chee” with accent on third syllable and fourth dropping in pitch; “twoee chee cheer cheer” with rising pitch in middle; “three cheer cheer cheer cheer cheer cheer”; “sweetsue sweet sweet sweet”; “a sweeter georgie”; and “ch tchee tchee tchee.” Note is sharp, short, hard “peenk,” “peek,” or “pik.”

BREEDING: Earliest nest reported by Voss (1977b) for mid-September 1975, whereas latest activity observed was adult feeding juvenals on February 22. Three eggs usual clutch, four occasionally, but nest frequently parasitized. One found with two sparrow eggs and five of parasite. Nests most frequently on ground hidden under grass clumps, but I have found them in woodland beneath undercut of trail edge embankment; quite exposed 65 cm up in orange tree; in bromeliad 8 m high on branch of forest tree; and regularly up to 2 m aboveground in top of tree ferns in Gramado garden in space left by new fronds which unfold from center in October,

leaving deep natural cup that birds line with grasses.

BEHAVIOR: When disturbed while feeding on ground, they regularly fly up into nearest bush, unlike *Ammodramus humeralis*, which seeks ground cover. On mild winter day with light rain, several in our garden were sallying out from exposed tree limbs to catch passing insects in perfect flycatcher fashion. They also regularly attack flying termite swarms on wing. When disturbed on nest, adults sometimes attempt lure interloper away by running along ground simulating broken wing. Voss and Sander (1980, 1981a) report seeing this species eating fruit of two types of fig (*Ficus carica* L. and *F. subtriplinervia* Mart.), palm (*Arecastrum romanzoffianum*) and pear (*Pyrus communis* L.).

SPECIMENS: MCN: 51, 148, 349, 1700–1706*. MN: 14756. AMNH: 316049–316077, 321426, 321427, 322037–322040, 810547*, 822158–822159*.

Ammodramus (Myospiza) humeralis

Map 191

Grassland Sparrow
Tico-tico-do-campo
(Field Tico-tico)

DISTRIBUTION AND STATUS: Common to abundant resident throughout except in extreme NE highlands where not yet registered. Found in open grassland and cultivated grain fields, roadsides, abandoned weedy patches. *Ammodramus h. xanthornus*.

FIELD MARKS: Supraloral yellow spot often missing in worn plumage. This is the nondescript bird that, when disturbed, rises only a meter or less above roadside weeds and quickly disappears into grass on other side of fence.

SIZE: Two males: 126–129 mm, 15–17.5 gr. One female: 124 mm, 18 gr.

SOFT PART COLORS: Tarsus various shades of light pink; maxilla dark brown to black; mandible light gray to silvery brown; iris brown.

VOICE: (R) Extremely high, squeaky, non-musical song, most notes raspily tremoloed but starting with one, sometimes two, fairly clear whistles. Two versions have following patterns: “-- ~~~ ~~~~ ~~~~~”

and “-- ~~~ ~~~~~ ~~~~~~.”

BREEDING: Female of November 4, 1975 at São Nicolau had active ovary. Nestling being fed on November 12, 1977 near Garuchos. Silva showed me nest at Fazenda do Pontal on January 5, 1977 with three white eggs. It was deep saucer hollowed out in ground, well lined with grass, placed so practically invisible under pile of dead weeds located in small open area containing agricultural refuse in middle of sandy field of mandioca about 45 cm high. Male of February 21, 1975 from Passo do Silvestre had much enlarged testes.

BEHAVIOR: Commonly occurs individually or in pairs, but small flocks form in late summer. Usually found on ground but often on fence posts or other low perches in open. On hot afternoon of November 24, 1975 E of Itaquí when most species scarce, it common on fence posts along highway.

SPECIMENS: MCN: 290, 1738–1742*. MN: 15136. AMNH: 315976–315986, 321428–321431, 322041, 813071–813072*, 822177*.

Haplospiza unicolor

Map 191

Uniform Finch
Cigarra-bambu
(Bamboo Cicada)

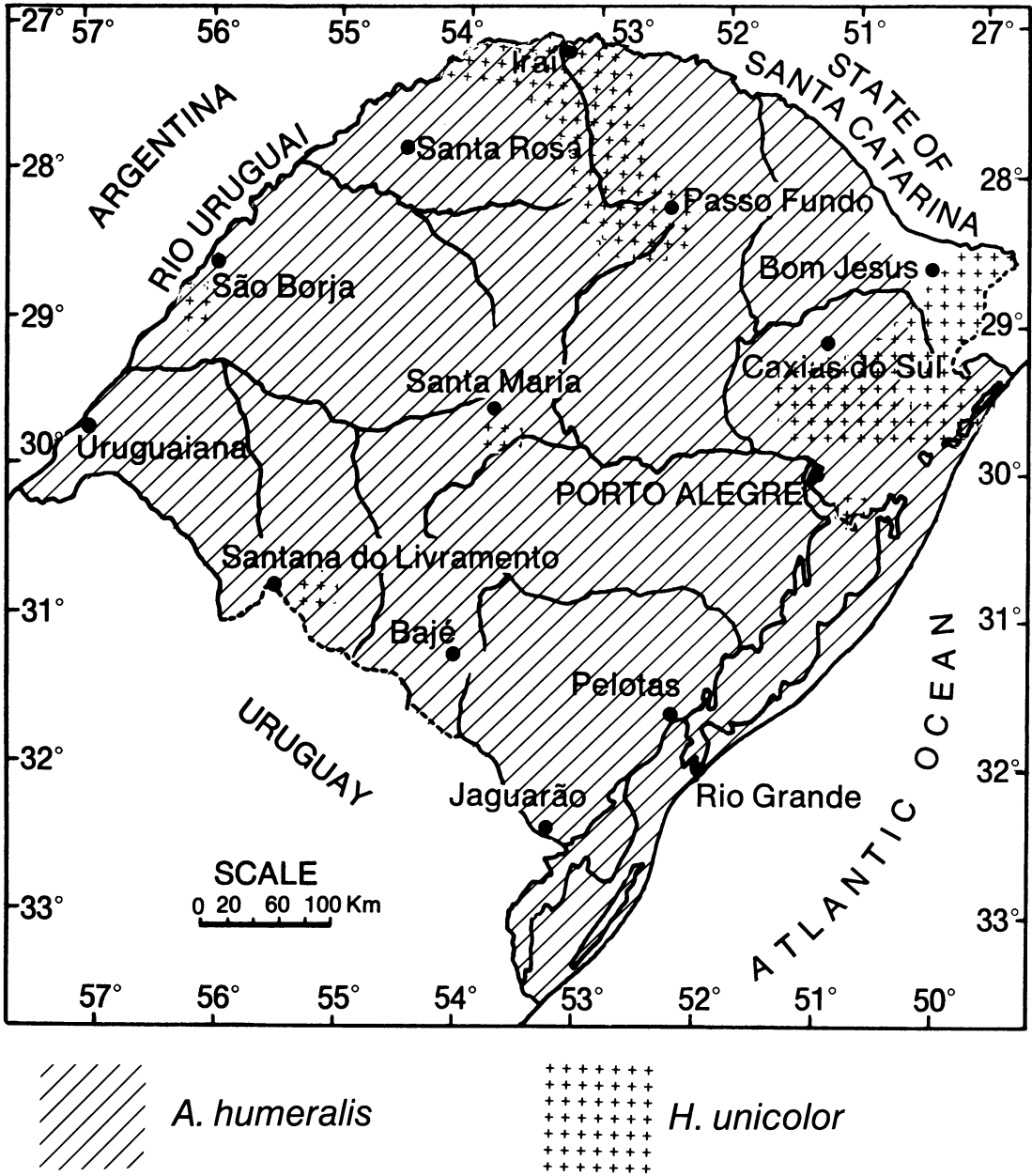
DISTRIBUTION AND STATUS: Uncommon forest occupant of NE, mostly near escarpment, occasionally registered in central N and rarely at widely scattered locales farther S and in W. Present year-round, but some sort of movement indicated by fact I netted seven males and one female in Gramado on December 10, 1975 within total of only 33 netted at same site in 152 netting sessions over six years. Netting records of Silva and Fallavena (1981) at Itapuã also indicate irregular occurrence there.

FIELD MARKS: Male solid gray; female only dull olive emberizid in state with streaked underparts.

SIZE: One male: 138 mm, 15.5 gr. Two females: both 140 mm, 15 gr.

SOFT PART COLORS: Tarsus reddish gray to reddish brown; male maxilla black, mandible greenish gray to black; female maxilla dark brown to blackish, mandible yellowish at base, brown distally; iris brown.

BREEDING: Male collected February 16, 1976 had enlarged testes, those of one of



MAP 191. Geographical distribution of *Ammodramus humeralis* and *Haplospiza unicolor* in Rio Grande do Sul.

March 6, 1971 reduced; females of December 18, 1976 and February 28, 1976 had inactive ovaries.
SPECIMENS: MCN: 435, 572, 574, 578, 1730-1734*. AMNH: 813073-813074*, 822160*.

Donacospiza albifrons
Map 192
Long-tailed Reed-Finch
Tico-tico-do-banhado
(Marsh Tico-tico)
DISTRIBUTION AND STATUS: Fairly com-

VOICE: (R) Rapidly repeated, sharp phrase: "wheat-jim wheat-jim wheat-jim."
I have also heard, but did not record, brief duet in which one started complicated chirping on fairly low note and other then joined in with higher, slower rhythm of same type.

BREEDING: Female collected October 9, 1973 at Canela had active ovary and male of December 15, 1971 near Terra de Areia had much enlarged testes. Three females collected in March had inactive ovaries.

BEHAVIOR: Usually makes only short flights within grassy areas of habitat, pumping tail during flight.

SPECIMENS: MCN: 343, 395, 1713-1714*. MN: 14495, 32187*, 32208*, 32246*. AMNH: 315987-315996, 321447-321450, 322059-322061, 813075*.

Diuca diuca

Map 192

Common Diuca-Finch

Diuca

Pinto (1944) cites four males and one female collected in Uruguaiana in June 1914. This is only record of this species in state. *Diuca d. minor*.

Poospiza thoracica

Map 193

Bay-chested Warbling-Finch

Peito-pinhão

(Araucaria-nut Breast)

DISTRIBUTION AND STATUS: Rare, occurring in open woodland at top of escarpment in NE. Registered in July, November, December, January, and April.

FIELD MARKS: Rich chestnut band between white throat and belly continues down flanks.

SIZE: One male: 127 mm, 12 gr. One female: 128 mm, 11 gr.

SOFT PART COLORS: Tarsus reddish gray to gray-brown; maxilla black or with gray edges; mandible gray with dark tip; iris brown.

BREEDING: Female collected November 22, 1971 had inactive ovary. Male of January 13, 1971 had only slightly enlarged testes. What appeared to be small family party seen January 18, 1979.

SPECIMENS: MCN: 1749-1750*.

Poospiza nigrorufa

Map 193

Black-and-rufous Warbling-Finch

Quem-te-vestiu

(Who Dressed You—onomatopoeic)

DISTRIBUTION AND STATUS: Common all year in most of state, though not registered in most sectors along upper Rio Uruguay. Occupies marsh edges and brushy wasteland, usually near water. *Poospiza n. nigrorufa*.

FIELD MARKS: Long white superciliary, rich rufous underparts, white tips to outer tail feathers. Young birds lack superciliary and are very heavily streaked dark brown on whitish below. Acquisition of adult plumage, at least by females, appears to be prolonged, and there may be considerable individual variation in process. Unsexed specimen collected January 30, 1971 and female of February 8, 1974 in typical juvenal plumage. Two females collected April 24, 1974 and May 10, 1974 still lacked superciliary but underparts acquiring rufous and much less heavily streaked than juvenal specimens, as was another individual seen April 2, 1973. Kaempfer in 1931 collected female on July 5 still fully streaked and with no superciliary, and two others on July 7 and 28 which had rufous wash over breast streaks and little or no superciliary. Male of July 27, 1974 still had few streaks on belly. I also saw several individuals in juvenal plumage on that date, and one similar to my April/May specimens on November 22, 1972. Some AMNH specimens from Argentina collected in October and November also heavily streaked.

SIZE: One male: 151 mm, 18 gr. Three females: 133-145 mm, 15.5-17 gr.

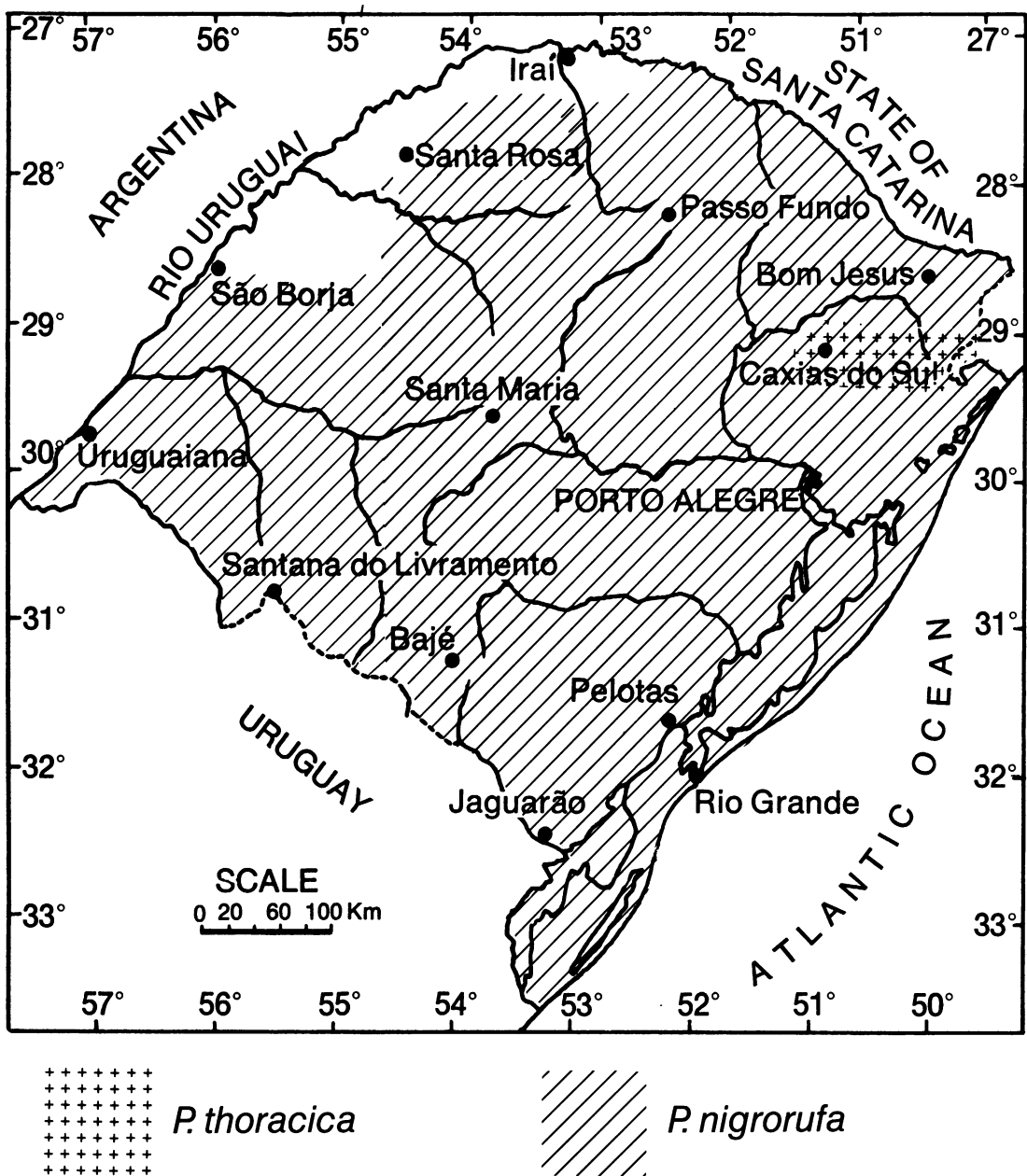
SOFT PART COLORS: Tarsus brownish gray; maxilla black; mandible whitish to grayish brown with dark tip; iris brown.

VOICE: (R) Persistently repeated "we greet-chew. . . we greet-chew" or with four syllables: "we should greet-chew."

BREEDING: Male collected September 25, 1974 had moderately enlarged testes, but female of November 28, 1971 had inactive ovary. Adult fed juvenal *Molothrus bonariensis* January 26, 1975.

BEHAVIOR: Pumps tail vigorously as it flies.

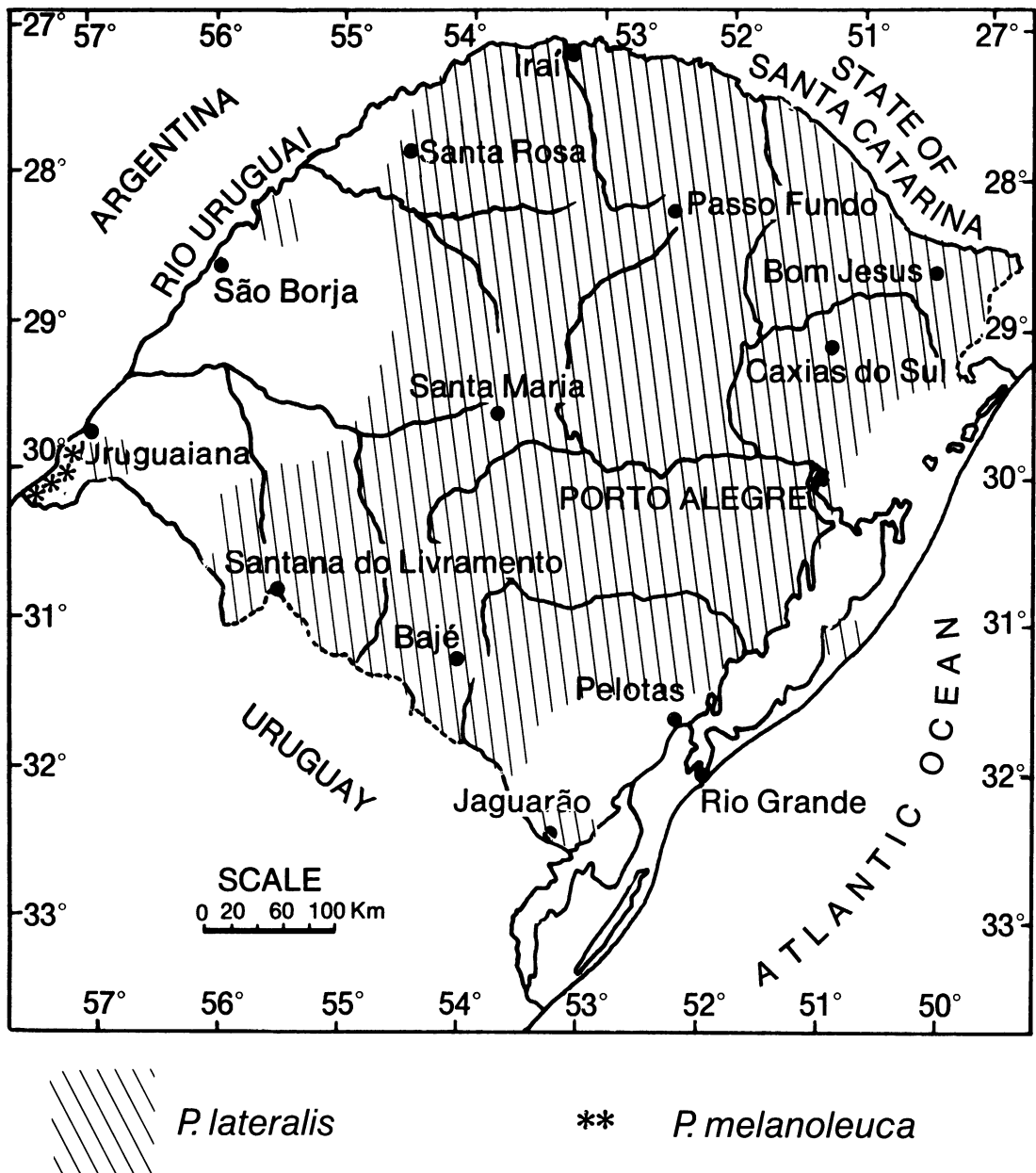
SPECIMENS: MCN: 1722-1724*. MN: 32164*. AMNH: 315997-315600, 321432-321440, 321681-321684, 322048-322051, 518458, 813076-813077*.



MAP 193. Geographical distribution of two species of *Poospiza* in Rio Grande do Sul.

Poospiza lateralis
Map 194
Red-rumped Warbling-Finch
Quete (onomatopoetic)
DISTRIBUTION AND STATUS: Resident of open woodlands and forest edges in most of state, but only scattered records for littoral,

W of 56°W, and S of 32°S. Common in NE and southeastern hills, scarcer in W and NW. *Poospiza l. cabanisi*.
FIELD MARKS: Rich rufous rump, upper tail coverts and flanks; long white superciliary. Young birds have yellowish superciliary and throat.



MAP 194. Geographical distribution of two species of *Poospiza* in Rio Grande do Sul.

SIZE: One male: 154 mm, 18 gr. Two females: 142–158 mm, 18–18.5 gr.

SOFT PART COLORS: Tarsus light reddish gray to gray; maxilla brown to black; mandible yellowish, gray tip; iris brown to red-dish.

VOICE: (R) Series of very high, squeaky,

irregularly timed clear and slurred notes of limited variety, reminiscent in tone quality of some hummingbird songs. Note: sharp “kik,” source of Brazilian name.

BREEDING: Male and female collected August 17–18, 1974 and female of September 24, 1972 had inactive gonads.

BEHAVIOR: Usually found in small parties of four or five within dense growth of bushes and low trees; join mixed feeding flocks in winter. Male chooses high, prominent singing perches during spring.

SPECIMENS: 598, 617*, 1707–1712*. MN: 14775, 14779, 32192*. AMNH: 316001–316026, 316036, 322042–322047, 813078*, 822174*.

Poospiza melanoleuca (cinerea)

Map 194

Black-capped Warbling-Finch

Capacetinho

(Little Helmet-top)

DISTRIBUTION AND STATUS: Scarce resident of bush and thicket-dotted areas between streams and espinilho parkland in extreme W tip. Found in July, October, November, and May. *Poospiza m. melanoleuca*.

FIELD MARKS: Black head and bill contrast sharply with white throat. One unsexed specimen with ossified skull, presumably female or subadult, had black limited to lores, cheeks, and auriculars. A live bird netted November 1, 1983 had same plumage with brownish orange iris.

SIZE: Four unsexed: 131–138 mm, 12–15 gr.

SOFT PART COLORS: Tarsus and bill black; mandible gray on unsexed specimen; iris red.

VOICE: (R) Very high, thin, monotonously repeated three-part phrase: “twasut tsee twaas.” Response to playback of this song was outburst of very rapid, sizzling warble.

BREEDING: Nest under construction between November 13 and 16, 1977 at Arroio Quaraí-chico on leafy branch projecting from dense bush about 1.5 m aboveground. Basic material, long, fibrous, and lichen-like, appeared to have been placed about November 12 or 13. By fourteenth nest assumed standard open cup shape, tightly woven of grass and tufts of wool or vegetable fiber. Appeared finished by afternoon of sixteenth but no egg when last seen at 6:15 A.M. on eighteenth. Both birds on hand, on one occasion one sang while other worked, but I did not see whether both worked.

BEHAVIOR: Birds usually in low bushes, but I never saw them on ground.

SPECIMENS: MCN: 1751–1752*.

NOTE: John Farrand (*in litt.*) informs me Paynter and Storer (1970) erred in listing this species as *P. cinerea*, since the name *melanoleuca* d’Orbigny and Lafresnay, 1837 has clear priority over the name *cinerea* Bonaparte, 1850. He says it will be corrected in any future editions of Morony, Bock, and Farrand (1975).

Sicalis flaveola

Saffron Finch

Canário-da-terra-verdadeiro

(Common Ground-Canary)

DISTRIBUTION AND STATUS: Abundant to common everywhere all year. Occupies open scrub, fencerows, roadside strips, cultivation, gardens grasslands, forest edges, espinilho parkland. *Sicalis f. pelzelni*.

FIELD MARKS: Weak orange-red forehead on male; female heavily streaked below on very whitish background, yellow confined to edges of wing and tail feathers, axillaries, and underwing coverts.

SIZE: Three males: 125–144 mm, 16–18 gr. Two females: 126–137 mm, 16.5–17 gr.

SOFT PART COLORS: Tarsus reddish gray to gray; maxilla gray to blackish; mandible light gray, base of gonys lighter; iris (live male) Dark Grayish Brown, (live female) Brownish Black.

VOICE: (R) Very high-pitched, hard notes and phrases, usually lacking in musicality but with irregular intermingling of squeaky slurs, trills, and warbles, sometimes performed continuously over many minutes. Note, a weak “wheat!” When excited: “ch ch cht. . . ch ch cht. . . ch ch cht.”

BREEDING: Commonly nests in abandoned furnariid houses. Nest of loosely woven grass inside structure of woven sticks at Arroio Quaraí-chico on November 14, 1970 contained three very light brown eggs, heavily spotted with rusty. Breeding season prolonged, with copulation observed October 17, 1975, eggs inside gourd nesting house February 15, 1975. One in female plumage, but that sang full song, was carrying nesting material into pom-pon of tall araucaria near Carazinho on November 9, 1978. At same place on November 23, 1973 male in courtship display pursued female in air, then perched near her, fanning wings rapidly while calling

"tch tch tch tch tch. . . ." On December 1, 1972 at Granja Quatro Irmãos, Sick and I watched pair, the sub-adult male capable of full song, carrying nesting material into *Furnarius rufus* house still occupied by original tenants and their nestlings. Pairs alternated, finches carrying in nesting material, horneros carrying in food and removing feces but not nesting material.

BEHAVIOR: On February 15, 1971 at Arroio Quaraí-chico one defended woven stick house against attack of *Coryphistera alaudina*, believed to have been original owner. Male song during breeding season usually rendered from prominent point high in tree. Flocks of 20 to 30 or more, great majority in female plumage, common during February and March, but flocks also observed in mid-November. On March 27, 1971 I raised flock of some thousands out of rice field near Jaguarão.

SPECIMENS: MCN: 1693-1699*. MN: 14310, 14326-14328, 14330, 14332-14334, 14336, 14337, 15032. AMNH: 41860, 315945-315962, 321420-321425, 321680, 322052-322058, 516662, 810543*, 813079*.

Sicalis luteola

Grassland Yellow-Finch
Tipiu (onomatopoetic)

DISTRIBUTION AND STATUS: Found throughout. Common along littoral and in central trough, S, and W all year; scattered and uncommon in planalto, with no winter records there. Primarily in open grasslands, grain fields, moist pasture. *Sicalis l. luteiventris*.

FIELD MARKS: Plain olive rump on both sexes contrasts with heavy streaking of remaining upperparts. Female has clear yellow belly below lightly streaked breast.

SIZE: Two males: 132-135 mm, both 15 gr. Three females: 119-131 mm, 14-18 gr.

SOFT PART COLORS: Tarsus light brown to reddish gray; maxilla dark brown to blackish; mandible light brown to pinkish gray, tomia darker; iris brown.

VOICE: (R) Continuous and quite varied light, rapid chittering, important components of which are hissing and buzzing sounds: "psst psst psst. . . . bzzzzz bzzzzz. . . ." Also contains occasional individual notes; "t-sweet".

BREEDING: On November 23, 1971 SW of Vacaria nest found in grass clump at edge of marshy area which would have surrounded clump in wet weather. Nest deep in clump, some 30 to 40 cm below top, only visible by looking vertically down narrow gap in grass. Open cup woven of grasses was about 5 cm deep and only about 4 to 5 cm in diameter. Contained one egg and one recently hatched young. Nest so deep that when nestling stretched up for food, bill didn't reach edge. Another nest in similar grass clump found January 7, 1976 near Canal de São Gonçalo with two newly hatched young and one egg. On January 19, 1976 at Fazenda da Invernada I observed nuptial display, including flight song of male.

BEHAVIOR: On December 1, 1972 at Granja Quatro Irmãos pair sat beside each other on fence wire immediately after copulating and billed, giving definite impression of kissing by four or five quickly repeated pecks within each short billing session. On January 30, 1973 near Garruchos, flock of about 50 bathed in water overflowing onto dirt road. Flocking in very large numbers sometimes occurs in ripe grain or grass.

SPECIMENS: MCN: 1725-1729*. MN: 14970. AMNH: 41829, 810542*, 813080*.

Emberizoides herbicola Map 195

Wedge-tailed Grass-Finch
Canário-do-campo
(Field Canary)

DISTRIBUTION AND STATUS: Moderately common all year in grasslands through central trough, in N sector of southern hills, and in central W, with occasional occurrences E in planalto to 52°W. *Emberizoides h. herbicola*.

FIELD MARKS: Plumage not reliable for distinguishing in field from *E. ypiranganus*, so one must depend on larger size, dry habitat, and attractive song.

SIZE: Three males: 189-195 mm, 27-30 gr. One female: 194 mm, 29 gr.

SOFT PART COLORS: Tarsus light buffy yellow; bill yellow with culmen and upper sides of maxilla black; iris brown.

VOICE: (R) Two part song, separated by interval: "wait for ME. . . . wait for

Emberizoides ypiranganus

Map 195

Lesser Grass-Finch

Canário-do-brejo

(Bog Canary)

DISTRIBUTION AND STATUS: Uncommon resident, with most records scattered in NE, but also found in W and S, in marshes with thick vegetation, including wet, grassy, upland swales with *Eryngium*. May be more widespread than currently proven, due to secretive habits.

FIELD MARKS: Best distinguished from *E. herbicola* by appreciably smaller size, wet habitat, and non-musical voice.

SIZE: Three males: 170–176 mm, 19–21 gr. Two females: 182–186 mm, both 19 gr.

SOFT PART COLORS: Tarsus light buffy yellow to pinkish; bill yellow with culmen and upper sides of maxilla black; iris brown.

VOICE: (R) Series of about ten short, sharp, rather harsh, nonmusical syllables varying in sound: “pst twitwitwitwitwitwit. . . ,” “tsiitsiitsiitsiitsiitsutsutsutsu. . . ,” or a fast, almost warbled “tseetsutseetsutseetsutseesu.”

BREEDING: Female collected July 30, 1974 had inactive ovary; four specimens collected between October 10 and November 23 had active gonads.

BEHAVIOR: Skulks in lower levels of marsh habitat, infrequently rising to top of grass blade, flower spike, or low bush.

SPECIMENS: MCN: 1718–1719*. MN: 32206*, 32244*. AMNH: 316103–316107, 321441, 822172–822173*.

Embernagra platensis

Great Pampa-Finch

Sabiá-do-banhado

(Marsh Thrush)

DISTRIBUTION AND STATUS: Common to abundant resident throughout, except on Mostardas peninsula where registered only once. Tall grass and weedy open country, with definite preference for boggy or marshy spots. *Embernagra p. platensis*.

FIELD MARKS: Lack of strong streaking on upperparts distinguishes adult from two *Emberizoides* sp. found in state. Immature resembles them, but lacks long, sharp tail feathers and has yellow throat and strongly streaked yellowish breast.

SIZE: Three males: 207–215 mm, 51–59 gr. One female: 209 mm, 42 gr.

SOFT PART COLORS: Tarsus brownish gray to greenish white; bill orange with upper half of maxilla black; iris brown.

VOICE: (R) Short, quick phrase of about five high, squeaky notes, the penultimate especially high and intense: “tee oo-tle TEE tst.”

BREEDING: Female collected July 29, 1974 had inactive ovary. Males from NE highlands of October 31, 1970 and January 28, 1971 had enlarged testes, but another of January 29, 1971 had small ones. Adult and immature were together on October 14, 1971 near São Donato marsh; adult was seen with two full-sized immatures at Gramado on December 11, 1977; while another was feeding juvenile near Pelotas on February 8, 1974.

BEHAVIOR: One flipped wings as it walked on dirt road. Typically perches on high points in marshy areas, such as tall weeds or bushes, but occasionally goes into higher trees.

SPECIMENS: MCN: 1450–1453*. MN: 14617, 14618. USNM: 461525*. AMNH: 316078–316102, 321442–321446, 321699–321701, 322029–322036, 519669, 519670, 810544–810545*.

Volatinia jacarina

Map 196

Blue-black Grassquit

Tisiu (onomatopoeitic)

DISTRIBUTION AND STATUS: Locally abundant in central depression, northern littoral, and across N, with scattered occurrence S to 31°30'S and to W tip. Present all year, but relatively scarce in winter, indicating partial migration. Found in overgrown weedy fields and grasslands, roadsides, wastelands. *Volatinia j. jacarina*.

FIELD MARKS: Male displays by vertical jumps. Female smallest, least colorful streak-breasted member of family in state.

SIZE: Two males: 114–116 mm, 8.5–10 gr. Two females: 111–116 mm, 8–11 gr.

SOFT PART COLORS: Male: tarsus and maxilla black; mandible gray, sometimes with black tip; iris grayish brown. Female: tarsus reddish gray to dark gray; maxilla brown to blackish; mandible light pinkish gray; iris dark.

VOICE: (R) Short, dry “tsee-irrk” or “tsee-



MAP 196. Geographical distribution of *Volatinia jacarina* in Rio Grande do Sul.

ir,” first part thin and reedy, second with hard, sometimes chinking sound.

BREEDING: Two females collected November 25, 1973 and December 16, 1971 had inactive ovaries. Two males collected February 26, 1975 and April 22, 1972 had much enlarged testes. Males seen actively displaying in central depression as early as October 18 and as late as February 27. Voss (personal commun.) saw three fledglings in Novo Hamburgo March 9, 1968.

BEHAVIOR: Jumping display normally oc-

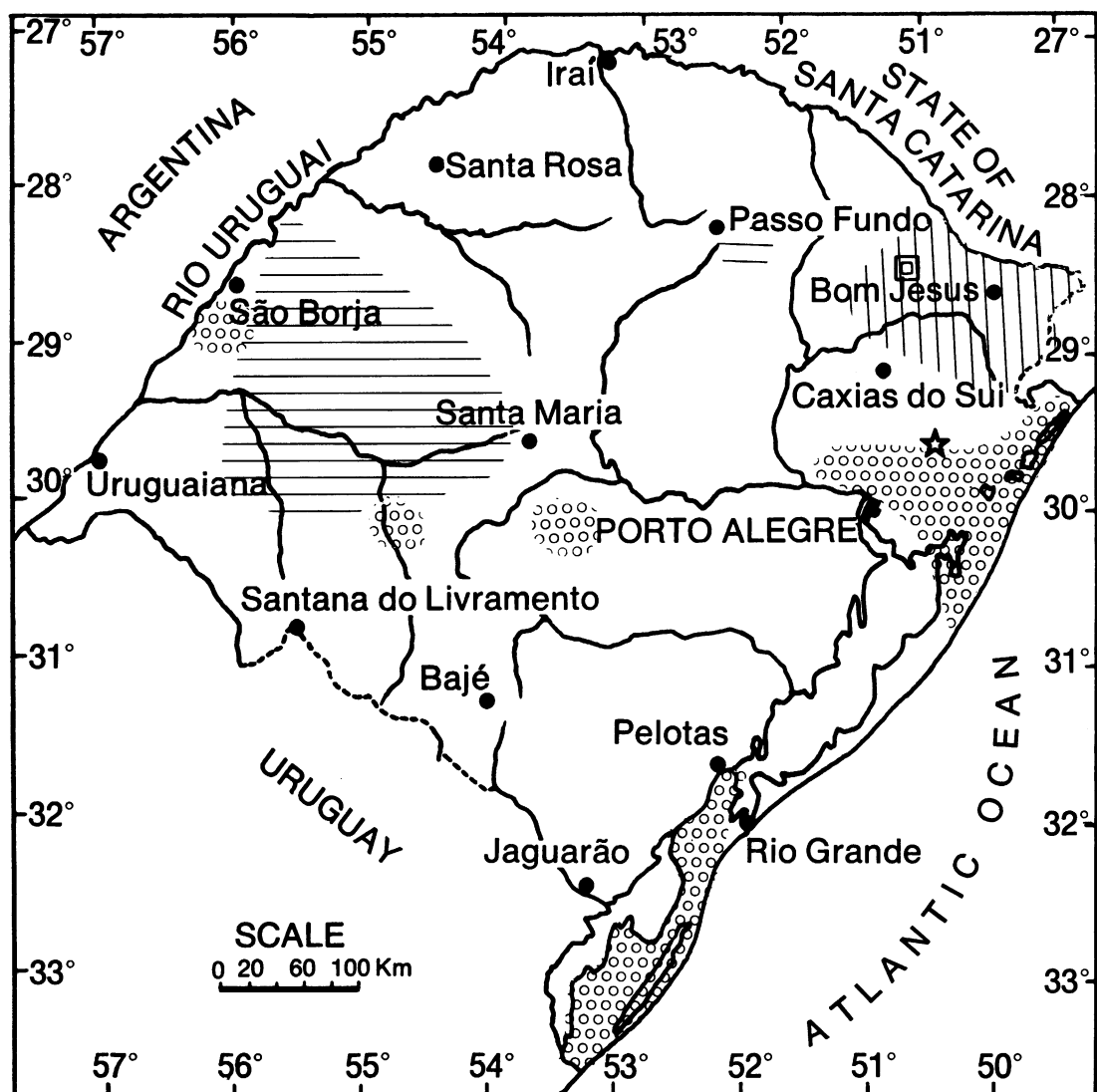
curs on weeds or low bushes, but I have seen it on trees 10 m up.

SPECIMENS: MCN: 1743–1746*. AMNH: 822175–822176*.

Sporophila frontalis
Map 197


Buffy-fronted Seedeater
Pichochó

Inclusion of this species based on two specimens furnished Ihering by Bischoff from near



★ *S. frontalis*

☐ *S. plumbea*



S. collaris

_____ *S. bouvreuil*

S. melanogaster

MAP 197. Geographical distribution of five species of *Sporophila* in Rio Grande do Sul.

Taquara (Berlepsch and Ihering, 1885), no date given. Ihering (1887) wrote that in 1883 this species appeared in rice fields in German immigrant colonies N of 30°S in such great numbers crop would have been lost had they not suddenly disappeared. No further record of species here.

Sporophila plumbea

Map 197

Plumbeous Seedeater

Patativa

DISTRIBUTION AND STATUS: Known only from few individuals in 6 km strip along highway BR-116 SW of Vacaria where first found by Schwartz in late November 1971 (Belton, 1974a). Presence last verified early November 1972. Not found in intervening late fall and early spring, nor on subsequent winter visits. Occupies boggy areas with tall grass and low bushes. *Sporophila p. plumbea*.

FIELD MARKS: Gray with light yellow bill and white wing patch. Drab female lacks wing patch.

SIZE: One male: 126 mm, 13 gr. One female: 117 mm, 12 gr.

SOFT PART COLORS: Male: tarsus lead gray; bill yellow; iris dark. Female: tarsus reddish black; bill brown; underside of mandible brownish yellow; iris brown.

VOICE: (R) Gentle, sweet, whistled canary-like song, starting with two upward slurred notes "sweet sweet" and continuing with extended, complex, and frequently varied series of notes, trills, and warbles. Also a variety of brief, single-noted whistles.

BREEDING: Male collected November 24, 1971 and female of November 5, 1972 each had active gonads. On December 31, 1971 in area where male present, we found two unidentified juvenal *Sporophila* associating with female believed to be of this species.

SPECIMENS: MCN: 1422-1423*.

Sporophila collaris

Map 197

Rusty-collared Seedeater

Coleira-do-brejo

(Marsh Collarbird)

DISTRIBUTION AND STATUS: Scarce, found occasionally in or near marshes along littoral, in central depression and in São Donato marsh in W. Records well distributed through

year. São Donato specimens similar to *S. c. melanocephala* specimens from Corrientes, Argentina, in AMNH, though belly much darker and brown on back more extensive than on most of them. Male from near Santa Isabel in SE has pale underparts and side of neck and interrupted nuchal collar described by Hellmayr (1938) for *S. c. ochrascens* and corresponds with specimens of that form from Mato Grosso in AMNH. Specimens from other parts of state required to help clarify this peculiar distribution.

FIELD MARKS: Black cap and breast band, light buff to rufous collar.

SIZE: Four males: 123-132 mm, 13-14 gr. One female: 130 mm, 14 gr.

SOFT PART COLORS: Tarsus gray to blackish; bill black, sometimes with underside of mandible light brown; iris grayish brown.

BREEDING: Males collected May 7, 1974 at São Donato marsh had inactive testes. Female of November 2, 1975 from São Donato and male collected March 2, 1972 near Santa Isabel had active gonads.

SPECIMENS: MCN: 1417-1421*. AMNH: 812758-812759*.

Sporophila caerulescens

Double-collared Seedeater

Coleirinho

(Little Collarbird)

DISTRIBUTION AND STATUS: Common to abundant throughout, except in winter, when numbers greatly diminished and mostly confined to vicinity central trough. Occupies scrub, overgrown fields, roadside wasteland, gardens, fencerows, often near water. *Sporophila c. caerulescens*.

FIELD MARKS: Black chin, upper throat, and breast band.

SIZE: Three males: 111-115 mm, all 11 gr. Three females: 113-122 mm, 9-11 gr.

SOFT PART COLORS: Tarsus dark gray to blackish; bill yellowish light gray on adult male, dark brown to blackish on immatures and females; iris brown.

VOICE: (R) Song very fast, short, high-pitched mixture of sweet trills and warbles, sometimes beginning with two or three "sweet's," often ending with burred trill. Song varies with individuals, and there is some geographic variation. Bird at Fazenda Silêncio sang much shorter version than others

recorded elsewhere. One singer was female or immature male.

BREEDING: Voss (personal commun.) saw female building nest in orange tree October 22, 1961. Nest 2 m high in garden hedge in Gramado had three eggs December 31, 1974. Eggs last seen January 8, A.M.; one chick in nest January 9, P.M. It fledged January 21, before 8 A.M. Nest immediately alongside heavy pedestrian traffic area. Brooding female permitted approach to within few inches before leaving nest. Copulation observed February 3, 1972 on S shore Rio Jacuí N of Butiá. Female flew to tree branch about 9 m high and after perching for some 30 seconds was mounted without preliminaries by male who flew directly to her from some unobserved place. Process terminated very quickly, after which male flew to nearby branch below her and perched for few moments until both flew off. Species one of few still singing regularly in area at that time. Two females collected November 2, 1975 at São Donato marsh had inactive ovaries, whereas males of December 15, 1971 near Terra de Areia and February 4, 1971 at Gramado had active testes.

BEHAVIOR: While most individuals disappear in winter, especially from colder high areas, on August 15, 1974 near Sete Leguas at 660 m with heavy frosts each night, I saw two associating with large flock of *Zonotrichia capensis*, foraging in harvested field and flying into brush at edge when disturbed. Species usually seen here in pairs, but on October 21, 1978 near Tôrres flock of 30 or more were presumably arriving migrants.

SPECIMENS: MCN: 1425–1433*. AMNH: 315896–315902, 810541*, 813081–813082*, 822162*.

Sporophila bouvreuil

Map 197

Capped Seedeater

Caboclinho

(Little Native)

DISTRIBUTION AND STATUS: Moderately common summer resident in open country of central W, N of 30°S and W of 54°W, but also registered twice near Passo Fundo. Found among weeds and tall grasses in open marshy areas of grasslands. All records between No-

vember 22 and February 23. *Sporophila b. pileata*.

FIELD MARKS: Black cap, light fawn wash on whitish underparts and collar.

SIZE: One male: 101 mm, 8.5 gr.

SOFT PART COLORS: Tarsus blackish; bill black; iris dark. Male in immature plumage: maxilla brownish, darker at base; mandible light gray, yellowish at base.

BREEDING: Male in female plumage collected January 30, 1973 had large testes, while those of adult male of same date greatly enlarged.

SPECIMENS: MCN: 1434–1436*. AMNH: 315894, 315895, 822161*.

Sporophila hypoxantha (minuta)

Map 198

Ruddy-breasted Seedeater

Caboclinho-de-barriga-vermelha

(Red-bellied Little Native)

DISTRIBUTION AND STATUS: Few found breeding in extremely limited area SW of Vacaria in late November 1971, and still present in late December (Belton, 1974a), but not seen in early November 1972 in spite of search. Registered again in April 1974 about 15 km W of original site. Also seen in São Donato marsh on November 15, 1970. Occupies marshes and overgrown boggy areas of grasslands.

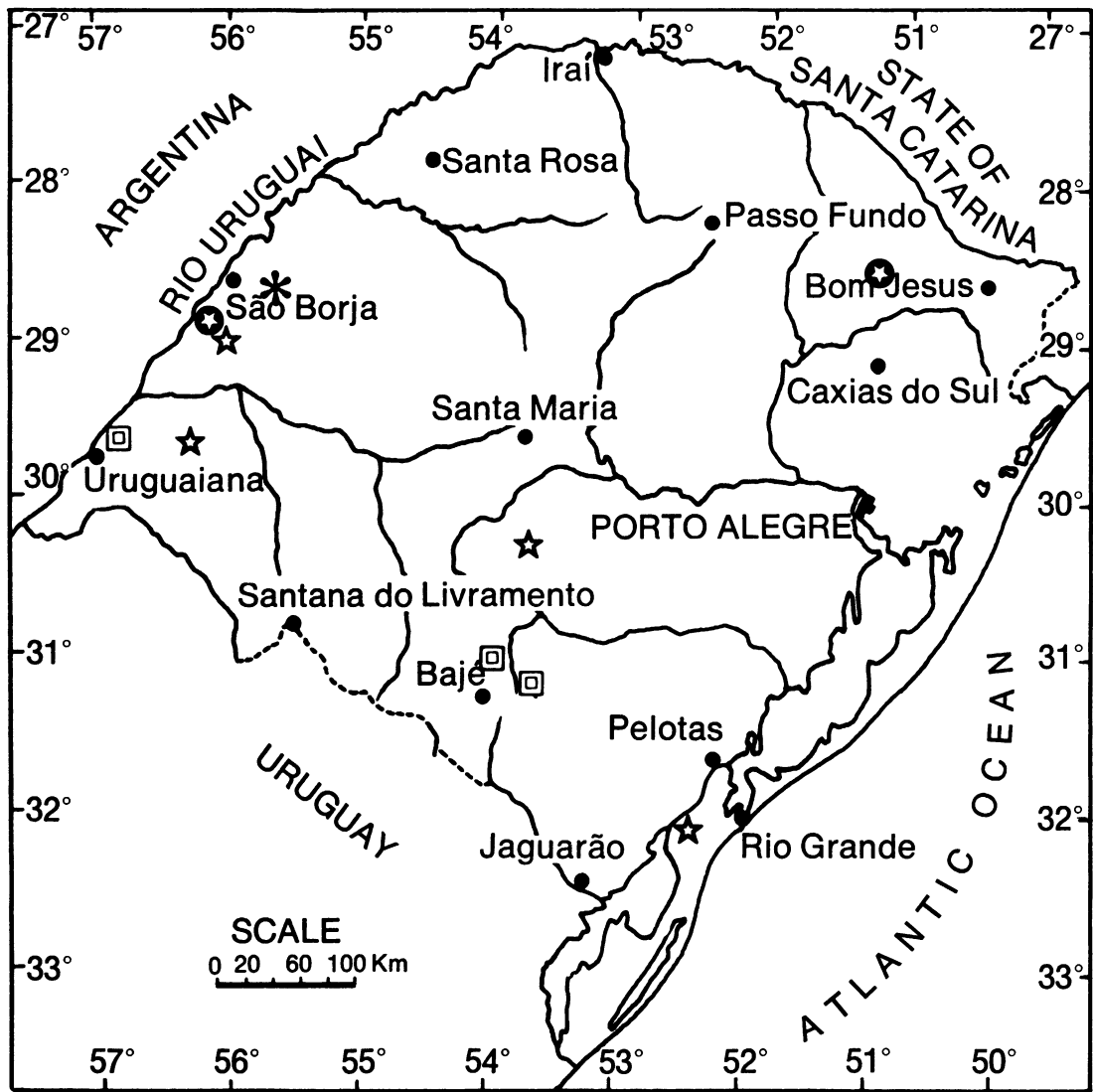
FIELD MARKS: Uniform Brownish Orange underparts and rump. Presumed sub-adult male with well enlarged testes had Moderate Orange underparts, mottled with white and almost entirely white on lower belly.

SIZE: Two males: 109–112 mm, both 9 gr. One female: 105 mm, 10.5 gr.

SOFT PART COLORS: Male: tarsus dark reddish gray to dark gray; bill black; iris brown. Female: tarsus blackish brown; maxilla brown; mandible yellowish gray; iris dark.

VOICE: (R by Schwartz) Series of short, varied, mild, one or two syllabled squeaks, mostly on same pitch, without much pattern or direction. Calls: similar to individual portions of song. Female sings song very similar to male.

BREEDING: Three specimens collected November 23–24, 1971 all in breeding condition. Well concealed, still empty open cup nest attended by female November 24, 1971



- *S. hypoxantha*

◻

S. ruficollis
- ★

S. palustris

✱

S. cinnamomea

MAP 198. Geographical distribution of four species of *Sporophila* in Rio Grande do Sul.

was about 30 cm aboveground, attached to vertical weed stalks in small weedy grass clump in middle of marshy swale in grass-

land. Woven of grasses with some weed heads included.
SPECIMENS: MCN: (WB)504–506*.

NOTE: My two male specimens, 504 and 506, lack appreciable white on the outer vane of primary no. 6, thereby differing from *hypoxantha* and *ruficollis* specimens examined by Short (1969, 1975) and from my *ruficollis* and *Palustris* males. However, Short (*in litt.*) has examined them and found traces of a pale area in one case and of white in the other, so he believes the difference to be insignificant.

Sporophila ruficollis

Map 198

Dark-throated Seedeater

Caboclinho-de-papo-escuro

(Dark-throated Little Native)

DISTRIBUTION AND STATUS: Rare, known from only three encounters. Two male specimens collected by Flavio Silva and me NE of Uruguaiana about 20 km S of Rio Ibicuí at 29°31'S, 56°49'W on November 18, 1977 in high grass of roadside ditch. No. 1800 had Brownish Black lower face, throat, and breast, and Strong Brown belly. No. 1801 had Strong to Deep Brown underparts with Moderate Brown on lower face, throat, and breast. On February 19, 1971 W of Bagé I saw another similar bird, except this had lower breast and belly whitish with rufous streakings as if full color not yet developed on these areas.

SIZE: Two males: 117–118 mm, 8–8.5 gr.

SOFT PART COLORS: Tarsus and bill black; iris dark.

BREEDING: Both males collected had much enlarged testes.

SPECIMENS: MCN: (WB)1800–1801*.

NOTE: See note under *S. hypoxantha* for difference in wing speculum between this species and that.

Sporophila palustris

Map 198

Marsh Seedeater

Caboclinho-papo-branco

(White-throated Little Native)

DISTRIBUTION AND STATUS: Rare. Found in scattered marshy localities in S and W between November 3 and February 19. Individual seen near Canal de São Gonçalo across from Santa Isabel January 7, 1976 with very light rufous belly, much lighter than my adult specimen, presumed to have been immature male.

FIELD MARKS: White throat, lower face, and upper breast; Strong Brown lower breast and belly.

SIZE: One male: 116 mm, 9 gr. One female: 104 mm, 7.5 gr.

SOFT PART COLORS: Tarsus dark reddish gray; male bill blackish, female maxilla dark brown, mandible yellowish white base, passing through cream to brownish gray tip; iris brown.

BREEDING: Male collected at Fazenda Casa Branca February 20, 1975 had enlarged testes; female of same date had inactive ovary.

SPECIMENS: (WB)1491–1492*.

NOTE: See note under *S. hypoxantha* on difference in wing speculum from that species. Back of male, 1491, much darker gray than backs of males of *hypoxantha* and *ruficollis* specimens in my collection.

Sporophila cinnamomea

Map 198

Chestnut Seedeater

Caboclinho-chapéu-cinzento

(Gray-capped Little Native)

One sight record, E of São Borja, in weeds of marshy roadside, March 7, 1971 (Belton, 1978a).

Sporophila melanogaster

Map 197

Black-bellied Seedeater

Caboclinho-de-barriga-preta

(Black-bellied Little Native)

DISTRIBUTION AND STATUS: Common summer resident in NE highlands, occupying tall grass in weedy marshes and bogs. Registered between December 2 and March 9.

FIELD MARKS: Gray above, entirely black below.

SIZE: Two males: 103–105 mm, 8–9.5 gr. One unsexed, presumed female: 105 mm, 10.5 gr.

SOFT PART COLORS: Tarsus gray to black; male bill black, female brownish gray; iris brown.

VOICE: (R by Silva) High-pitched simple whistle, followed by much lower trill, then a complicated series of whiny, wavering notes and warbles, mostly trending up scale. Sometimes only initial whistle alone.

BREEDING: Male collected December 4,

1970 had moderately enlarged testes, while those of one collected January 28, 1971 enlarged.

SPECIMENS: MCN: 1445–1446*. MN: (WB)257*, (WB)259*. AMNH: 315886–315893.

Oryzoborus angolensis

Map 199

Lesser Seed-Finch

Curió

Rare. Only four recent records and two early specimens. Found at scattered points in central depression and vicinity, once in forested N, between August 20 and April 2. On December 5, 1965 Voss (*in litt.*) saw female gathering nesting material in eucalyptus woodland with dense undercover while nearby male sang. *Oryzoborus a. angolensis*.

SPECIMEN: AMNH: 315883.

Amaurospiza moesta

Map 199

Blackish-blue Seedeater

Negrinho-do-mato

(Forest Blacky)

DISTRIBUTION AND STATUS: Scarce, registered only from few places along southern escarpment and in N central sectors at altitudes from 250 to 850 m. Records concentrated from mid-August to mid-September and mid-February to late May. Occupies forest and forest edges.

FIELD MARKS: Bluish black, unrelieved by light blue. Female plumage has much richer brown tones than very similar female *Passerina glaucocerulea*.

SIZE: Two males: 125–133 mm, 13–13.5 gr. Three females: 123–136 mm, 13–14 gr.

SOFT PART COLORS: Tarsus reddish gray to black; maxilla brown to black; mandible grayish brown to dark gray; iris brown.

VOICE: (R—identity 90 percent certain) High, thin, rapidly whistled five note phrase: “tseoo tsee tsu tsee tsit.”

BREEDING: Two males and two females collected between August 28 and September 11 and female collected April 12, 1971 all had inactive gonads.

BEHAVIOR: Willis (*in litt.*) saw one eating bases of bamboo leaf petioles at Nonoai Forest Reserve on February 11, 1976.

SPECIMENS: MCN: 1747–1748*. MN: 32191*, 32240*. AMNH: 813083*.

Arremon taciturnus

Map 199

Pectoral Sparrow

Tico-tico-do-mato-bico-preto

(Black-billed Forest Tico-tico)

Ihering (1899a) reported specimen from Novo Hamburgo without date. Voss (personal commun.) saw one caught by commercial bird-dealer near Novo Hamburgo on July 16, 1963. These are only two records for state. *Arremon t. semitorquatus*.

Gubernatrix cristata

Map 200

Yellow Cardinal

Cardeal-amarelo

(Yellow Cardinal)

DISTRIBUTION AND STATUS: Scarce resident, appearing occasionally throughout year in SE hills, near Uruguayan border and at W tip. Early records all from southern littoral as far N as São Lourenço. Ridgely (*in litt.*) reports one seen between Tapes and Camaquã on November 9, 1980. This is farthest N record. Found in open country with scattered trees, espinilho parkland, fencerows.

FIELD MARKS: Black crest and throat contrast with yellow or white facial markings. Immature mostly gray, but has crest.

SIZE: One male: 201 mm, 46 gr.

SOFT PART COLORS: Tarsus gray, maxilla black, mandible light gray; iris dark.

BREEDING: Male collected July 12, 1973 had inactive testes.

SPECIMENS: MCN: 1682–1683*. MN: 2035. AMNH: 321453, 321696–321698.

Coryphospingus cucullatus

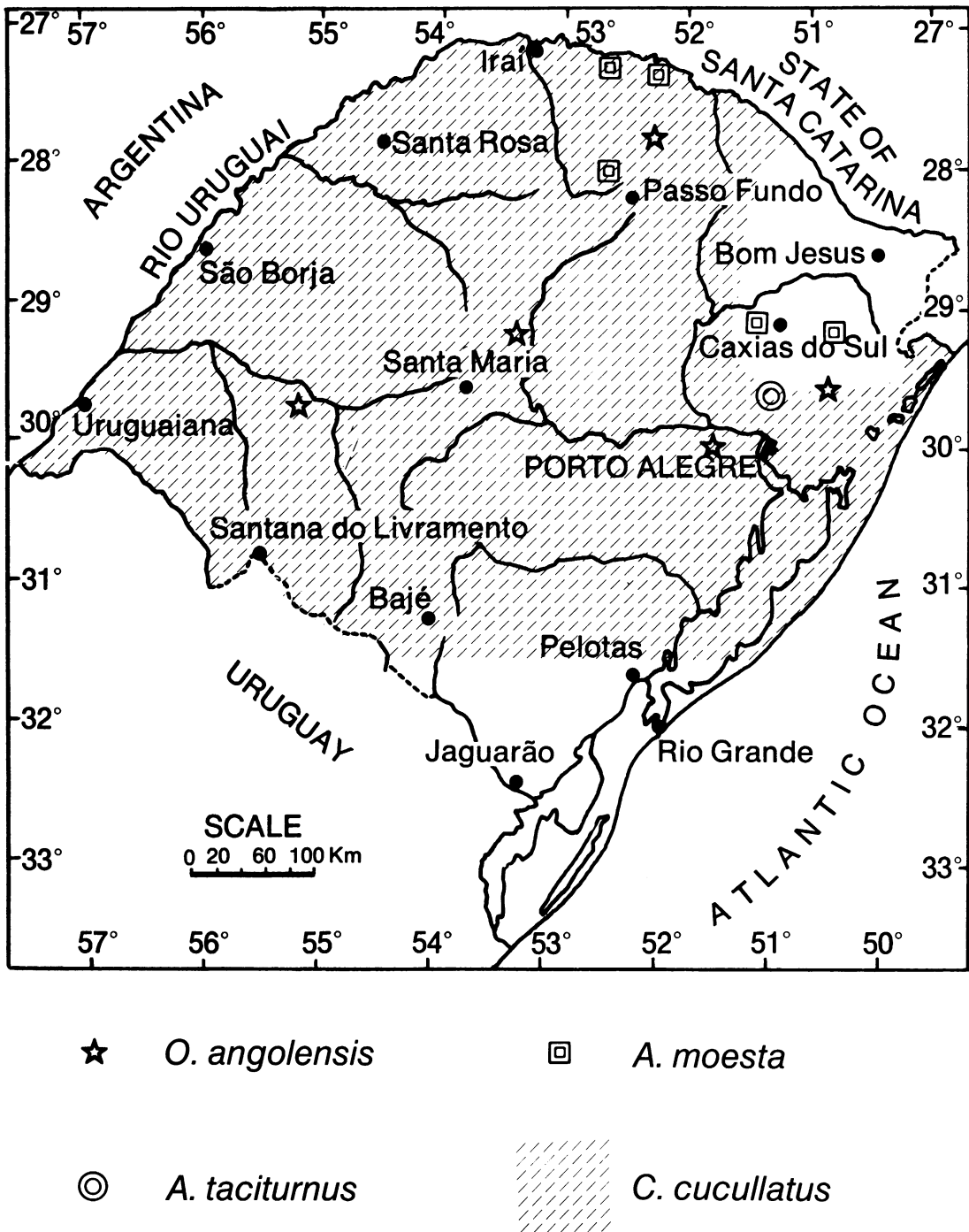
Map 199

Red-crested Finch

Tico-tico-rei

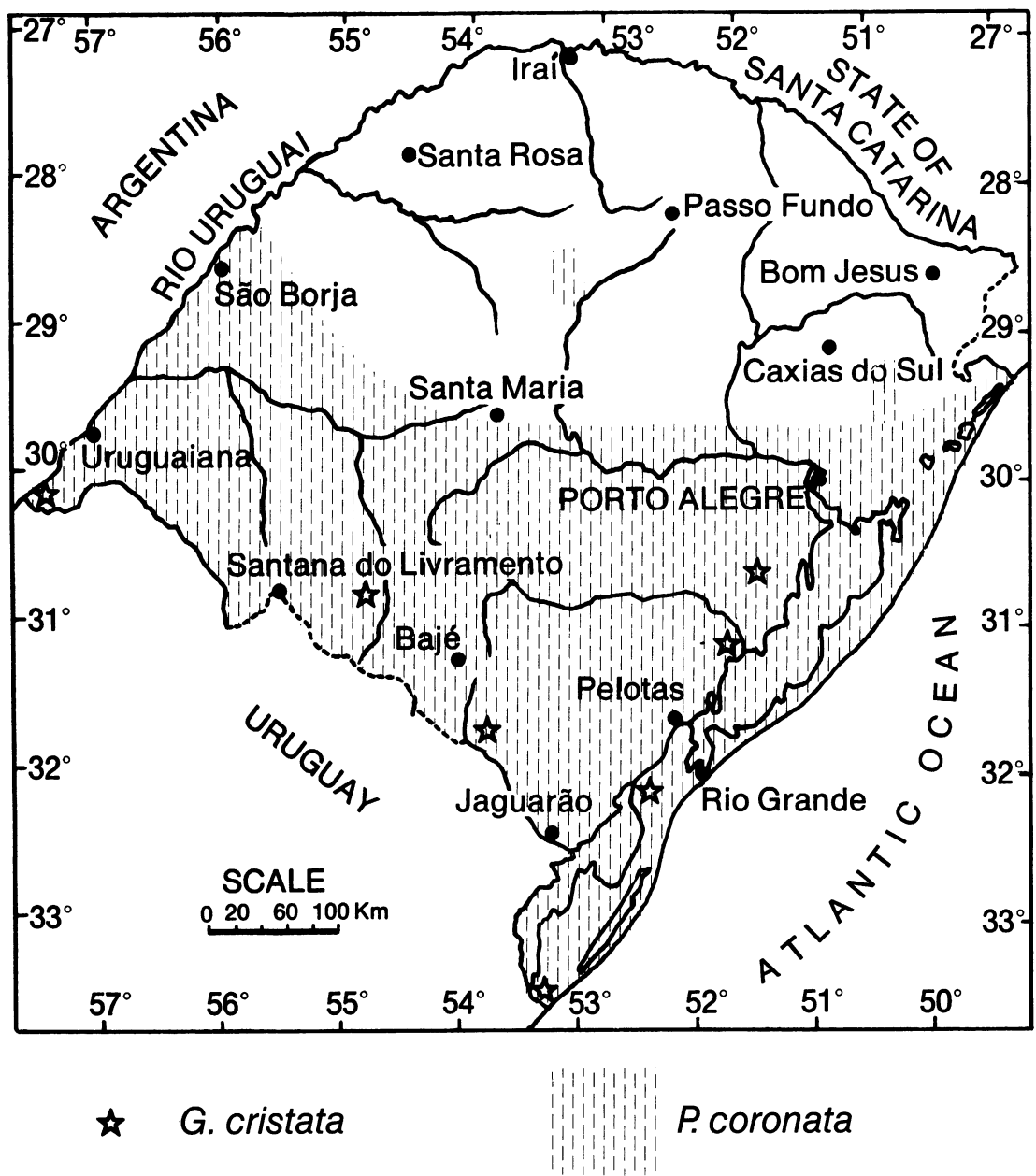
(King Tico-tico)

DISTRIBUTION AND STATUS: Resident in northern littoral, central depression, central W, and southern hills S to 31°30'S, and in most of northern half except high NE. Uncommon to common in E, common to abundant in W. Occupies forest edges, fencerows,



MAP 199. Geographical distribution of *Oryzoborus angolensis*, *Amaurospiza moesta*, *Arremon taciturnus*, and *Coryphospingus cucullatus* in Rio Grande do Sul.

scrub, cultivated areas. *Coryphospingus c. rubescens*. FIELD MARKS: Pinkish wash on rump and underparts distinguishes female.



MAP 200. Geographical distribution of *Gubernatrix cristata* and *Paroaria coronata* in Rio Grande do Sul.

SIZE: One male: 135 mm, 16 gr. One female: 141 mm, 15 gr.

SOFT PART COLORS: Tarsus dark gray; male maxilla black, mandible light gray; female bill blackish brown, base of mandible lighter; iris brown.

VOICE: (R) Two or three syllable phrase of harsh, hard, intense notes, each well separated, but phrases often run together in continuous, long-sustained vocalization. Much individual variation: “chu whee whee. . .chu whee whee”; “choo whee choo. . .choo whee

choo. . ."; "choo chee wheat"; wheat chur. . .wheat chur"; "chee wheer"; "chut hear chut hear." On January 30, 1973 at 5:45 A.M. near Garruchos, pair sang antiphonally: male, medium high in bushes, sang "choo choo teet. . .choo choo teet," while female kept immediately below him as he moved about and responded to each phrase immediately with high, rasping whistled "cheeet."

BREEDING: On January 28, 1973 duetting pair above were building nest about 3 m up in dense foliage of bush at edge of gallery forest. Made of grasses and staghorn-shaped plant which grows on trees in vicinity, open cup nest was suspended between branches to which attached partially by spider web binding. Voss (1977b) reported nest of wild birds in early November 1975 at zoo, Sapucaia do Sul, in *camboim* (Myrtaceae) tree.

BEHAVIOR: On August 7, 1973 near Garruchos, flocks of 100 or more individuals, almost solidly of this species with one or two *Sicalis flaveola* and *Volatinia jacarina*, were feeding in weedy fields which had been burned over but not yet plowed. Voss and Sander (1980) report this species eating fruit of *aro-eira-do-campo* (*Schinus terebinthifolius* Rad-di).

SPECIMENS: MCN: 1753–1754*.

Paroaria coronata

Map 200

Red-crested Cardinal

Carduel

(Cardinal)

DISTRIBUTION AND STATUS: Resident, common to abundant in S and W, uncommon at edge of range on N side central trough and up to Garruchos in W. Rarely occurs in central planalto. One in my Gramado garden December 7, 1972 probably an escaped cage bird. Prefers open country with trees, bushes, edges of marshes.

FIELD MARKS: Immatures have Brownish Orange head and crest in place of adult red. This plumage persists for some months. Several without any red seen July 23, 1974.

SIZE: Two males: 194–206 mm, 42–44 gr.

SOFT PART COLORS: Tarsus black; maxilla brown to dark gray, sometimes with white

edge; mandible light gray to white; iris light brown to very pale red.

VOICE: (R) Loud, clear, leisurely, attractive whistle, usually two notes, repeated with considerable variation, individual notes often warbled or slurred, occasionally some squawky tones included. Pair when agitated sang longer, faster, more complex phrases in duet.

BREEDING: Male collected March 25, 1975 had inactive testes. Voss (1977b) reported wild birds descended from zoo escapees nesting at zoo, Sapucaia do Sul, with young at end of February 1976 and end of March 1975.

BEHAVIOR: Associates in small flocks of up to 25 or so during winter, with red and Brownish Orange-headed birds together. At Banhado Mundo Novo on July 27, 1974 such a flock was sheltering in *sarandi* vegetation within marsh and foraging on grasslands at marsh edge. Near Cachoeira do Sul on August 20, 1974 one ate eucalyptus blossoms.

SPECIMENS: MCN: 29, 1684–1686*. MN: 14499. AMNH: 316108–316111, 321451, 321452, 321691–321695, 813084*.

Subfamily Cardinalinae

Pitylus grossus (fuliginosus)

Map 201

Black-throated Grosbeak

Bico-pimenta

(Pimento-bill)

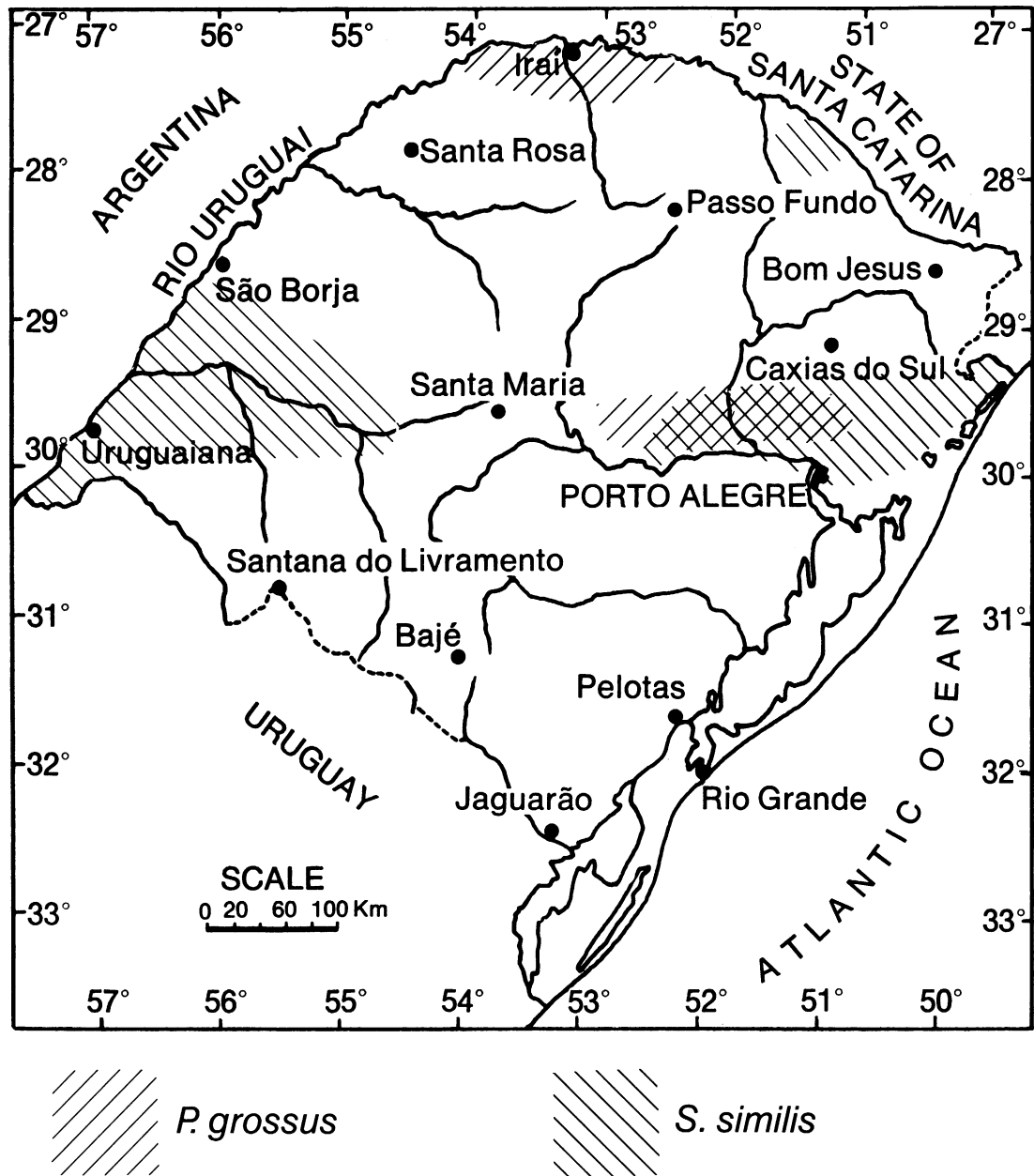
DISTRIBUTION AND STATUS: Uncommon in extreme N (registered August, September, November, and May), rare in central depression and on escarpment where, although early collectors obtained specimens in both winter and summer, it has recently been registered only twice, in mid-August. Forest and woodland edges.

FIELD MARKS: Reddish orange bill, plumage all black except white under wings.

SIZE: One male: 230 mm, 58 gr.

SOFT PART COLORS: Tarsus dark gray, bill deep reddish orange, iris brown.

VOICE: Two clearly whistled, alternating, four syllable phrases, with interval between two varying from four up to twenty seconds. One song could be interpreted as: "pret-TY



MAP 201. Geographical distribution of *Pitylus grossus* and *Saltator similis* in Rio Grande do Sul.

creature.c'm'ere, won't you," but phrase varies considerably.

BREEDING: Male collected September 18, 1971 at Turvo Forest Reserve had enlarged testes.

SPECIMENS: MCN: 1671*. MN: 12595-12598.

Saltator similis
Map 201

Green-winged Saltator
Trinca-ferro-verdadeiro
(Common Iron-nipper)

DISTRIBUTION AND STATUS: Uncommon resident of NE, where most frequently found

near escarpment and E of 51°30'W; common in far W, primarily W of 55°30'W, where found in gallery forests, espinilho parkland. Present in N and NE year-round, but western records concentrated between October 11 and May 12. Birds in N and NE presumably *S. s. ochraceiventris*, though my four NE specimens not all clearly distinct from *S. s. similis* specimens in AMNH from Corrientes, Argentina. Birds in W undoubtedly *similis*, as my two western specimens match Corrientes specimens very well.

FIELD MARKS: Olive-green upperparts, clear white throat extending slightly onto upper breast with black border not extending full length of white.

SIZE: Two males: 220–224 mm, 47–53 gr. Two females: 212–221 mm, 46–48 gr.

SOFT PART COLORS: Tarsus dark brownish gray to light gray; bill black, usually with whitish at base of mandible and occasionally light at tip; iris brown.

VOICE: (R) Loud, clear, whistled, short song, each of its four to six notes sung with emphasis and intensity. In W:

“whooh cheer cheer cheer_o”

or “whooh cheer cheer cheer.”

In NE: “whooh chee chi cheer whooh wheer”
or “cheer cheer her wheat.”

BREEDING: Two western females collected May 2 and 9, 1974 had inactive ovaries; two northeastern males collected September 29, 1975 and November 27, 1971 had much enlarged testes.

BEHAVIOR: Voss and Sander (1980, 1981a) reported this species eating fruits of six different wild or cultivated plant species.

SPECIMENS: MCN: 335, 1675–1679*. MN: 6865, 6866. AMNH: 138745, 515782, 813085*.

Saltator maxillosus

Map 202

Thick-billed Saltator

Bico-grosso

(Thick-bill)

DISTRIBUTION AND STATUS: Uncommon year-round resident of forests and forest edges of N, primarily in higher elevations of NE, but occasionally S to Rio Jacuí and W in planalto to about 54°30'W.

FIELD MARKS: Rich buff throat and long white superciliary starting near beak.

SIZE: Three females: 193–212 mm, 50–54 gr. Two males: 215–226 mm, 48–51 gr.

SOFT PART COLORS: Tarsus brownish to blackish; bill black, sometimes with orange areas; iris brown.

BREEDING: Females collected July 29, 1973, August 16, 1974, and November 1, 1970 all had small ovaries. Male of September 9, 1974 had moderately enlarged testes.

SPECIMENS: MCN: 468, 1680–1681*. MN: 32226*, (WB)070*. AMNH: 315922–315925, 822154–822155*.

Saltator aurantiirostris

Map 202

Golden-billed Saltator

Bico-duro or *Bico-de-ouro*

(Hard Bill) (Golden Bill)

DISTRIBUTION AND STATUS: Common resident of southern hills and far W, where found N to 29°S in open country with scattered trees, espinilho parkland, farm yards, woodland edges. *Saltator a. aurantiirostris*.

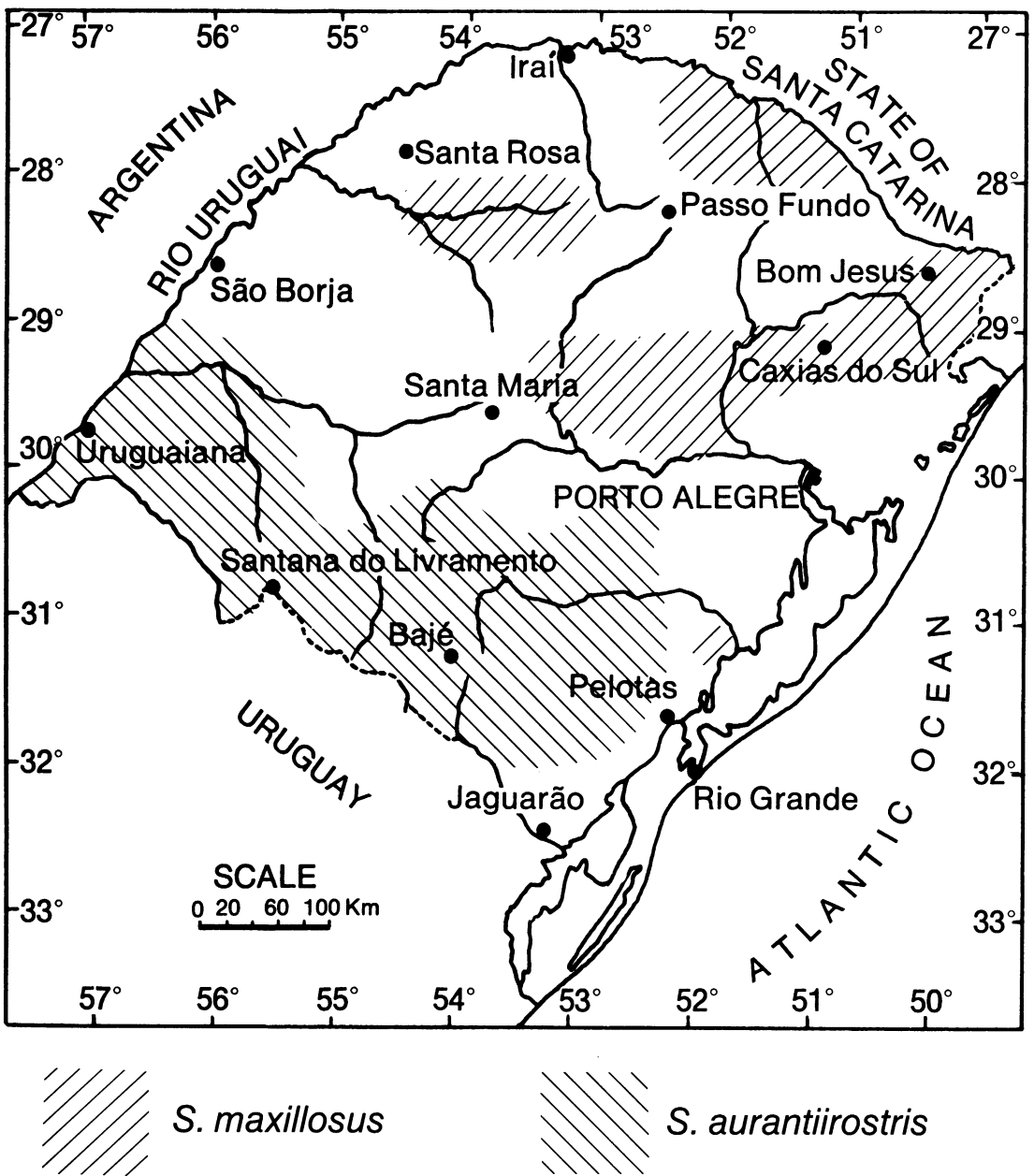
FIELD MARKS: Black face, buff throat, long superciliary starts above eye. Female head slaty, most females and an occasional male lack black breast band entirely or have gray instead.

SIZE: Four males: 212–220 mm, 53.5–58 gr. Three females: 206–222 mm, 50–60 gr.

SOFT PART COLORS: Tarsus gray; bill brownish black to black, usually with orange splotches, especially near base, occasionally almost entirely orange; iris brown.

VOICE: (R) Clear, loud, attractive whistled song: “what ritzy beer,” “what ritzy beer sir,” “what did you hear?” “what what did you hear?” and other variations with similar general character. On November 27, 1974 at Fazenda São Roberto, pair duetted, female accompanying singing male with two to four squeaky chirps. Note: high, thin, sharp, short “tzeet.”

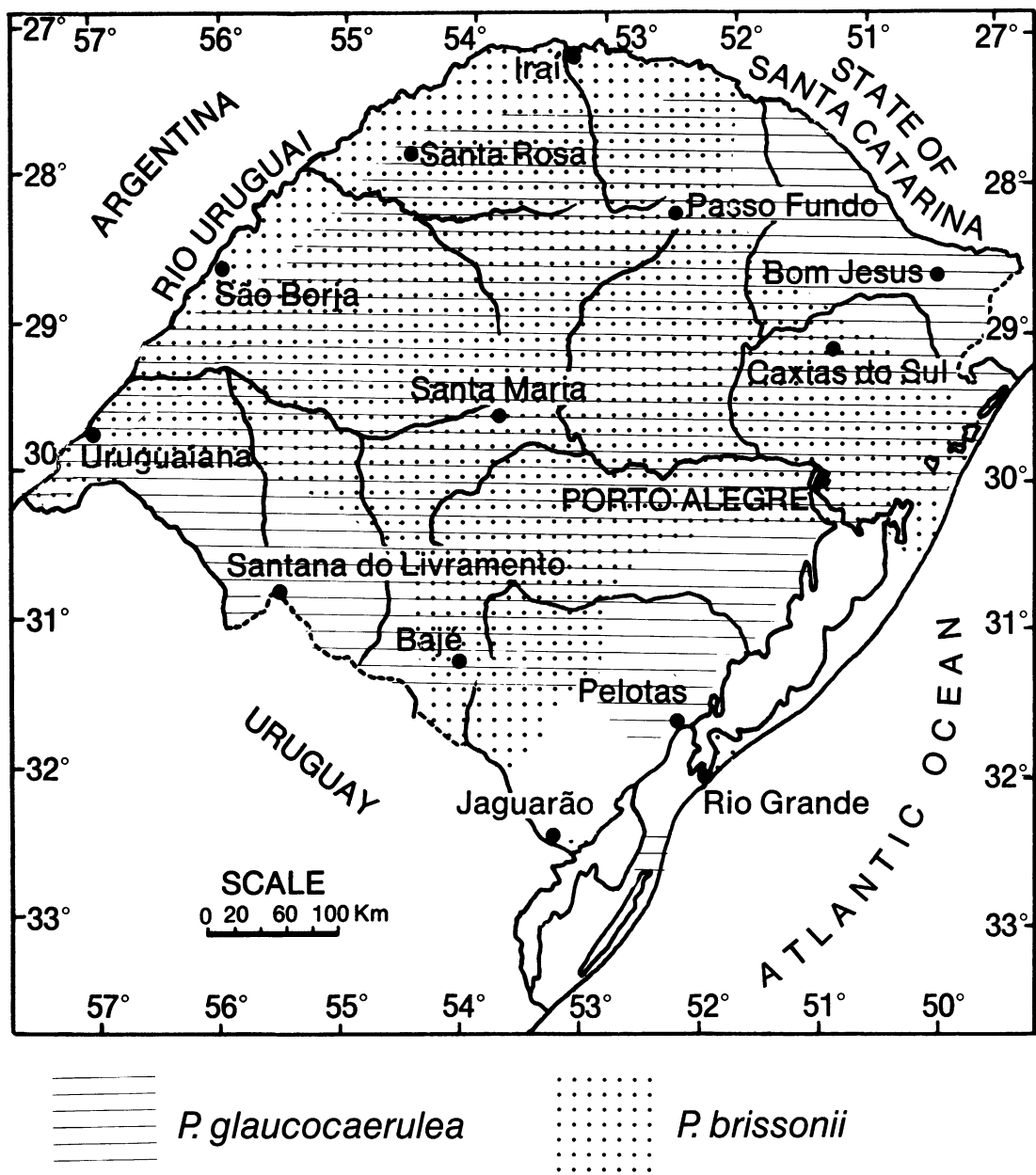
BREEDING: On October 11, 1971 at Arroio Quaraí-chico, barely visible open cup nest seemingly constructed of coarse sticks was about 5 m up in tree with dense branches and foliage. Adult apparently brooding eggs. *Certhiaxis pyrrhophia* nest was at same height and only about 3 m away. On November 26,



MAP 202. Geographical distribution of two species of *Saltator* in Rio Grande do Sul.

1972 at Fazenda da Invernada nest under construction was about 3 m up in top of low tree in small clump of trees and bushes in grassland. Made largely of fine vine clipped off in lengths of 15 to 20 cm and twined around to form bulky cup, it was 8 to 10 cm

deep with wall thickness 3.5 to 5 cm. Many small green leaves still on vine, and nest not yet lined.
 BEHAVIOR: One seen eating squash leaves in late March.
 SPECIMENS: MCN: 250, 371, 1672-1674*.



MAP 203. Geographical distribution of the two species of *Passerina* found in Rio Grande do Sul.

MN: 32211*, 32251–32252*. AMNH: 822156–822157*.

Passerina (Cyanoloxia) glaucocaerulea
Map 203

Indigo Grosbeak
Azulinho
(Little Blue)

DISTRIBUTION AND STATUS: Uncommon

resident, widely dispersed but not registered from forested areas of upper Rio Uruguay nor from Mostardas peninsula. No records S of central trough between March 28 and September 29, indicating possible partial migration. Occupies forest, woodland edges, ca-poeira, espinilho parkland.

FIELD MARKS: Much smaller and bluer than *P. brissonii*. Males retain brown female

plumage for prolonged period; one with enlarged testes collected October 13, 1973 was brown except for blue tinge on face.

SIZE: Three males: 145–158 mm, 16–19 gr.

SOFT PART COLORS: Tarsus brown to black; maxilla black; mandible gray; iris brown.

VOICE: (R—by Schwartz) Song: rapid, complicated warble on high, approximately level pitch; faster, higher, and with individual notes less distinct than *P. brissonii* song, which moves down scale.

BREEDING: Male collected October 22, 1974 at Fazenda do Valente had greatly enlarged testes.

SPECIMENS: MCN: 1735–1738*. MN: 32194*, 32239*, 32250*. AMNH: 315880–315882, 813086*.

Passerina brissonii
(*Cyanocompsa cyanea*)
Map 203

Ultramarine Grosbeak

Azulão-verdadeiro

(Common Big Blue)

DISTRIBUTION AND STATUS: Resident, across state N from central trough and Ibicui valley, except in higher areas of NE. Also in southern hills and occasionally along littoral. Common N of 29°S, scarce in S. Found in forests, open woodland, scrub. *Passerina b. sterea*.

FIELD MARKS: Blackish blue plumage relieved only by limited amounts light blue on face and at bend of wing. Young males have much lighter brown underparts than females and retain immature plumage for prolonged period—brown males with ossified skulls collected August 17, 1974, September 4, 1973, and one all brown specimen, unsexed but presumed male, collected November 26, 1973 while in full song.

SIZE: Four males: 160–171 mm, 22–24 gr. One female: 175 mm, 26 gr.

SOFT PART COLORS: Tarsus gray to black; bill black with varying amounts gray on mandible; iris brown.

VOICE: (R) Fairly loud, whistled song with many slurred notes rapidly zigzagging slightly down scale.

BREEDING: Adult male collected August 28, 1975 had inactive testes, those of one of November 22, 1974 much enlarged.

BEHAVIOR: Voss and Sander (1981a) re-

ported this species feeding on sunflower seeds (*Helianthus annuus* L.).

SPECIMENS: MCN: 483, 1687–1692*. AMNH: 315876–315879, 514124, 813087–813088*.

Subfamily Thraupinae

Cissopis leveriana

Map 204

Magpie Tanager

Tietinga

(White Tié)

DISTRIBUTION AND STATUS: Rare occupant of forest and forest edges in extreme N. Earliest record September 17, then February, March, and latest May 19. *Cissopis l. major*.

FIELD MARKS: All black and white plumage; tail long, graduated, white-tipped, cuckoo-like. Associates in jaylike flocks.

SIZE: One female: 272 mm, 71 gr.

SOFT PART COLORS: Tarsus and bill black; iris yellow.

BREEDING: Female collected September 24, 1971 near Planalto had active ovary.

SPECIMEN: MCN: 1649*.

Pyrrhocomma ruficeps

Map 204

Chestnut-headed Tanager

Cabecinha-castanha

(Little Chestnut-head)

DISTRIBUTION AND STATUS: Resident, in thickets and dense bushes of forest and forest edges N of 30°S and E of 54°W, and across state N of 28°30'S, but no records from highest areas of extreme NE. Registered once S of central depression near Santana da Boa Vista.

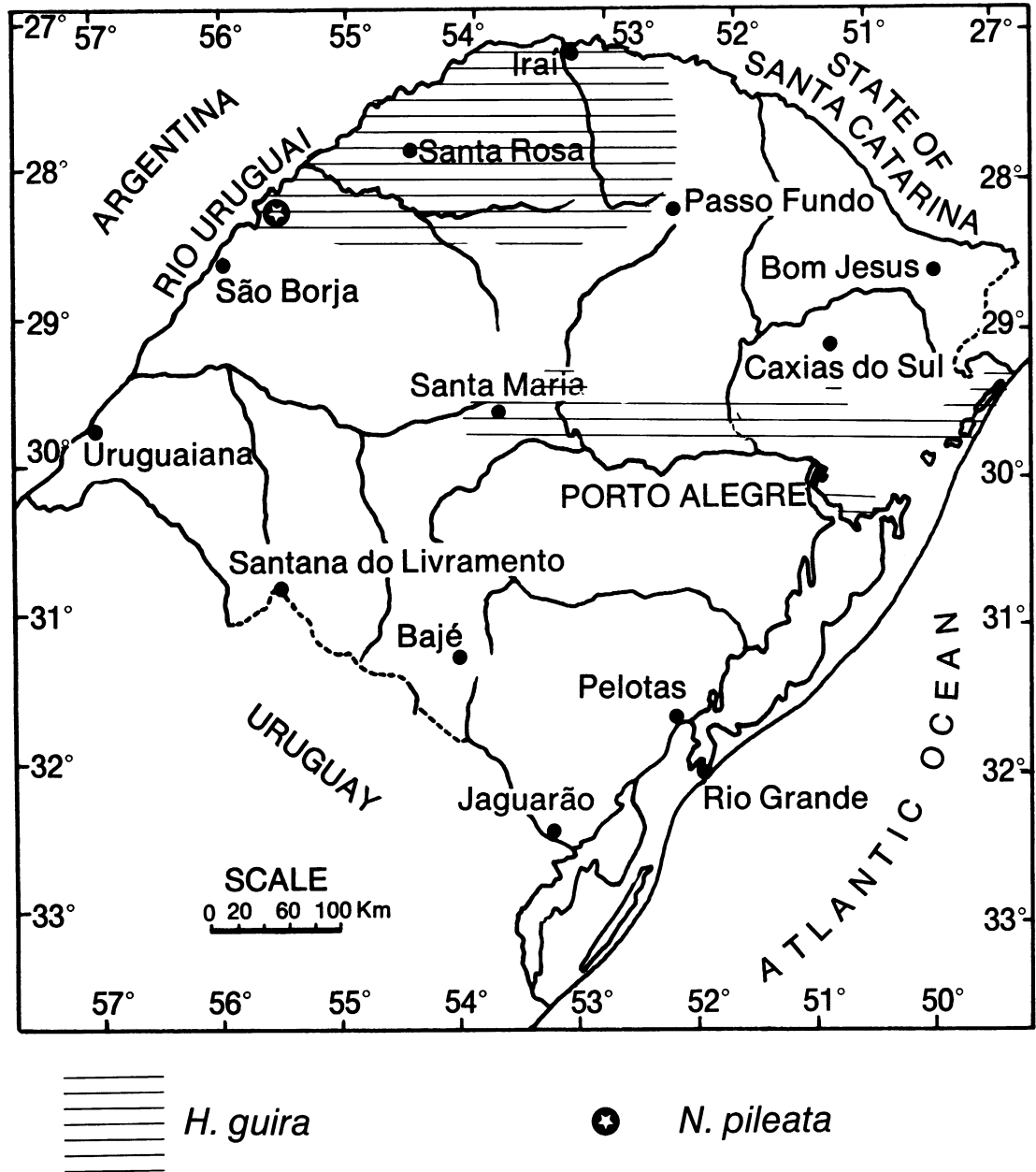
FIELD MARKS: Female plumage pattern similar to that of *Hylophilus poicilotis*, but much larger, darker, bill stouter.

SIZE: One male: 122 mm, 15 gr. Two females: 137–144 mm, both 15 gr.

SOFT PART COLORS: Tarsus gray; maxilla brown to blackish; mandible gray; iris brown.

VOICE: (R) Song: three identical high, thin whistles followed by three, sometimes only two, identical lower ones. When excited, high thin notes similar to those in first part of song given irregularly in scolding fashion. Note: very light “tk tk tk. . .”

BREEDING: Females collected April 12, 1971 and August 19, 1975 in Gramado/Canella area



MAP 205. Geographical distribution of *Hemithraupis guira* and *Nemosia pileata* in Rio Grande do Sul.

Hemithraupis guira
Map 205

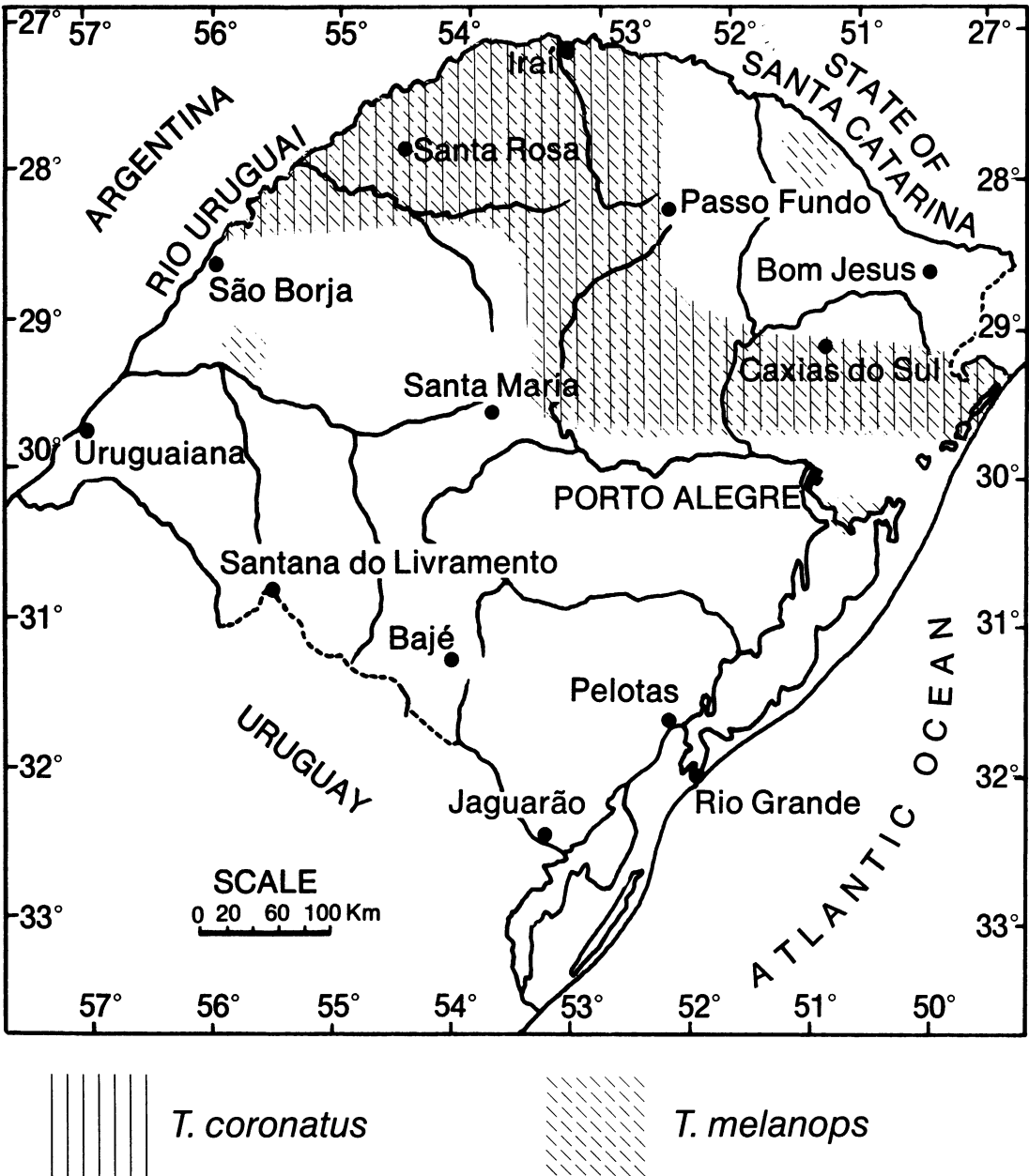
Guira Tanager
Papo-preto
(Black-throat)

DISTRIBUTION AND STATUS: Common resident of forest canopy in NW west of 52°30'W,

and N of 28°30'S; uncommon along foot of escarpment from Tôrres to Santa Maria and out as far as Irapuã; occasionally found higher near escarpment. *Hemithraupis g. fosteri*.

FIELD MARKS: Both sexes have distinctly yellow mandible. This particularly useful with otherwise undistinguished female because usually seen from below.

SPECIMENS: MCN: 274, 1650-1652*.
AMNH: 316416-316426, 810539*.



MAP 206. Geographical distribution of *Tachyphonus coronatus* and *Trichothraupis melanops* in Rio Grande do Sul.

Trichothraupis melanops

Map 206

Black-goggled Tanager
Tiê-de-topete
(Topknot Tiê)

DISTRIBUTION AND STATUS: Common to abundant resident of forests in N and NW;

scarce along escarpment from Tôrres to upper Rio Jacuí, out as far as Irapuã.

FIELD MARKS: Upperparts of female darker and more uniform in color than other dull female tanagers of state. White band through primaries visible in flight.

SIZE: One male: 157 mm, 20 gr. Two females: 164–168 mm, 24–26 gr.

SOFT PART COLORS: Tarsus gray; maxilla black, sometimes with gray tip or tomtia; mandible gray; iris brown.

VOICE: (R) Song usually two series of three to six very slurred, long, penetrating whistles, with two or three quick "psp's" or "whee's" between series. Also random long, slurred whistles, trills, and "psp's."

BREEDING: Male of September 14, 1971 at Turvo Forest Reserve and female of October 26, 1975 from Garruchos had active gonads. Female of April 13, 1971 from Canela had inactive ovary. One of several males in immature plumage netted September 20, 1971 at Turvo Forest Reserve was collected and had well-developed testes, about 5 mm long.

BEHAVIOR: Stomach of one specimen contained only insect remains.

SPECIMENS: MCN: 338, 339, 350, 1644–1647*. AMNH: 810540*, 813090*.

Habia rubica

Map 207

Red-crowned Ant-Tanager
Tiê-do-mato-grosso
(Jungle Tiê)

DISTRIBUTION AND STATUS: Found at medium to low levels of forest at foot of escarpment from Tôres W to 53°W. Moderately common resident on coast, uncommon farther W. Also registered in Turvo Forest Reserve. *Habia r. rubica*.

FIELD MARKS: Female larger, bill stouter, crown lighter, plumage more yellow than very similar female *Tachyphonus coronatus*.

SIZE: One male: 180 mm, 35 gr. Three females: 190–195 mm, 30–32 gr.

SOFT PART COLORS: One female of October 25, 1974: tarsus Moderate Yellowish Brown; maxilla brown at base, lighter at tip; mandible Dark Grayish Yellow; iris Reddish Gray. Male: tarsus yellowish brown; bill black; iris brown.

VOICE: (R) Territorial male in forest at Fazenda do Pontal on October 17–18, 1978 sang loud, ringing, well-spaced: "eer. . . eer. . . eer. . ." constantly all morning, sometimes preceding these notes with "ch. . . ch. . . owink. . . owink. . ." Apparently same bird still doing the same a month later, November 16–18. When excited, similar sounds made much more rapidly and randomly.

BREEDING: Male collected September 14,

1971 at Turvo Forest Reserve had moderately enlarged testes. Two females of September 30, 1973 from Três Cachoeiras had only slightly enlarged ovaries, whereas one from near Vera Cruz collected October 25, 1974 was bit more advanced.

SPECIMENS: MCN: 1648*, 1662–1664*. AMNH: 316404–316415, 813091*.

Piranga flava

Map 207

Hepatic Tanager
Sanhaçu-de-fogo
(Fiery Sanhaçu)

DISTRIBUTION AND STATUS: Scarce summer resident, registered from September 23 to March 6, except for one collected June 28, 1882. So far found only at scattered points in NE quarter and far W. Specimen in British Museum's Joyner collection from Pelotas questionable, and Pelotas specimen in Paris Museum (Hellmayr, 1936, p. 277) should be verified as to source. Western birds presumably *P. f. flava*, those in NE *P. f. saira*.

SIZE: One immature male: 187 mm, 32.5 gr.

SOFT PART COLORS: Tarsus gray; maxilla dark gray; mandible light gray; iris brown.

BREEDING: At Fazenda São Roberto on November 5, 1983 female was incubating in loosely woven cup-shaped nest about 5 m up in tree near edge of gallery forest. Male seen nearby. Male in female plumage collected November 14, 1970 had moderately enlarged testes.

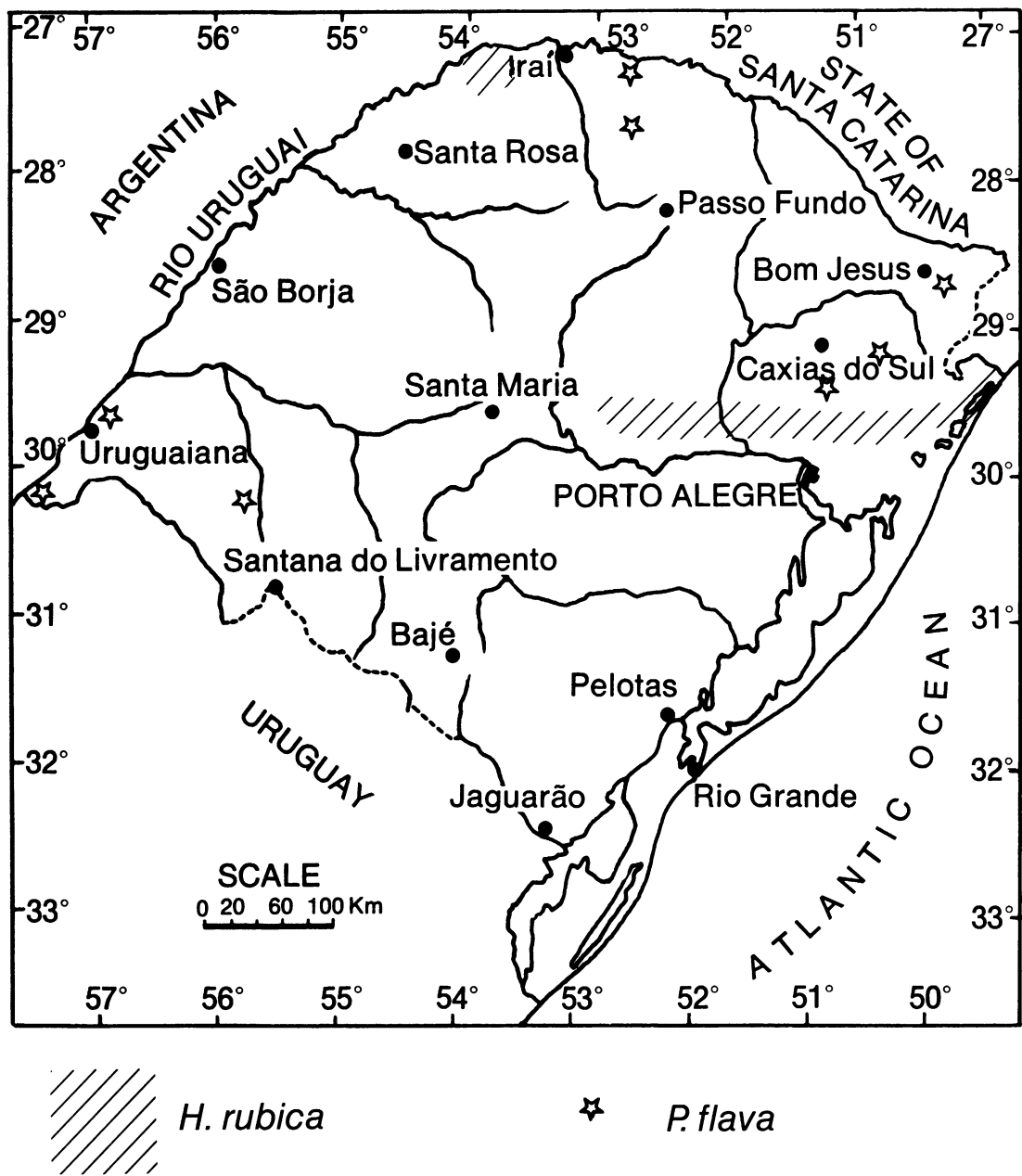
SPECIMENS: MCN: 1639*. MN: 11329. AMNH: 316375–316381.

Thraupis sayaca

Sayaca Tanager
Sanhaçu-cinzento
(Gray Sanhaçu)

DISTRIBUTION AND STATUS: Found throughout, common to abundant in most sectors, uncommon to scarce in portions Uruguayan border area. Present all seasons, but much scarcer in winter, practically abandoning NE highlands. Usually perches on high points in wide variety habitats including forest, open woodland, gardens, eucalyptus groves in grasslands. *Thraupis s. sayaca*.

FIELD MARKS: Gray, with blue or greenish cast, wings and tail showing strongest color.



MAP 207. Geographical distribution of *Habia rubica* and *Piranga flava* in Rio Grande do Sul.

SIZE: Two males: 166–170 mm, 30–34 gr. Two females: 168–179 mm, both 34 gr.

SOFT PART COLORS: Tarsus gray; maxilla black; mandible gray; iris (live bird) Dark Brown.

VOICE: (R) Characterized by very thin, high whistle. Complex songs vary considerably re-

gionally and/or individually, but often include particularly loud slurred note after number of introductory single notes in varying patterns.

BREEDING: Voss (1977b) reported wild bird nest in eucalyptus tree in mid-September 1975 and young in mid-December 1975 and late

February 1976 at zoo, Sapucaia do Sul. On November 26, 1973 near Garruchos I found open cup nest of grass about 2.7 m up in tangle of branches near trunk of orange tree in orchard of abandoned farm site in grasslands. Three eggs heavily marked with reddish brown. On February 18, 1975 at Fazenda São Roberto I found nest 3 m up in vertical crotch of small tree in open country near eucalyptus and ornamental plantings. Contained three nestlings with sprouting feathers on wings and feather tracts but otherwise naked except for hairlike filoplumes on head and back.

BEHAVIOR: Usually occurs in pairs. Eats domesticated and wild fruits, mistletoe berries, leaf shoots, eucalyptus flowers. Voss and Sander (1980, 1981a) listed 35 different wild and cultivated fruits on which it has been seen feeding. I have seen one dash out repeatedly from treetop for passing insects in perfect flycatcher fashion, and another feed on wing in flying termite swarm. When perched, gives impression of being very nervous, turning body continually from side to side.

SPECIMENS: MCN: 141, 228, 229, 1668–1670*. MN: 6838–6840. AMNH: 316278–316304, 813092*.

Thraupis cyanoptera
Map 208

Azure-shouldered Tanager
Sanhaçu-encontro-azul
(Blue-shouldered Sanhaçu)

DISTRIBUTION AND STATUS: Primarily confined to foot of escarpment in NE, with one record for top edge in Aparados da Serra National Park. Uncommon, occurring in forest and open woodland. Excepting one questionable record for December, species only found here between May 22 and October 23. This being extreme southern end of range, possibly it comes here from N during winter.

FIELD MARKS: Easy to confuse with *T. sayaca*, but has stockier build, heavier bill, and buffy tone to lower belly and crissum, as well as Deep Blue patch at bend of wing contrasting strongly with various shades of Bluish Green in remaining plumage.

SIZE: Three males: 177–195 mm, 41–46 gr. One female: 182 mm, 45 gr.

SOFT PART COLORS: Tarsus gray; maxilla black; mandible light gray; iris brown.

BREEDING: Three specimens collected June 24, 1974 had inactive gonads. Male of October 7, 1972 had much enlarged testes.

BEHAVIOR: More sluggish than *T. sayaca*. In late June 1974 at Fazenda do Pontal, while feeding on wild fruits these birds moved from tree to tree in relatively close-knit flocks of 15 to 20 individuals.

SPECIMENS: MCN: 1656–1658*. AMNH: 316261, 316262, 813093*.

Thraupis palmarum
Map 208

Palm Tanager
Sanhaçu-de-coqueiro
(Palm Sanhaçu)

DISTRIBUTION AND STATUS: Scarce resident, found in Porto Alegre in every month, and during most months in two central plazas of São Leopoldo in palms (*Levistonina chinensis*) (Voss, 1976, 1979). I saw it once near Tôres and once below Nova Petrópolis. *Thraupis p. palmarum*.

BREEDING: On November 30, 1974 Voss (personal commun.) saw fledgling in São Leopoldo, and on December 1, 1975 he saw nest being built in tall palm.

BEHAVIOR: Voss and Sander (1980, 1981a) report it eating fruits of *figueira-do-mato* (*Ficus subtriplinervia* Mart.) and mistletoe (*Phrygilanthus acutifolius* [R. L. Pan.] Eichl.).

Thraupis bonariensis

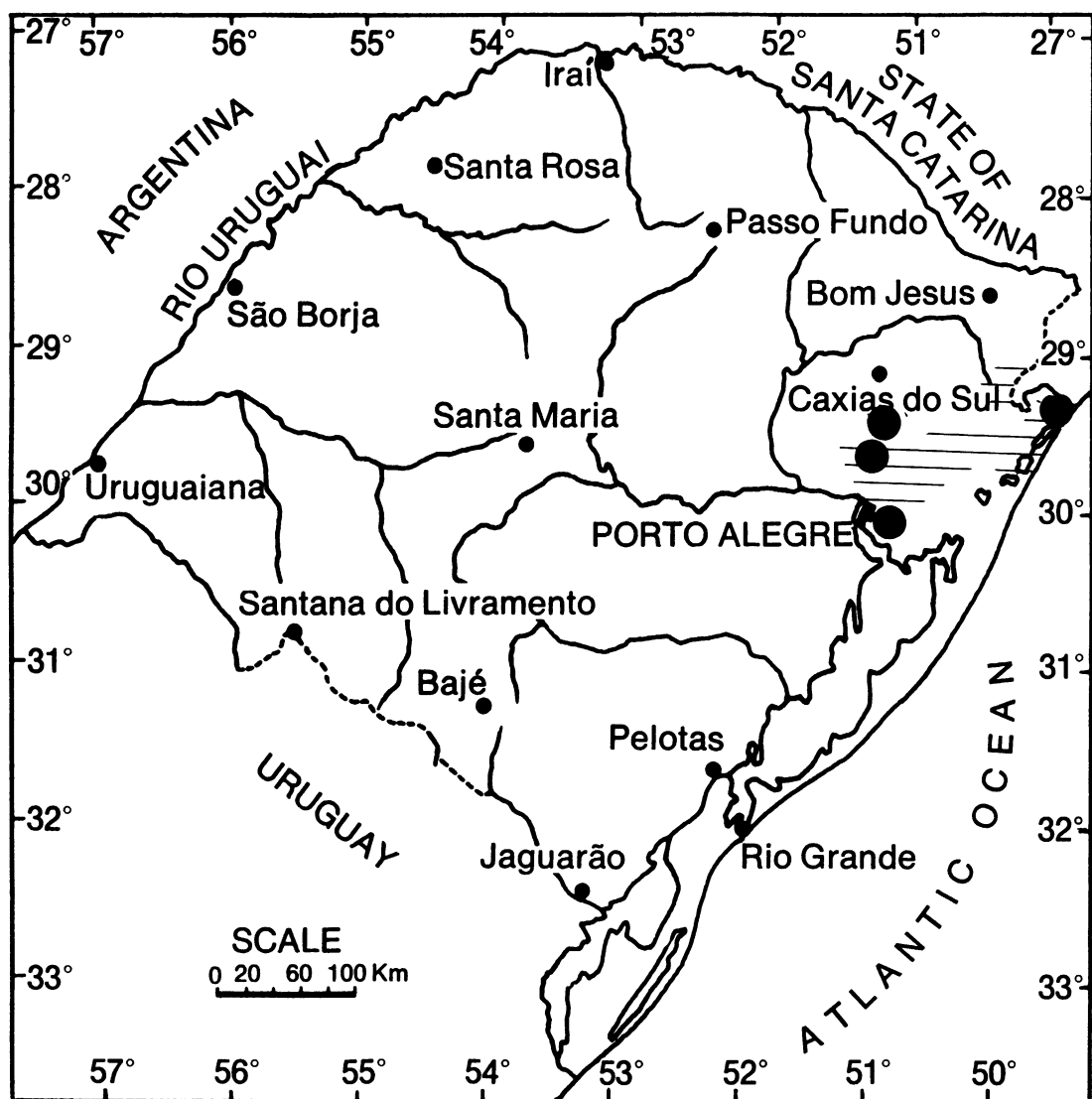
Blue-and-yellow Tanager
Sanhaçu-papa-laranja
(Orange-eating Sanhaçu)

DISTRIBUTION AND STATUS: Common to abundant resident, in orchards, gardens, parks, open country with trees, and light woodland throughout state, more sparsely scattered in W. *Thraupis b. bonariensis*.

FIELD MARKS: Very colorless females have olivaceous rump and, in breeding season, hint of orange on breast.

SIZE: Two males: 179–180 mm, 36–40 gr. Two females: 177–189 mm, 42–46.5 gr.

SOFT PART COLORS: Tarsus gray-brown to greenish gray; maxilla black; mandible whitish (females with darker tip); iris brown to red.



T. cyanoptera



T. palmarum

MAP 208. Geographical distribution of two species of *Thraupis* in Rio Grande do Sul.

VOICE: (R) Very high, shrill, usually without pattern. One sang: "squeaky squeaky squeaky. . . ."

BREEDING: Female collected at Fazenda da Pedreira November 30, 1974 had egg in oviduct. Specimens of February 27, 1975, March

29, 1971, and May 29, 1974 had inactive gonads. Voss (1977b) reported wild birds nesting at zoo, Sapucaia do Sul, with young in mid-December 1975, and (personal commun.) feeding ripe papaya to fledglings on November 1, 1962.

BEHAVIOR: Eats domesticated and wild fruits, eucalyptus flowers, orange flowers, and papaya leaves (Voss, personal commun.), catches flying termites on wing. Voss and Sander (1980, 1981a) reported it eating 17 kinds of wild and cultivated fruits, including three *Ficus* species.

SPECIMENS: MCN: 382, 480, 1659–1661*. MN: 1754, 1755, 6731–6733, 6736–6742, 32198*, 32229*. AMNH: 316311–316331, 321461–321470, 321702–321712, 322067–322071. (322072 from Uruguayan side of mouth of Rio Jaguarão.)

Stephanophorus diadematus

Diademed Tanager
Sanhaçu-frade
(Monk Sanhaçu)

DISTRIBUTION AND STATUS: Common to abundant resident in eastern two-thirds of state, sparsely scattered throughout W. Occupies forest, open woodland, gardens, and high bushes in marshes.

FIELD MARKS: Profile of flattish crest usually noticeable when red and white crown color not visible. Body plumage often appears black, and on juvenals is grayish black, with no crest color.

SIZE: One male: 204 mm, 35 gr.

SOFT PART COLORS: Tarsus black; maxilla black; mandible grayish to black; iris brown.

VOICE: (R) Loud, clear, attractive, vigorously whistled song, rapidly slurring and trilling in rolling pattern, often ending with emphatic up-beat note. Dawn call: Sharp "heer" followed by two lower trills and a terminal up-beat "we."

BREEDING: Male collected January 27, 1975 had much reduced testes.

BEHAVIOR: On August 16, 1974 near Sete Leguas, when forest fruits and berries scarce and this species uncommon, one ate petals of pear blossoms. On August 18, 1971 near Passo do Seival, one ate type of chickweed. Voss and Sander (1980, 1981a) reported it eating fruits of nine different wild and cultivated plant species.

SPECIMENS: MCN: 1665–1667*, 1786. MN: 6782, 6791–6795, 6798. AMNH: 316332–316363, 321456–321460, 321713, 322073–322079.

Pipraeidea melanonota

Map 209

Fawn-breasted Tanager
Saíra-viúva
(Widow Saíra)

DISTRIBUTION AND STATUS: Common throughout year in upper levels of forests and woodlands in much of E half, S to 31°30'S, and W to Garruchos in N. Not registered on Mostardas peninsula. *Pipraeidea m. melanonota*.

FIELD MARKS: Solid fawn underparts and black mask.

SIZE: Two males: 140–158 mm, 20–21 gr. One female: 154 mm, 21 gr.

SOFT PART COLORS: Tarsus gray; maxilla black; mandible light gray with black tip; iris reddish brown to red.

VOICE: (R) Repeated series of identical brief high notes, evenly timed. Very monotonous. Speed varies with individuals, from quick staccato to rapid trill.

BREEDING: On September 23, 1971 pair in Nonoai Forest Reserve were carrying grassy material and moss to place about 20 m up among ferns and epiphytes on top of horizontal reach of trunk of twisted, deciduous broadleaf tree not yet in leaf. Voss (1977b) reported young in late October 1975 from wild birds nesting at zoo, Sapucaia do Sul, and saw adults hunting hairy caterpillars.

SPECIMENS: MCN: 299, 1637–1638*. AMNH: 316175, 316176, 316178–316191, 316187bis, 322066, 813094*.

Euphonia chlorotica

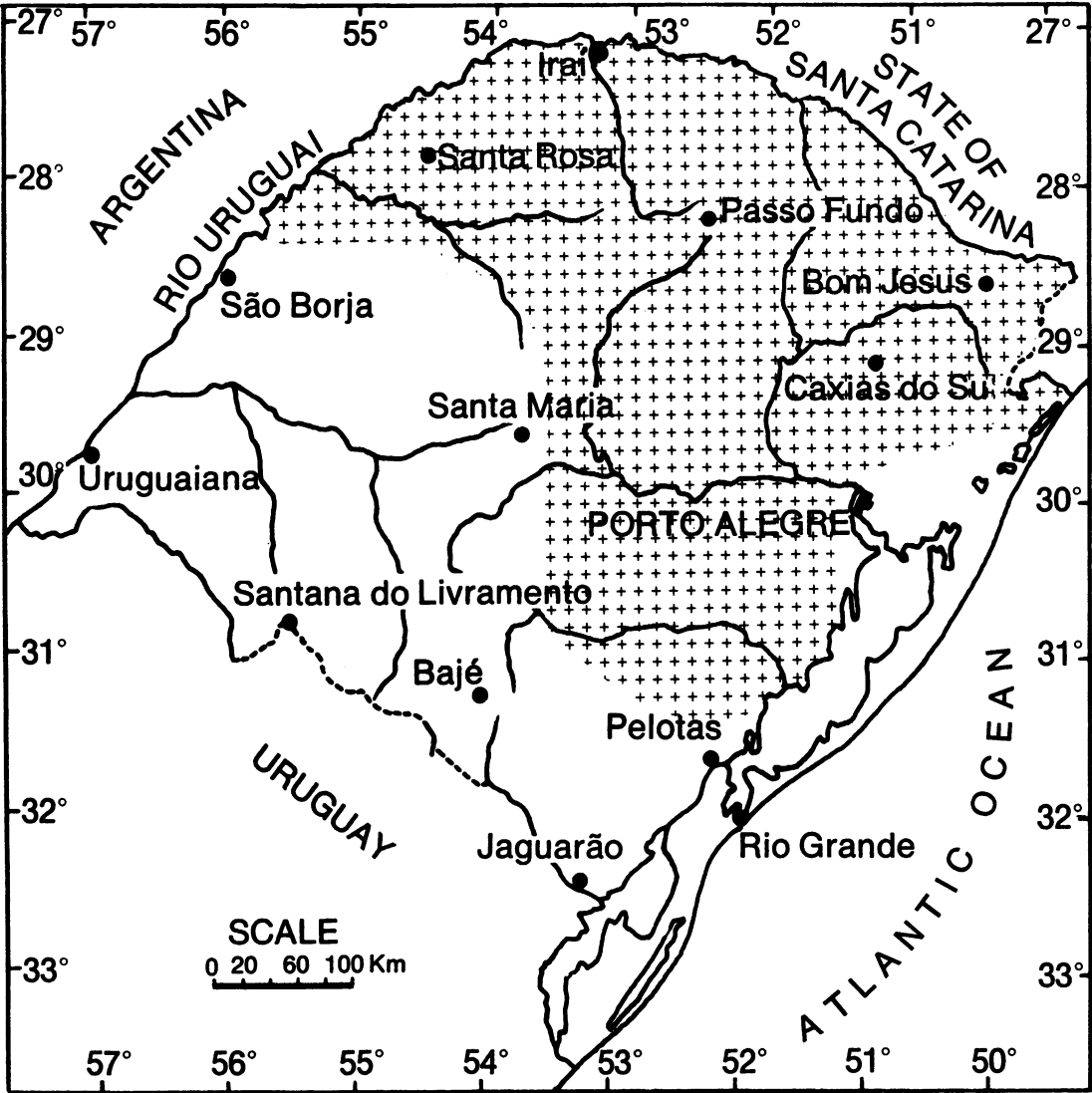
Map 210

Purple-throated Euphonia
Fim-fim (onomatopoetic)

DISTRIBUTION AND STATUS: Only common euphonia in Rio Grande do Sul, resident in canopy of forests and wooded areas in broad strip running through state at NW–SE angle. Not registered in highest areas of NE or near Uruguayan border. Not found by Ihering (1899a) or Gliesch (1930) and only one specimen collected by Kaempfer. *Euphonia c. serrirostris*.

FIELD MARKS: Bright yellow breast and belly, purplish black throat.

SIZE: One male: 125 mm, 10.5 gr. One female: 118 mm, 11.5 gr.



MAP 209. Geographical distribution of *Pipraeidea melanonota* in Rio Grande do Sul.

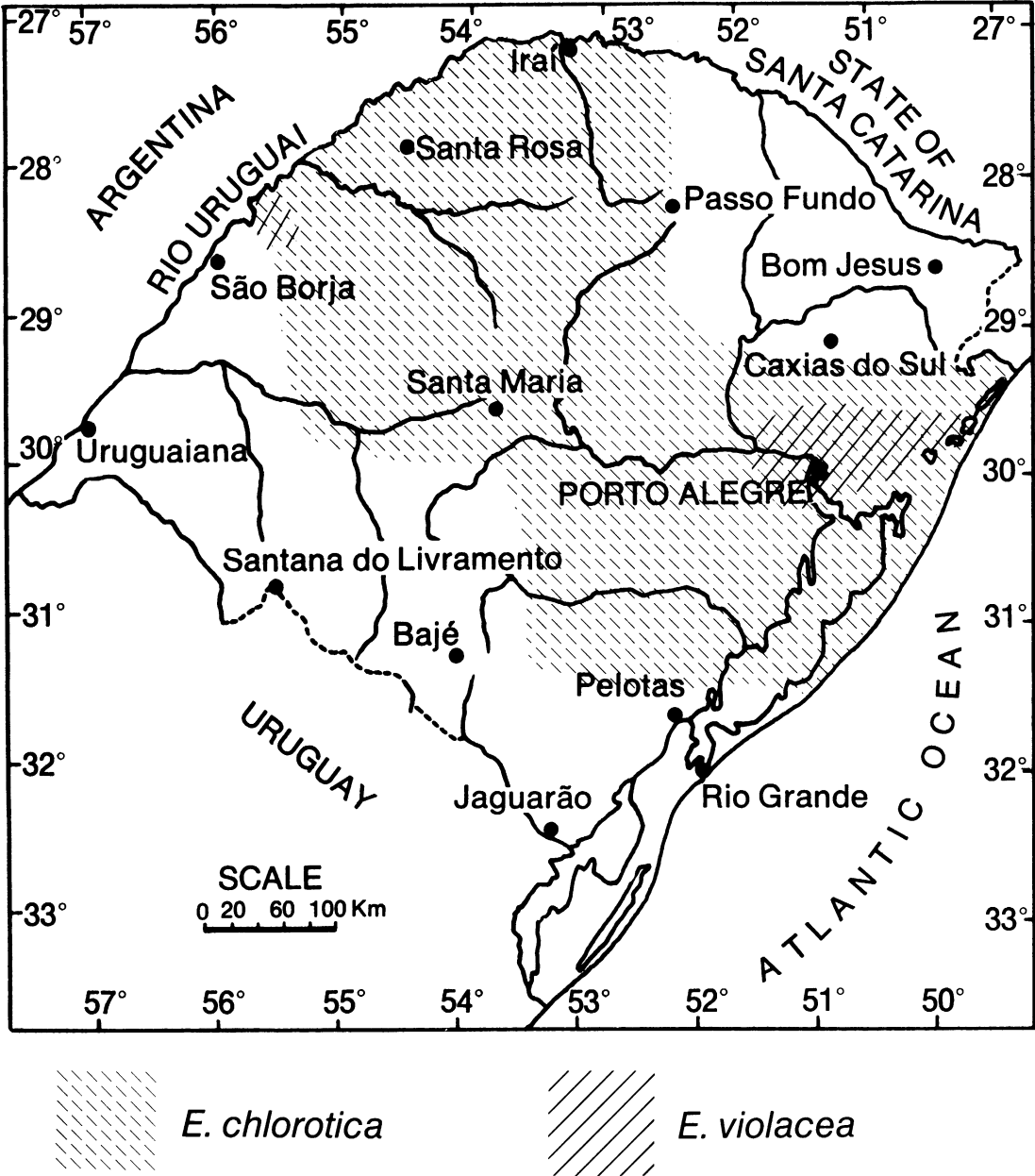
SOFT PART COLORS: Tarsus gray; maxilla black; mandible light gray with black tip; iris brown.

VOICE: (R) Song: rapid jumble of trills and squeaks resembling speeded-up sound track of human voice. Call: usually two high, clear whistled notes: “peeng peeng” from which Brazilian name originates. When excited: five or six very fast identical scolding notes, mildly rasping in quality, sometimes speeded up to a rattle and extended to as many as 12 notes.

BREEDING: Male collected May 7, 1973 had inactive testes but was observed feeding bird in female plumage. Female of November 26, 1973 had only moderately enlarged ovary.

BEHAVIOR: Often found in vicinity of mistletoe, but feeds also on various wild and domesticated fruits, including cactus and persimmon. Voss and Sander (1980, 1981a) report it feeding on fruits of six different species of wild and domesticated plants.

SPECIMENS: MCN: 1629–1630*. AMNH: 316172.



MAP 210. Geographical distribution of two species of *Euphonia* in Rio Grande do Sul.

Euphonia violacea
Map 210

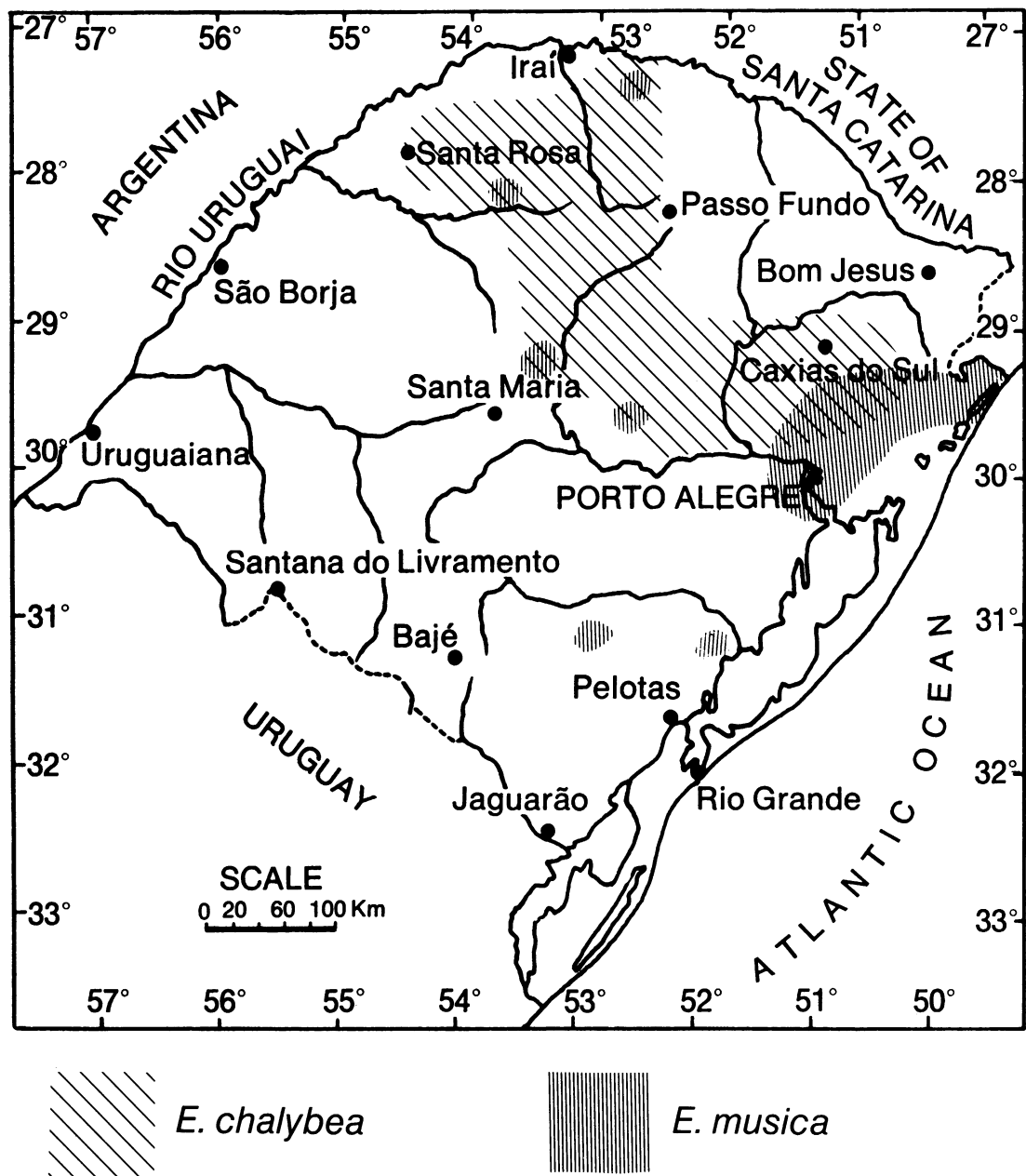
Violaceous Euphonia
Gaturamo-verdadeiro
(Common Gaturamo)

DISTRIBUTION AND STATUS: Scarce resident, primarily in NE near foot of escarp-

ment, and once near Garruchos. Perhaps more common earlier, judging from several collected in late 1800s. *Euphonia v. auranticollis*.

FIELD MARKS: Full underparts and fore-crown bright yellow.

SIZE: One male: 112 mm, 15 gr.



MAP 211. Geographical distribution of two species of *Euphonia* in Rio Grande do Sul.

SOFT PART COLORS: Tarsus gray; maxilla black; mandible light gray with black tip; iris dark.

VOICE: (R) Fast series of brief identical sounds, varying from chattered “tsk’s” to musical “sweet’s.”

BREEDING: Male collected June 26, 1974 had slightly enlarged testes.

SPECIMENS: MCN: 1631*. AMNH: 316142–316144.

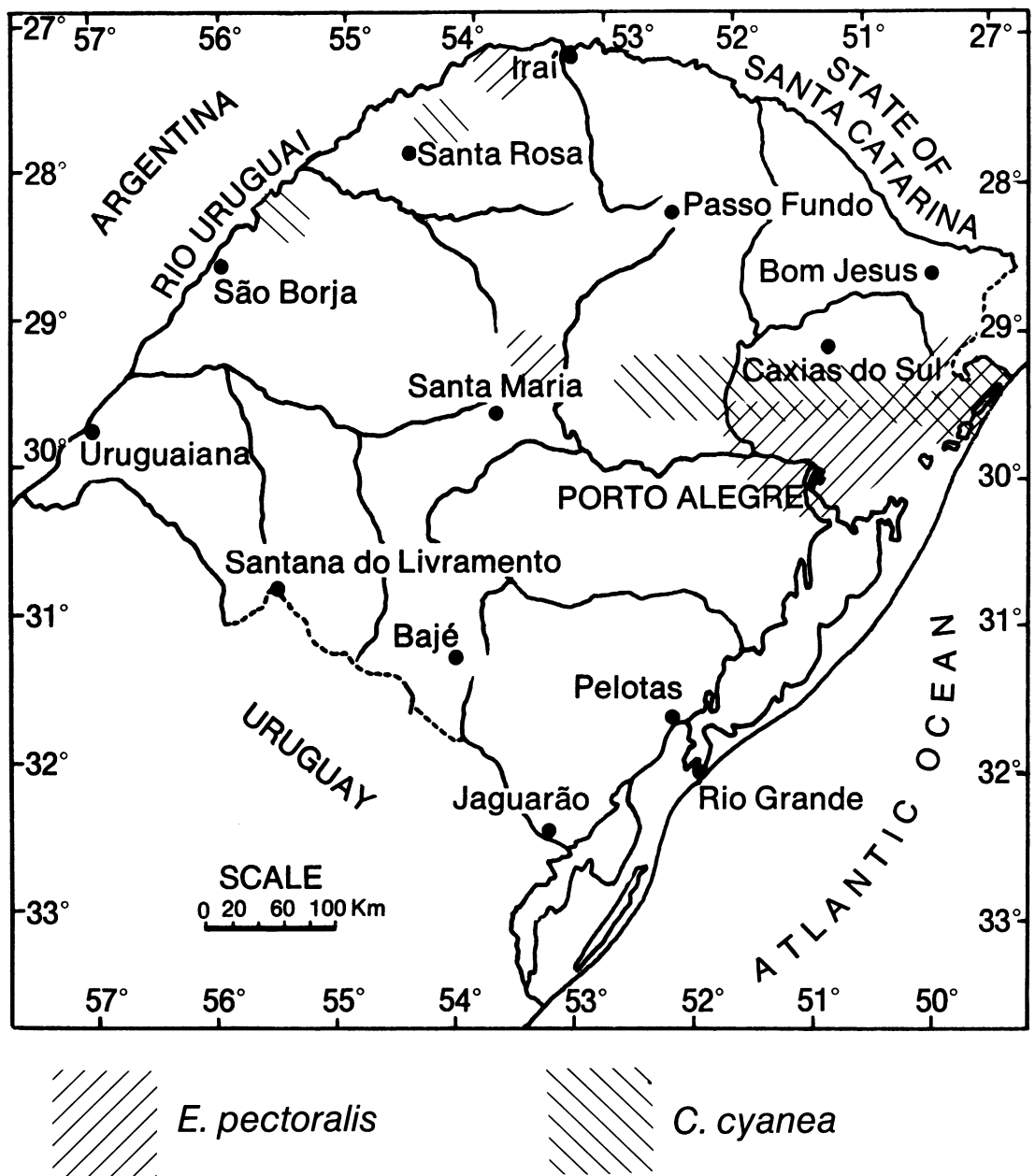
Euphonia chalybea

Map 211

Green-throated Euphonia

Cais-cais

DISTRIBUTION AND STATUS: Uncommon



MAP 212. Geographical distribution of *Euphonia pectoralis* and *Chlorophonia cyanea* in Rio Grande do Sul.

resident of forests and wooded areas near southern escarpment and in scattered localities through N central region.

FIELD MARKS: Very thick bill. Dark throat plumage and yellow on forecrown less exten-

sive than in otherwise quite similar *E. chlo-*
rotica.

SIZE: One male: 128 mm, 18 gr. Two fe-
males: 128–137 mm, 19–20 gr.

SOFT PART COLORS: Tarsus gray; maxilla

black; mandible light gray, distal third black; iris brown.

VOICE: (R) Very rapid short series: "chik chik chik chik. . ."

BREEDING: Female collected September 10, 1974 had inactive ovary, while male of October 17, 1975 had moderately enlarged testes.

BEHAVIOR: Voss and Sander (1981a) reported it feeding on fruit of cactus, *rabo-de-rato* (*Rhipsalis myosurus* Foerst.).

SPECIMENS: MCN: 1632–1633*. MN: 32190*. AMNH: 316166–316171.

Euphonia musica

Map 211

Blue-hooded Euphonia

Gaturamo-rei

(King Gaturamo)

DISTRIBUTION AND STATUS: Uncommon resident in open wooded areas, gardens, and forests at scattered localities E of 54°W and S to 31°30'S. *Euphonia m. aureata*.

FIELD MARKS: Much darker yellow on breast and belly than *E. chlorotica*.

SIZE: One male (captive): 107 mm, 12 gr. One female (captive): 107 mm, 13 gr.

BREEDING: Voss (1977b) reported young in early December 1975 from wild birds nesting at zoo, Sapucaia do Sul, and (personal commun.) on January 11, 1975 saw nest with young in *timbaúva* tree (*Enterolobium contortisiliquum* Vell.) attacked by snake.

BEHAVIOR: Voss and Sander (1981a) reported it feeding on guava (*Psidium guayava* L.), papaya (*Carica papaya* L.) and cactus (*Rhipsalis myosurus* Foerst.) fruits.

SPECIMENS: MCN: 1627–1628*. AMNH: 316173, 316174, 322062.

Euphonia pectoralis

Map 212

Chestnut-bellied Euphonia

Gaturamo-serrador or *Ferro-velho*

(Sawyer Gaturamo) (Old Iron)

DISTRIBUTION AND STATUS: Common resident in middle to upper levels of NE coastal forests, less common farther W near base of escarpment to 52°W. Also registered in Aparados da Serra National Park, in upper Jacuí basin, and in Turvo Forest Reserve.

FIELD MARKS: Steel blue breast and slight

yellow patches near bend of wing contrast with dark chestnut belly and crissum. Female underparts mostly gray, crissum chestnut.

SIZE: One male: 122 mm, 15 gr. Two females: 110–116 mm, 15.5–16 gr.

SOFT PART COLORS: Tarsus gray; maxilla black with proximal portion of tomia light gray; mandible light gray; iris brown.

VOICE: (R) Three successive quick, dry, grating sounds.

BREEDING: Male and female specimens collected July 6, 1974 had inactive gonads. Female of September 3, 1973 had active ovary.

BEHAVIOR: Voss and Sander (1981a) found it feeding on cactus (*Rhipsalis myosurus* Foerst.) fruits.

SPECIMENS: MCN: 582, 1625–1626*. AMNH: 813095*.

Chlorophonia cyanea

Map 212

Blue-naped Chlorophonia

Bandeirinha or *Bonito-do-campo*

(Little Flag) (Beauty of the Fields)

DISTRIBUTION AND STATUS: Scarce, in forest, open wooded areas, and gardens. Registered along escarpment in NE and rarely in N and NW. Probably resident, but records lacking between November 26 and March 5. *Chlorophonia c. cyanea*.

FIELD MARKS: Green head.

SIZE: One male: 119 mm, 15 gr.

SOFT PART COLORS: Tarsus gray; bill gray with black tip and culmen; iris dark.

BREEDING: Male collected November 28, 1973 had moderately enlarged testes.

SPECIMENS: MCN: 1624*. AMNH: 316136–316141.

Tangara seledon

Map 213

Green-headed Tanager

Saíra-de-sete-cores

(Seven-colored Saíra)

Rare, registered only twice, in extreme NE, once by Kaempfer, October 31, 1928, in coastal forest at foot of escarpment behind Tôrres, and once by Voss, September 10, 1978, in adjacent area at top of escarpment in Aparados da Serra National Park where it fed on fruits of *joá-cipó-melado* (*Solanum*

viscosissimum Sandt.) (Voss and Sander, 1981a).

SPECIMEN: AMNH: 316227.

Tangara cyanocephala

Map 213

Red-necked Tanager

Saíra-militar

(Military Saíra)

Berlepsch and Ihering (1885) reported two specimens from Taquara without date. Kaempfer collected a male near Osório at approximately 200 m on August 19, 1928 and a female near Tôrres on October 29, 1928. No recent records. *Tangara c. cyanocephala*.

SPECIMENS: AMNH: 316192, 316193.

Tangara preciosa

Map 213

Chestnut-backed Tanager

Saíra-preciosa

(Precious Saíra)

DISTRIBUTION AND STATUS: Common and widely distributed resident, mostly E of 54°W, with only occasional records farther W. Not registered on Mostardas peninsula, or in extreme southern tip. Occupies forests, gardens, and woodland patches.

FIELD MARKS: Chestnut head and back, light fawn wing coverts and rump.

SIZE: Three females: 145–163 mm, 22–24 gr.

SOFT PART COLORS: Female: tarsus gray; maxilla black; mandible light gray to black; iris (live bird) Dark Brown.

VOICE: (R) Song: series of about five moderately sustained, very high-pitched, identical notes: "seeeee seeeee seeeee seeeee seeeee."

BREEDING: Betsy T. Thomas discovered nesting about 10 m up in pom-pon of araucaria near Gramado on December 10, 1976. Nest itself not visible, but female disappeared several times among thick fronds and remained inside, apparently incubating. Male approached on one occasion while female inside. At Fazenda São Francisco January 24, 1975, fledgling begged food from adult. Ovary of female collected August 20, 1975 inactive, that of a November 14 one active. Voss and Sander (1980, 1981a) reported this species eating fruits of *aroeira-do-campo* (*Schinus terebinthifolius* Raddi), *nespereira* (*Erioboth-*

rya japonica Lindl.) and orange (*Citrus sinensis* Osbeck).

SPECIMENS: MCN: 225, 247, 1653–1655*. AMNH: 40647, 316234, 316236–316260, 316250bis, 321454, 321455, 322063–322065, 813096*.

Dacnis cayana

Map 214

Blue Dacnis

Saí-azul

(Blue Saí)

DISTRIBUTION AND STATUS: Resident, at moderate heights in forests, forest edges, and gardens, in vicinity escarpment in NE, and near Rio Uruguay in NW; isolated record for Camaquã area. Scarce except in NE coastal sector, where uncommon. *Dacnis c. paraguayensis*.

FIELD MARKS: Male black and bright blue; female blue and green.

SIZE: One male: 127 mm, 15.5 gr. One female: 133 mm, 15 gr.

SOFT PART COLORS: Tarsus brownish pink; bill black; iris red.

BREEDING: Male and female collected April 20, 1972 near Tôrres had inactive gonads.

SPECIMENS: MCN: 1567–1568*. AMNH: 316129, 810531*.

Subfamily Tersininae

Tersina viridis

Map 214

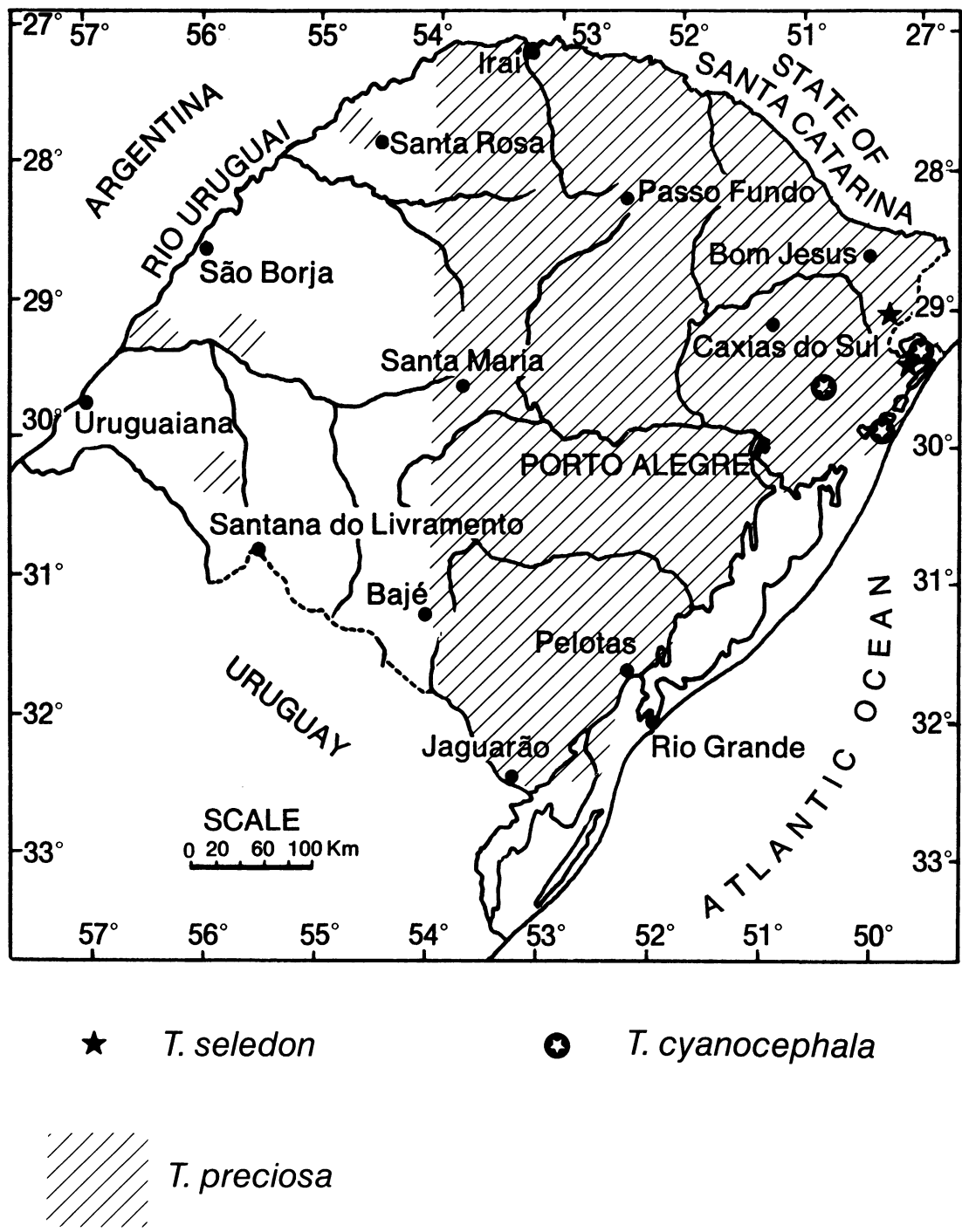
Swallow-Tanager

Saí-andorinha

(Swallow-Saí)

DISTRIBUTION AND STATUS: Uncommon summer resident, found in partially cleared forest openings and edges with high snags and trees, primarily in central portion of planalto and along southern escarpment, occasionally as far W as 55°W and S into central depression. First spring date September 22 at N edge of state. Latest fall record, April 29, was extremely fat female that flew into windowpane of woodland home in Gramado. *Tersina v. viridis*.

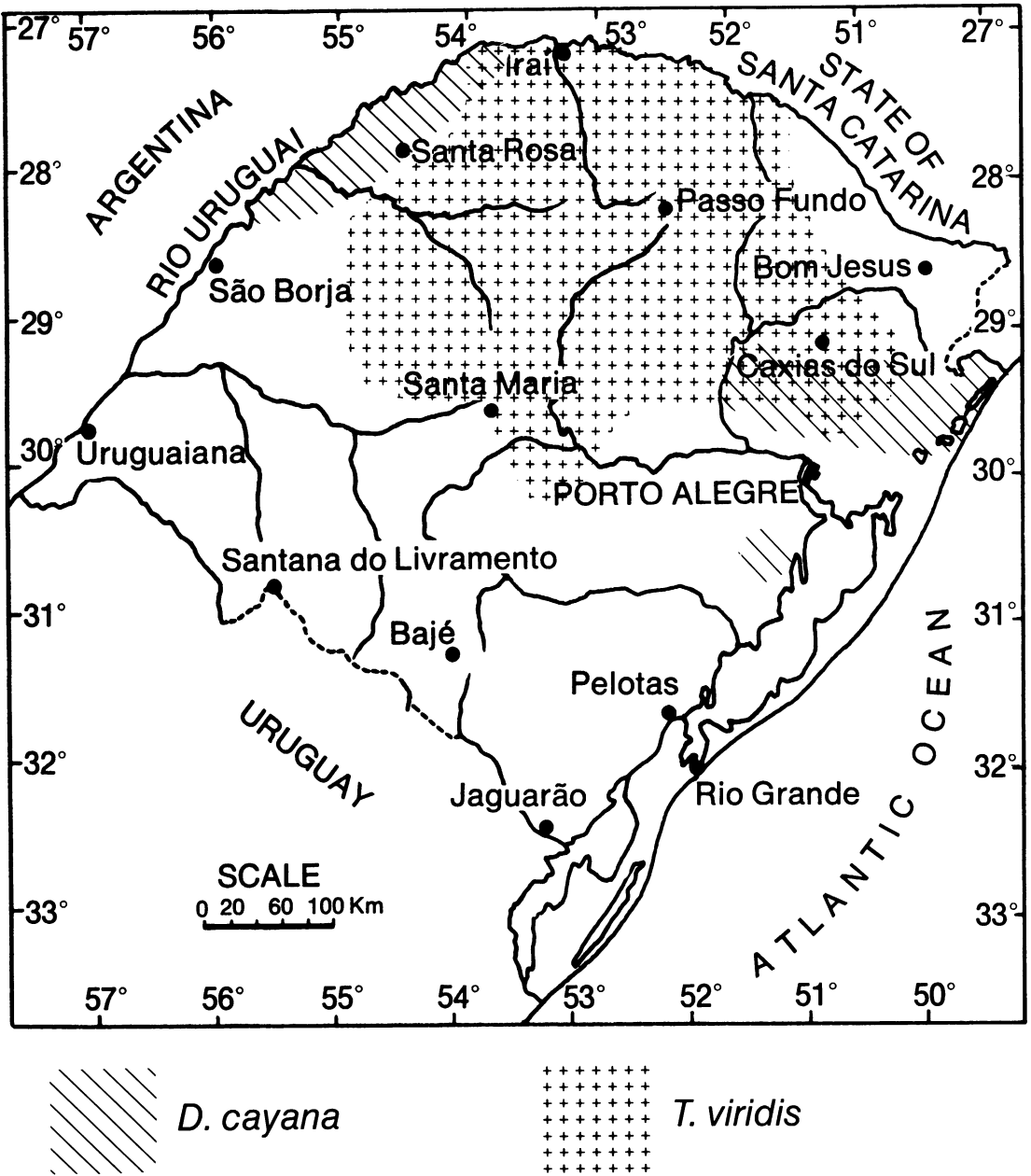
FIELD MARKS: Male bright blue with black face and throat, white belly with barred flanks; female bright green with yellow belly and barred flanks. On November 25, 1973 I saw subadult male with typical blue head and



MAP 213. Geographical distribution of the three species of *Tangara* found in Rio Grande do Sul.

black mask, but on upper breast blue blended into green and remaining underparts were typical female plumage.

SIZE: One male: 155 mm, 32 gr.
SOFT PART COLORS: Male only: tarsus gray; bill black; iris red.



MAP 214. Geographical distribution of *Dacnis cayana* and *Tersina viridis* in Rio Grande do Sul.

VOICE: A female produced swallow-like twitter.

BREEDING: On November 18, 1973 at No-noai Forest Reserve I saw male bringing food to apparently adult female. Male collected November 28, 1971 had much enlarged testes.

BEHAVIOR: Usually alone or in pairs, these birds spend much of their time perched on highest points of prominent snags or trees, waiting to launch out for flying insects. Only time I found several together, they were N of Passo Fundo on November 28, 1971 feeding

avidly on small fruits growing three or four m aboveground.

SPECIMENS: MCN: 1560–1561*. AMNH: 316133–316135.

FAMILY PARULIDAE

Parula pitiauyumi

Tropical Parula

Mariquita

DISTRIBUTION AND STATUS: Common resident throughout in broadleaf trees in forests, parks, and gardens, usually high. Normally seen singly or in pairs, occasionally in fall and winter as members of mixed flocks. I have not seen small bands as observed by Wetmore (1926) in Uruguay. *Parula p. pitiauyumi*.

FIELD MARKS: Orange-yellow breast, olive patch in center of blue-gray back. Two juvenals collected have gray instead of yellow throats.

SIZE: One male: 113 mm, 8 gr. Three females: 105–113 mm, 7–9.5 gr.

SOFT PART COLORS: Tarsus yellowish brown, gray in young birds; maxilla black; mandible very pale yellow; iris brown.

VOICE: (R) Very weak, high, fast song, starting with rapid trill, then moving to even faster, slightly higher and longer one which drops somewhat in pitch at end. One at Garruchos sang only one fast trill on level pitch. Note: brief, sharp “chip.”

BREEDING: Male and female collected August 17, 1974 and female of October 7, 1972 all had inactive gonads. Another female of October 7, 1972 had enlarged ovary and brood patch.

BEHAVIOR: Forages by constant search among leaves in upper levels of trees. I have twice seen individuals feeding on eucalyptus blossoms, but could not see whether they were eating blossoms or insects within flowers. When flying termites are abundant, they fly into air to seize them on wing. One sang exposed on highest point of tree while *Milvago chimachima*, attracted by my squeaking lure, soared nearby.

SPECIMENS: MCN: 331, 1556–1559*. MN: 14104, 14105, 14109. USNM: 461527*. AMNH: 315750–315767, 321410, 321411, 321670–321672, 322019, 812762–812764*.

Geothlypis aequinoctialis

Masked Yellowthroat

Pia-cobra

(Snake-caller)

DISTRIBUTION AND STATUS: Common resident throughout, found in bushes and brushy tangles in open country bordering marshes, streams, and boggy areas. One banded April 24, 1972 at Lagoa do Jacaré recaptured at banding place June 30, 1974. *Geothlypis a. velata*.

FIELD MARKS: Bright yellow underparts and black mask distinguish male. Female has light yellow eye ring, interrupted fore and aft.

SIZE: Two males: 135–142 mm, 13–14 gr. Two females: 138–143 mm, 11–12 gr.

SOFT PART COLORS: Tarsus variable—light brown, grayish pink, reddish gray, black; maxilla black; mandible base whitish, distally gray, sometimes with black tip; iris (living bird) Dark Grayish Brown.

VOICE: (R) Vigorously whistled, attractive song, usually starting with three to five emphatic “suweet’s,” then trending generally down scale with many variable slurs, trills, and warbles. Also simple series of about 10 short, individual, whistled notes rapidly descending scale. Also a single “sweet-churrrr” sung low, slowly and constantly, but with irregular timing.

BREEDING: Ovary of female collected near Canela on December 1, 1975 only slightly enlarged. Voss (*in litt.*) informs me he has observed young on various occasions, without noting particulars.

BEHAVIOR: Live in isolated pairs, normally keeping to interior of habitat.

SPECIMENS: MCN: 336, 1538–1540*. MN: 14163. AMNH: 315782–315789, 321409, 810530*, 812771–812772*.

Basileuterus culicivorus

Golden-crowned Warbler

Pula-pula

(Hop-hop)

DISTRIBUTION AND STATUS: Common to abundant resident in almost entire state, but not encountered in espinilho at W tip. Usually utilizes medium level of forest or small woodland patches, but I also found it in acacia scrub only about 4 m high in very sandy

area near ocean beach few km N of S tip.
Basileuterus c. azarae.

FIELD MARKS: Dull orange center crown stripe, bordered by black.

SIZE: Three males: 125–142 mm, all 10 gr. One female: 133 mm, 10.5 gr. Four unsexed: 118–128 mm, 8–10 gr.

SOFT PART COLORS: Tarsus light yellow to yellowish brown; maxilla brown, blackish brown, or black; mandible gray, sometimes with black tip; iris brown.

VOICE: (R) Note, a sharp “zzit.” Song, not very melodious, high-pitched series of zigzag whistles, rising even higher in pitch and intensity on penultimate note, then dropping down again on last.

BREEDING: On November 11, 1978 near Carazinho enclosed nest in final stages of construction, with lining being installed, was on ground on elevated mound of bamboo clump. Side entrance so wide it occupied practically whole side. Both birds working. On November 20, 1983 at Itapuã recently fledged young were caught and banded. On December 14, 1979 at Rincão dos Pereira adult was carrying food, apparently to nest I did not discover, in patch of *caraguatá* (*Eryngium* sp.) in forest. Two juvenals of year collected December 13, 1974 at Fazenda Primavera. On January 19, 1977 near Sete Leguas fledgling with downy strands still on head was fed by adult. Male collected at Turvo Forest Reserve September 12, 1971 had moderately enlarged testes, while gonads of female and two males collected near Capão da Canoa on September 26–27, 1975 much enlarged.

BEHAVIOR: Active, inquisitive species that hops around at middle levels of forest. Inclined to investigate interlopers, it attends quickly to squeaking lures and responds strongly to playback of its voice by singing.

SPECIMENS: MCN: 245, 564, 1543–1547*. AMNH: 315806–315830, 322015, 810529*, 812765–812767*.

Basileuterus leucoblepharus

White-browed Warbler
Pula-pula-assobiador
(Whistling Hop-hop)

DISTRIBUTION AND STATUS: Resident, registered everywhere except in S tip, in forests, woodland patches, and occasional scrub areas

providing good shade. Inhabits lower level, from ground up to about 3 m. Usually abundant, but scarce in NE coastal forests and at W tip. One banded May 19, 1971 in woods behind my Gramado home recaptured same place seven times: October 2, 1972, October 17, 1972, January 12, 1974, October 28, 1974, August 17, 1975, September 22, 1975, and December 16, 1975.

FIELD MARKS: Ample white lores, wide white eye ring interrupted fore and aft, and narrow white eyebrow contrast with Dark Gray of face and two black stripes on either side of crown. Immatures all olive, no white on face.

SIZE: Five males: 137–156 mm, 15–16 gr. One female: 144 mm, 14.5 gr.

SOFT PART COLORS: (living bird) Tarsus Moderate Yellowish Pink except leading edge which Dark Red streaked with Moderate Yellowish Pink; bill black; iris Dark Brown.

VOICE: (R) Note: strong, penetrating “tseeeeee.” Song: loud, penetrating series of about 22 clear, melodious, whistled notes of varying length, tending generally down scale. I share enthusiasm of Mitchell (1957, p. 199) for this song, which epitomizes for me all the beauty and enchantment still to be found in remnants of Rio Grande do Sul’s varied forests. Song so common its occasional absence is matter of note for someone tramping in woods. Without being shrill or squeaky, high pitch and vigorous delivery permit it to be heard at distance, so it often reached me from nearby forest as I drove along in noisy Jeep.

BREEDING: Two recently fledged young netted and banded November 17, 1983 at Itapuã. On November 20, 1972 Sick and I found nest with three eggs in thick woodland on island in Rio Irapuá, Cachoeira do Sul. It lay on ground, near base of tree, and was approximately shape of cup lying on side, being roofed but with very wide side opening. Woven of grass and covered with leaves woven into outside layer. Female and two males collected March 26, 1975, July 27, 1973, and August 19, 1975, respectively, had inactive gonads. Two males of October 14, 1973 had slightly enlarged testes, whereas those of one of December 15, 1972 fully developed. Birds seem to remain paired throughout year.

BEHAVIOR: One of least shy and most in-

quisitive forest birds of state. Rivalled only by *Thamnophilus caerulescens* in promptness to attend squeaking lure, a pair will then remain in vicinity of intruder for many minutes, hopping through undergrowth and lower tree branches and occasionally on ground, male regularly voicing both note and song. Hops with bobbing motion. When it flies from one point to another there is often distinct, heavy sound of feathers beating air. I once saw one raise crest feathers, unusual for this species, but could not see to what it was reacting. Adult sitting on above described nest ran out giving broken wing display, scurrying fast like small rodent.

SPECIMENS: MCN: 554, 559, 1553–1555*. MN: 14441, 14442, 32179*. AMNH: 315836–315855, 322016–322018, 812768–812770*.

[*Phaeothlypis (Basileuterus) rivularis*]

[River Warbler]

Only record of this species for Rio Grande do Sul is that published by Sharpe (1885, p. 401) listing British Museum specimen collected by Rogers from Lagoa dos Patos. Specimen originally labeled *B. leucoblepharus*, female, 1872. Lagoa dos Patos, with sandy beaches, is unlikely habitat for this species and too large to be cited as precise origin. Closest point at which known range approaches this state is Misiones Province, Argentina. Roger's specimen could have come from forested banks of Rio Uruguay in far NW, just across from Misiones, but I have sought it there without result. Ihering (1899a) accepted this record without question, but I hold serious reservations about it and prefer to omit species from my state list until better evidence of its presence available.

Conirostrum speciosum

Map 215

Chestnut-vented Conebill
Figuinha-de-rabo-castanho
(Chestnut-tailed Little Amulet)

DISTRIBUTION AND STATUS: Uncommon, probably resident, first registered for state in 1971 (Belton, 1973a) and so far seen only near upper reaches of Rio Uruguay, high in humid mixed forests. Observed every month

except April, June, and July. *Conirostrum s. speciosum*.

FIELD MARKS: Chestnut undertail coverts of male contrast with remaining predominantly blue-gray plumage. Female lacks distinctive undertail coverts; back and tail greenish, breast creamy.

SIZE: Three males: 106–120 mm, 8.5–9 gr.

SOFT PART COLORS: Male only: tarsus medium gray; bill light gray with black culmen; iris brown.

VOICE: (R) Very high-pitched "too-sweet . . . too-sweet. . . too-sweet. . . too-sweet-sweet-sweet," sung with lilting rhythm.

BREEDING: Of three males collected at Garuchos, one of August 7, 1973 had undeveloped testes and two of October 23, 1975 had much enlarged ones.

BEHAVIOR: Seen in canopy in mixed flocks with *Poliophtila lactea*, *Hemithraupis guira*, and *Philydor rufus*.

SPECIMENS: MCN: 1548–1549*. AMNH: 812761*.

Coereba flaveola

Map 215

Bananaquit
Cambacica

DISTRIBUTION AND STATUS: Resident along littoral from Santa Catarina border to about 32°S; W through central trough almost to Santa Maria, including S edge of planalto, and in NW near Rio Uruguay, usually in forest edges, gardens, and scrubby areas with lush growth. However, I have also seen it in sparse, spiny, acacia vegetation along roadside in open rice and cattle country. Common along NE coast, becoming scarcer farther S and W and at higher altitudes. *Coereba f. chloropyga*.

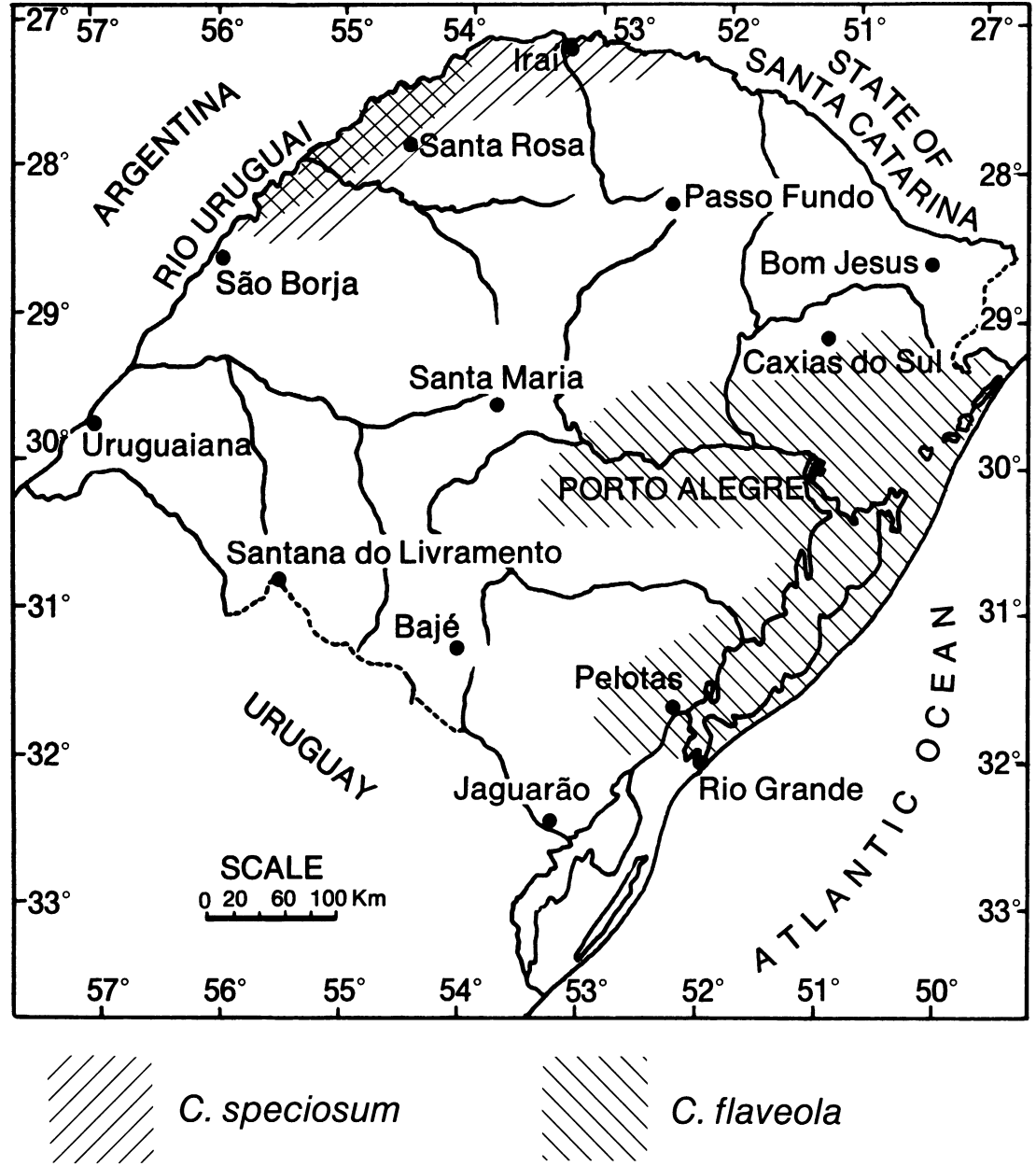
FIELD MARKS: Long white superciliary on black face and head, decurved black bill.

SIZE: One male: 105 mm, 10 gr. One female: 110 mm, 10 gr.

SOFT PART COLORS: Tarsus gray; bill black; iris brown.

VOICE: (R) Rapid series of about 10 very high-pitched "tsee's," terminating with longer, slurred phrase rising to higher pitch.

BREEDING: Male collected October 8, 1972 near Tôrres had much enlarged testes.



MAP 215. Geographical distribution of *Conirostrum speciosum* and *Coereba flaveola* in Rio Grande do Sul.

Female collected N of Mostardas on May 30, 1974 had inactive ovary. Voss (personal commun.) found one nesting in cactus at zoo, Sapucaia do Sul, on July 23, 1981.

BEHAVIOR: One fed on eucalyptus flowers

at Fazenda Primavera on September 6, 1974. Rural resident of Tôrres referred to species as “papabanana” = “banana-eater,” which may reflect food preference in that area, only region in state where bananas grown in quan-

tity. Voss and Sander (1980, 1981a) reported it feeding on fruits of nine different wild and cultivated plant species.

SPECIMENS: MCN: 1541-1542*. MN: 11681. AMNH: 316112, 316113.

FAMILY VIREONIDAE
Subfamily Cyclarhinae

Cyclarhis gujanensis

Rufous-browed Peppershrike
Gente-de-fora-vem or *Pitiguari*
(Outsiders Coming) (both names onomatopoeic)

DISTRIBUTION AND STATUS: Common resident in forests, parks, and gardens practically throughout, but not yet registered for S or W tips. *Cyclarhis g. ochrocephala*.

FIELD MARKS: Stout bill, Strong Brown lores, short superciliary.

SIZE: Three males: 159-179 mm, 27.5-30 gr. Two females: 164-178 mm, 27-31 gr.

SOFT PART COLORS: Tarsus (live bird) Bluish Gray; maxilla brown, grayish brown, or reddish gray; mandible light gray to pinkish gray, tip sometimes brownish; iris (live bird) Deep Reddish Brown.

VOICE: (R) Strong, loud, clear series of whistled notes, delivered in several different versions. One, often heard in Gramado, repeated name of town mayor: "DinneBIER DinneBIER." Another invites: "come 'ERE. . .come 'ERE. . .come 'ERE." Another justifies onomatopoeic name: "PitiguarEE." I have never been able to detect either "Gente-de-fora-vem" or version cited by Mitchell (1957) "Gente-de-fora-ja-chegou" in repertoire of Rio Grande do Sul birds.

BREEDING: Well-developed juvenal was being fed by adult on January 23, 1975 near Piraiini. Male of pair collected September 25, 1972 had well-enlarged testes, but ovary of female inactive, as was that of female collected October 4, 1970. Male collected December 1, 1975 and female of December 16, 1975 both had enlarged gonads, while those of male collected March 5, 1976 inactive.

BEHAVIOR: Species in Rio Grande do Sul behaves very much as in Central America as described by Skutch (1967), singing hidden high in trees while frequently foraging at lower levels. Moves quietly and deliberately. When held in hand, is aggressive and can leave distinct and painful imprint with bill.

SPECIMENS: MCN: 246, 1569-1575*. MN: 16192, 16195. AMNH: 315740-315749, 321407, 321408, 322011-322014, 810527-810528*.

Subfamily Vireoninae

Vireo olivaceus
Map 216

Red-eyed Vireo
Juruvicara

DISTRIBUTION AND STATUS: Common summer resident found in most parts of state in forests, parks, and gardens, usually high. Although common on NE coast, I have not found it elsewhere along littoral except occasionally W of Lagoa dos Patos. However, Ihering (1899a) cites record for Rio Grande. Earliest spring date September 10 (all September records from N part of state). Latest fall record May 5, near Barra do Ribeiro. In Gramado, bird banded November 13, 1971 recaptured January 3, 1973 and another banded December 31, 1974 recaptured December 10, 1975. *Vireo o. diversus*; possibly *V. o. chivi* in far W.

FIELD MARKS: Broad white superciliary from bill to well behind eye, with narrow black line between it and gray cap.

SIZE: Four males: 144-150 mm, 15-17 gr. One female: 140 mm, 16 gr.

SOFT PART COLORS: Tarsus light gray to light yellowish brown; maxilla black to blackish brown; mandible light gray, sometimes with dark tip; iris brown, *not* red.

VOICE: (R) Incessant, monotonous song consisting of successive brief bursts of trill, slur, or two or three separate notes, is feature of spring and summer in Rio Grande do Sul woodlands, but is perhaps less persistent than song of same species in North America. Although birds present in numbers through March, song not frequently heard after January. Warning or aggression note: sharp, nasal, catlike squall.

BREEDING: Three males collected October 17, 1970, November 9, 1972, and January 29, 1971 all had well-developed testes, but those of another male of November 9, 1972 were only slightly enlarged. Ovary of female collected October 17, 1970 inactive.

BEHAVIOR: Methodically searches upper levels of branches and foliage for sustenance.

More evident because of song than due to any other trait. On November 1, 1972 I saw one feeding in exotic *acácia-negra* (*Acacia mollissima*), normally not attractive to local birds.

SPECIMENS: MCN: 280, 281, 286, 1550–1552*. MN: 16058. AMNH: 322006–322010, 322107–322130bis, 812773–812774*.

Hylophilus poicilotis
Map 216

Rufous-crowned Greenlet
Verdinho-coroado
(Crowned Greenlet)

DISTRIBUTION AND STATUS: Uncommon, probably resident, in forests and forest edges near escarpment, from behind Tôrres to upper Rio Jacuí and along upper reaches of Rio Uruguay. Usually found much lower than “forest treetops” mentioned by Meyer de Schauensee (1970). I have found it in all months except May and June. One July record was at 1000 m. *Hylophilus p. poicilotis*.

FIELD MARKS: Only other Rio Grande do Sul species with rufous cap and olive back is *Dysithamnus mentalis*, but *H. poicilotis* cap much more extensive and brighter, back much lighter, and tail very much longer.

SIZE: One male: 130 mm, 10 gr. Two females: 120–127 mm, 9–10 gr.

SOFT PART COLORS: Tarsus light gray; maxilla grayish brown; mandible very light gray; iris brown.

VOICE: (R) Rapid series of from six to eight high-pitched identical phrases: “ooweeet-ooweeet-ooweeet.”

BREEDING: In full song on September 29, 1975 at Lagoa do Jacaré; one was carrying green moss. In same area on December 16, 1971 I collected immature with unossified skull. Near São Francisco de Paula at 840 m on October 13, 1973 male collected had somewhat enlarged testes, but female on same date had inactive ovary. There was active singing in nearby Canela in early December 1976.

BEHAVIOR: Usually observed in pairs, quietly searching thickets and other foliage from 2 to 5 m aboveground, often at forest edge.

SPECIMENS: MCN: 1576–1578*. MN: 16409. AMNH: 315729–315731, 812775*.

FAMILY ICTERIDAE
Subfamily Icterinae

Cacicus haemorrhous
Map 217

Red-rumped Cacique
Guaxe (onomatopoeic)

DISTRIBUTION AND STATUS: Occurs in broadleaf forests and nearby cultivated areas at scattered localities in upper Rio Uruguay basin, from Garruchos to Nonoai. Most SE location few km N of Ijuí. Earliest record for species is July 30 and latest February 6, but questionable if this indicates regular migratory movement in and out of state. However, there is some sort of movement, as evidenced by fact species seen only on second visit to Turvo Forest Reserve and fourth visit to Nonoai Forest Reserve. Species first registered for state in 1971 (Belton, 1973a), but apparently is not new arrival, for it known by name to local residents in area of distribution. *Cacicus h. affinis*.

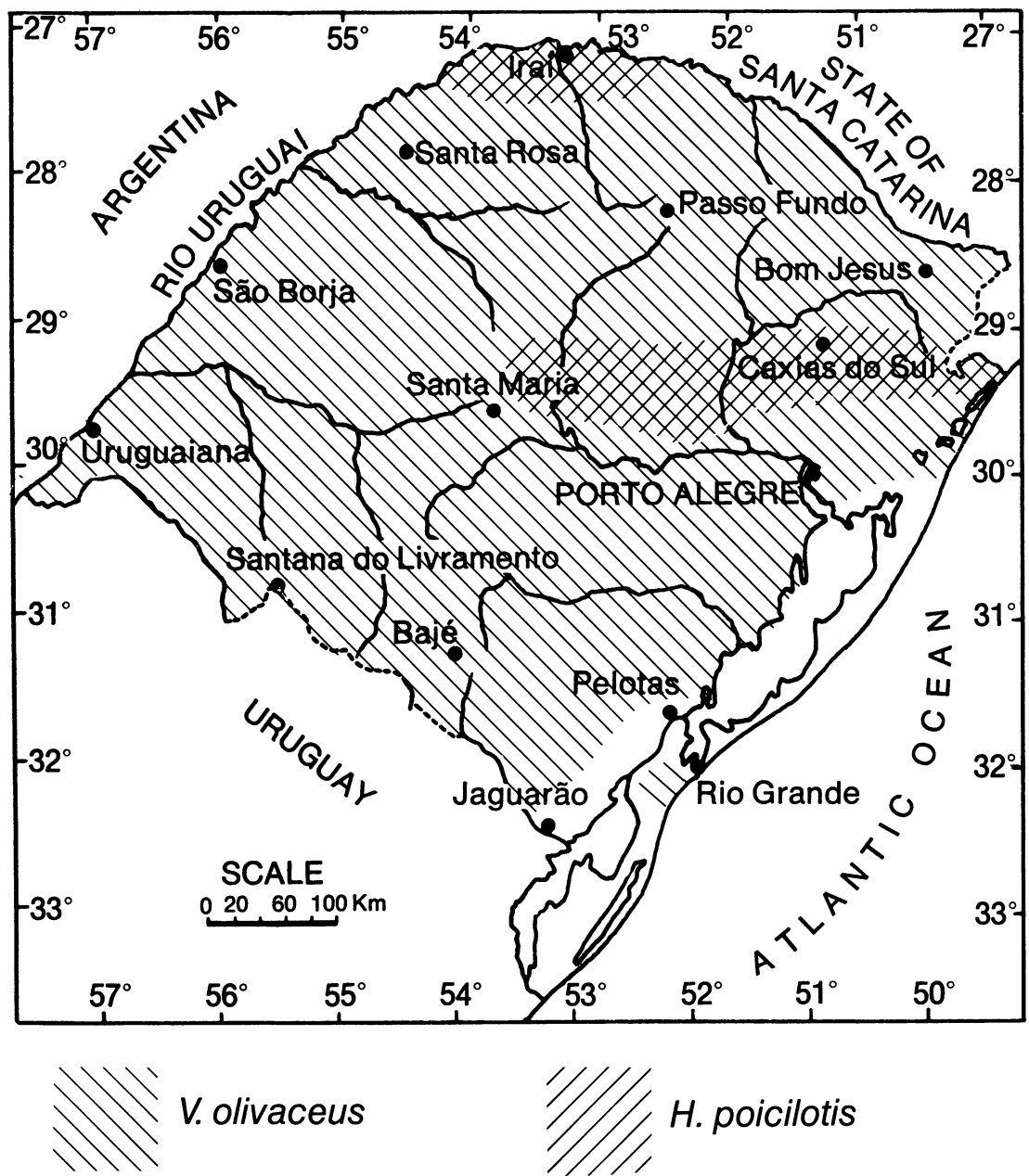
FIELD MARKS: Large, jet black, with very light-colored, prominent bill and vivid orange-red rump. Local birds lack glossy, blue-black plumage and ivory bill mentioned by Meyer de Schauensee (1970).

SIZE: One male: 298 mm, 93 gr. Four females: 244–260 mm, 62–70 gr.

SOFT PART COLORS: Tarsus black; bill bright yellow to light greenish yellow at unfeathered base, blending to light greenish gray at tip; iris light blue.

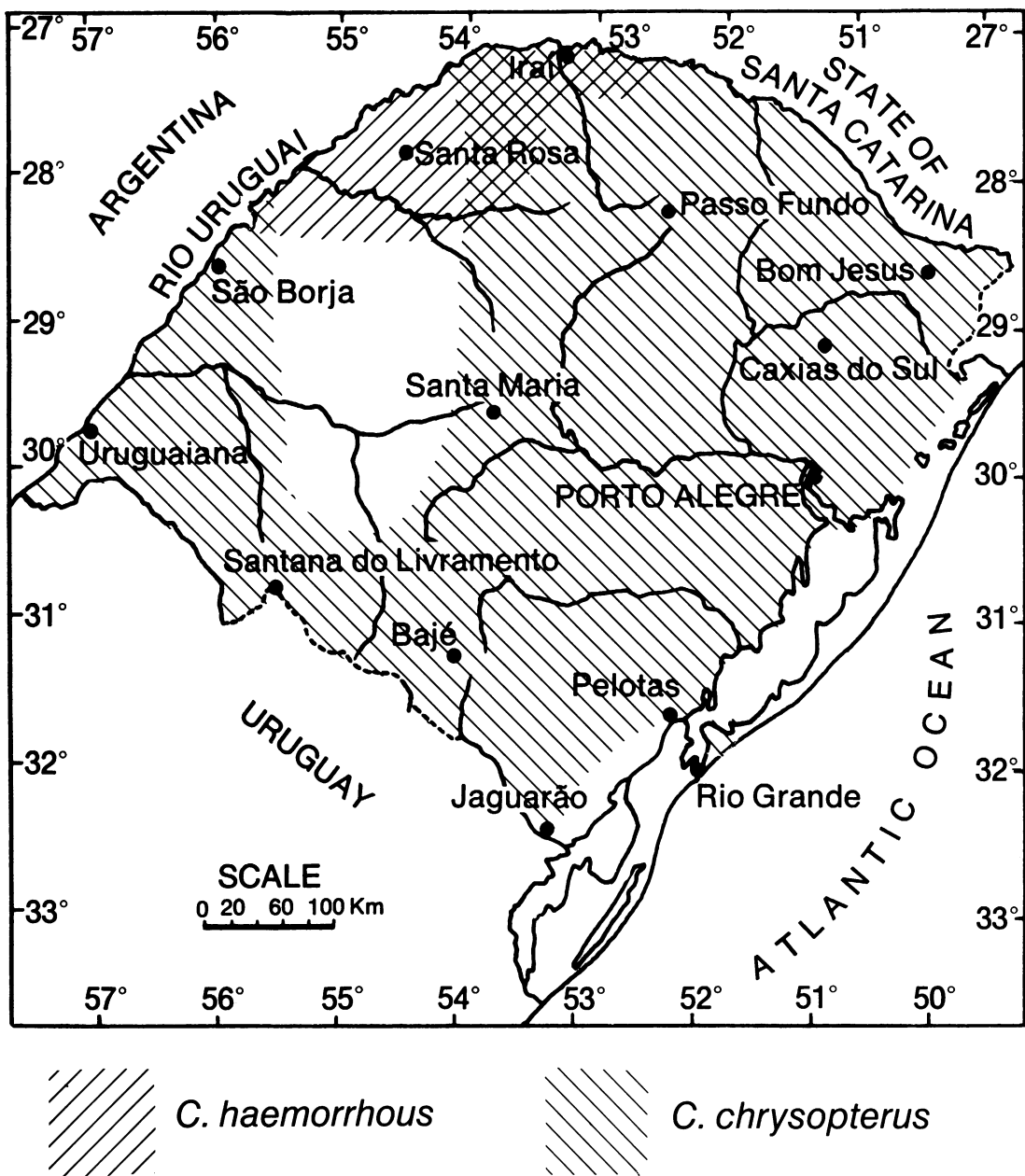
VOICE: (R) Most common sound is harsh “gwash,” but there is wide variety of other sounds, including a two-noted bugling; a whistled, five-noted “-- -- -- -- ----”; many guttural noises, and at least one which sounds mechanical, as if made by brushing stiff feathers against some object. There is much vocalization in flight, when stiff-feathered sound can also be heard.

BREEDING: Both colonial nesting sites I have seen were in palm trees standing in cultivated fields not far from forest edge, with semi-pendulous pouch nests woven among leaflets



MAP 216. Geographical distribution of *Vireo olivaceus* and *Hylophilus poicilotis* in Rio Grande do Sul.

of palm fronds so they became firmly fixed to fronds and swung with them in wind. Nest starts in form of woven cord which follows out stem of drooping frond before widening into more pendulous pouch section. Several nests on one frond sometimes make it difficult to distinguish one from another. Nests appear to be woven of grasses and other long, fibrous material in addition to palm leaflets. They have side entrance about two-thirds up



MAP 217. Geographical distribution of the two species of *Cacicis* found in Rio Grande do Sul.

length of pouch, which at about 50 cm, seems relatively short considering size of bird. In both colonies nesting tree was from 12 to 15 m high. Nest building was just under way on September 14, 1971 at Turvo Forest Reserve with only one of seven nests having pouch part completed. Colony near Garruchos had

approximately 20 nests and was in full operation when observed during last week of October 1975. Male collected October 25, 1975 had greatly enlarged testes and two females and one unsexed specimen collected October 31, 1975 had active ovaries and/or brood patches.

BEHAVIOR: Birds in colony near Garruchos constantly flew back and forth in all directions between nesting palm and surrounding forest. Their calls could be heard at almost any time of day in forest within 1 km of colony site, while site itself was constant source of noise audible for 300–400 m. Foraging seemed to occur mostly high in forest trees, though individual birds and small flocks sometimes perched on low bushes at forest edge or even in center of cultivated area. Flight across forest was usually just at treetop height, dipping lower at small clearings. Voss and Sander (1980, 1981a) report this species eating fruit of *camboatã* (*Cupania vernalis* Camb.) and *camará* (*Lantana camara* L.).

SPECIMENS: 1621–1623*. AMNH: 812776–812778*.

Cacicus chrysopterus

Map 217

Golden-winged Cacique

Tecelão

(Weaver)

DISTRIBUTION AND STATUS: Common resident in forests and brushy open areas with trees near woodland through most of state, but rare or absent from littoral. No records from NE coastal forest nor from S tip, but Ihering (1899a) found it in São Lourenço, and Gliesch (1930) in São José do Norte. I lack records for region W and NW of Santa Maria.

FIELD MARKS: Black with yellow rump and shoulder patches.

SIZE: One male: 203 mm, 39 gr. Two females: 191–195 mm, 31.5–34 gr.

SOFT PART COLORS: Tarsus black; bill Light Bluish Gray; iris white.

VOICE: (R) Very varied repertoire without standard pattern, but normally beginning with few mellow, full, resonant gurgling notes and terminating with louder, clear, more emphatic sounds ranging from mild shriek to phrases such as “peter peter,” “towit towit,” and “chew chew.” One of pair responded to each call of mate with similar but different song. While calling, one of these birds leaned forward until practically upside down. Another common vocalization is high, querulous, whiny wheeze.

BREEDING: Nest is pendant pouch about 60 cm in total length, hanging loose from branch

or vine in mid-forest, often at height of from 3 to 5 m aboveground. Constructed almost entirely of black vegetable fiber resembling coarse horse hair, woven into narrow tube which gradually widens into pouch about 9 cm in diameter at lower end. Entrance slit, about 20 cm from bottom, is at point where tube becomes pouch constituting egg chamber. Sides of pouch tightly woven but thin enough so light can be seen through both walls. At bottom, however, material woven into thick cushion approximately 15 mm thick. There is no nest lining.

R. v. Ihering (1968) says material from which these nests made is “debarked” Spanish moss, *Tillandsia usneoides*. I have examined common Spanish moss of Rio Grande do Sul and find that after outer layer stripped off, remaining fiber much thinner than fiber used in nests, and jointed every 3 to 4 cm with tendency to break at joints. Fiber in nest is occasionally branched but unjointed and resistant to breaking. Remnants of old nests often found hanging in forest. Nest I had for several years remained flexible with good tensile strength. This long, threadlike fiber can be found in Rio Grande do Sul closely adhering to trunk and branches of forest trees. Sick (1957 and personal commun.) informs me it is hyphae of *Marasmius* sp. fungus.

Sick and I found nearly completed nests on October 15 and 19, 1971. Female collected January 27, 1971 had inactive gonads, as did male and female collected March 24, 1975.

BEHAVIOR: Often perches prominently on tops of trees or ends of branches at forest edge. Rarely more than one pair seen in an area, but on July 6, 1973 at Fazenda São Roberto flock of six together in small tree.

SPECIMENS: MCN: 1619–1620*. MN: 15760. AMNH: 316484–316492, 322090, 322091, 812779–812780*.

Icterus cayanensis

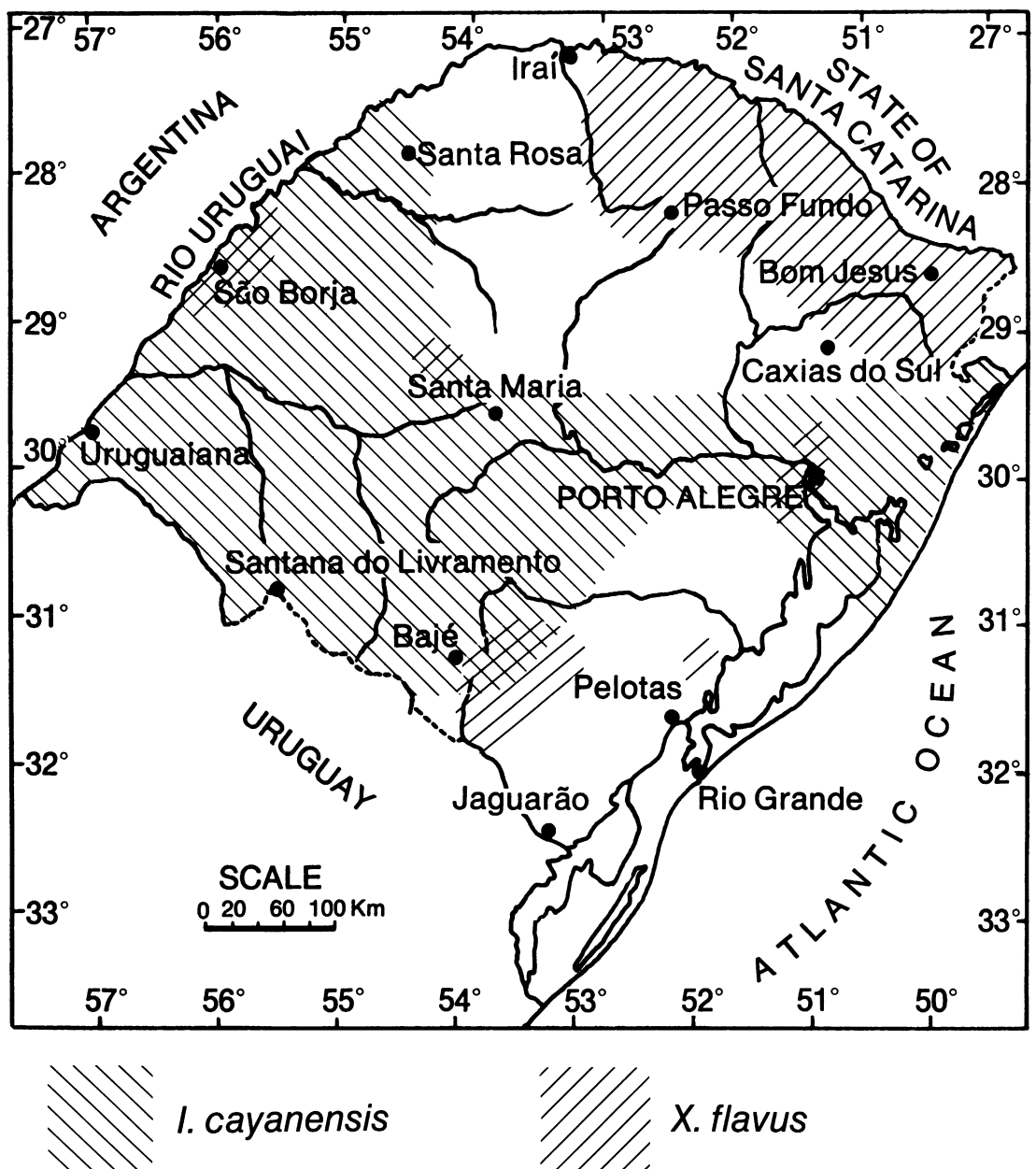
Map 218

Epaulet Oriole

Encontro

(Shoulder-patch)

DISTRIBUTION AND STATUS: Resident, in medium to upper levels of woodlands, especially gallery forests. Registered at many



MAP 218. Geographical distribution of *Icterus cayanensis* and *Xanthopsar flavus* in Rio Grande do Sul.

scattered locations in NW, W, SW, and along central trough E to coast. Not usually found at significant altitudes, though seen in isolated cases up to 400 m and once near Gramado at 800 m. Moderately common in W, uncommon in E. *Icterus c. pyrrhopterus*.

FIELD MARKS: Among local icterids, it has longest tail relative to body size and most slender bill. Strong Brown to Deep Brown shoulder patches not always readily visible.

SIZE: One male: 202 mm, 29.5 gr. One female: 201 mm, 35 gr.

SOFT PART COLORS: Male tarsus and bill black; iris brown. Female tarsus gray, bill black; iris light chestnut.

VOICE: I once heard very attractive, varied song, and have also heard both gurgling and whining sounds similar to those of *Cacicus chrysopterus*. Voss (personal commun.) informs me he has heard it imitate parts of songs or notes of *Furnarius rufus*, *Mimus saturninus*, *Molothrus badius*, *Guira guira*, *Crotophaga ani*, and *Buteo magnirostris*.

BREEDING: Near Garruchos on October 23, 1975 after hearing above-mentioned song I saw singer fly to palm from which it stripped off several lengths of fiber from leaves and carried them back to singing area. On October 30 I found its nest, apparently woven entirely of palm fiber and hung under dead leaves of palmlike small tree of lily family, *Cordyline dracaenoides*. Nest practically invisible even from very close range, being placed to be almost fully sheltered from weather. Cup-shaped structure was suspended between downward pointing leaves to which it had been anchored at its top edges, but was not pendulant. It was about 4 m aboveground. Light could be seen through bottom, indicating loose weaving. Eggs were probably being incubated, for adult went off nest each time I approached.

BEHAVIOR: Normally quiet, unobtrusive species, usually seen singly or in pairs, though Voss (personal commun.) reports group of 10 or 12 foraging in mixed flock at zoo on April 24, 1981. Voss and Sander (1981a) report it feeding on Japanese persimmons (*Diospyros kaki* L.).

SPECIMENS: MCN: 1598–1599*. AMNH: 810532*.

Xanthopsar flavus
Map 218

Saffron-cowled Blackbird
Veste-amarela
(Yellow-vest)

DISTRIBUTION AND STATUS: Uncommon resident, found primarily in NE highlands and similar terrain in SE hills near Uruguayan border, with scattered occurrence elsewhere, in rolling, hilly pastureland and boggy swales. These swales usually saturated and muddy but have little standing open water.

They customarily lack reeds and sawgrass of large marshes, but are characterized by *Eryngium* spp., tall grasses, low sedges, and miscellaneous bushes.

FIELD MARKS: Male has rich all-yellow, sometimes orangy head and underparts. Female shares brown upperparts and yellow rump of *Pseudoleistes guirahuro*, with which it is often found in mixed flocks, but is much smaller and has yellow on face.

SIZE: One male: 200 mm, 43 gr.

SOFT PART COLORS: Tarsus and bill black; iris orange-brown.

VOICE: (R) High-pitched, squeaky “tee.tee.t.tee,” intermingled with individual “chuk” and “chic” notes. Females sing, similar to males, but weaker and less shrilly.

BREEDING: On November 23, 1971 about 35 km S of Vacaria at about 850 m altitude I found nest with four young which Paul Schwartz estimated were about eight days old. Nest in wettest part of typical upland swale, without standing water, but water oozed out of grassy tufts as they were stepped on. No high vegetation in this spot and open cup nest, of woven grasses, was only about 30 cm aboveground in small clump, attached to dry weeds and woody stalks. It was quite open to sky, but leaves of some components of clump provided partial shade. In period of something more than one hour female made two trips to nest with caterpillars, and once carried feces from nest to edge of swale. Male appeared with food in bill and stayed in vicinity for almost an hour without going to nest. Another pair appeared to be nesting about 75 m away. Most of time flock was about 500 m away, and I had impression female joined it when she departed nest.

At Saiqui, Canela, at about 800 m altitude, in early November 1972 I watched nesting activity in boggy swale with water-saturated surface, coarse grass clumps about 1.5 m high and taller bushes. Basic construction of one nest was nearly complete by November 3. It was fairly deep cup, mostly woven of dry, coarse grasses, with one green grass leaf, some lighter dry grasses, and some small flexible sticks. Nest was suspended about 1 m aboveground from coarse grass leaves just below point where several of these, growing up from separate clumps, intersected to form tepee shape which provided some slight protection

from elements. By morning of November 6 nest had lining of fine grasses and one light-colored egg heavily spotted with dark red. On late afternoon of November 7 there were two eggs, wet from heavy rain. There were still only two eggs following morning. These disappeared over next three days. Second nest, only 3 to 4 m from one above, was discovered about half finished on November 8 and by November 12 it had fine grass lining completed. Third nest, approximately 10 m from other two, was discovered November 11 in sodden condition from heavy rain, but fine grass lining was being installed November 12.

Females did all nest construction, with males usually remaining in near vicinity, often on high spikes of vegetation from which they performed guard duty and occasionally sang. Male of first nest tolerated male of second until it approached closer than about 5 m, when he drove it away. He also drove away pair that approached too closely. On one occasion he arrived with small flock that settled on grass spikes in immediate vicinity of nest. He then began to drive other flock members away from area, succeeding after some five minutes. Once this male drove away and gave vigorous pursuit to female from second nest. He also drove away pair of *Pseudoleistes guirahuro*, but tolerated pair of *Xolmis dominicana* (see below for special situation this species).

BEHAVIOR: Process of driving other birds away from nesting territory usually consisted simply of flying in direction of intruder, who would almost always depart. When one reacted aggressively, the two fought briefly in air. Once, I saw territorial bird and conspecific intruder displaying at each other by stretching necks and pointing bills straight up. When two intruding pairs approached too close on one occasion, nesting female moved toward them, fluttering wings and lifting tail as if soliciting, though action seemed designed to be threat. I saw similar action in another nesting season when two females flew into area of high grass in swale where three males were perched. One approached a male, fluttered wings and wagged tail sideways without getting any reaction.

Species lives in flocks of from approximately 10 to 50 individuals, with occasional bands of 100 or more. It appears to feed pri-

marily by walking along ground, often in mixed flocks with *P. guirahuro* and *Gnorimopsar chopi*, in hilly pasture land surrounding the boggy swales where it roosts, rests, and nests. Flocking behavior does not cease during breeding season, birds continuing to feed together on hillsides while individuals, pairs, and small groups move back and forth between there and nesting area. Only once have I noticed rivalry in feeding area, when, during nesting season, two males were fighting, seemingly over nearby female.

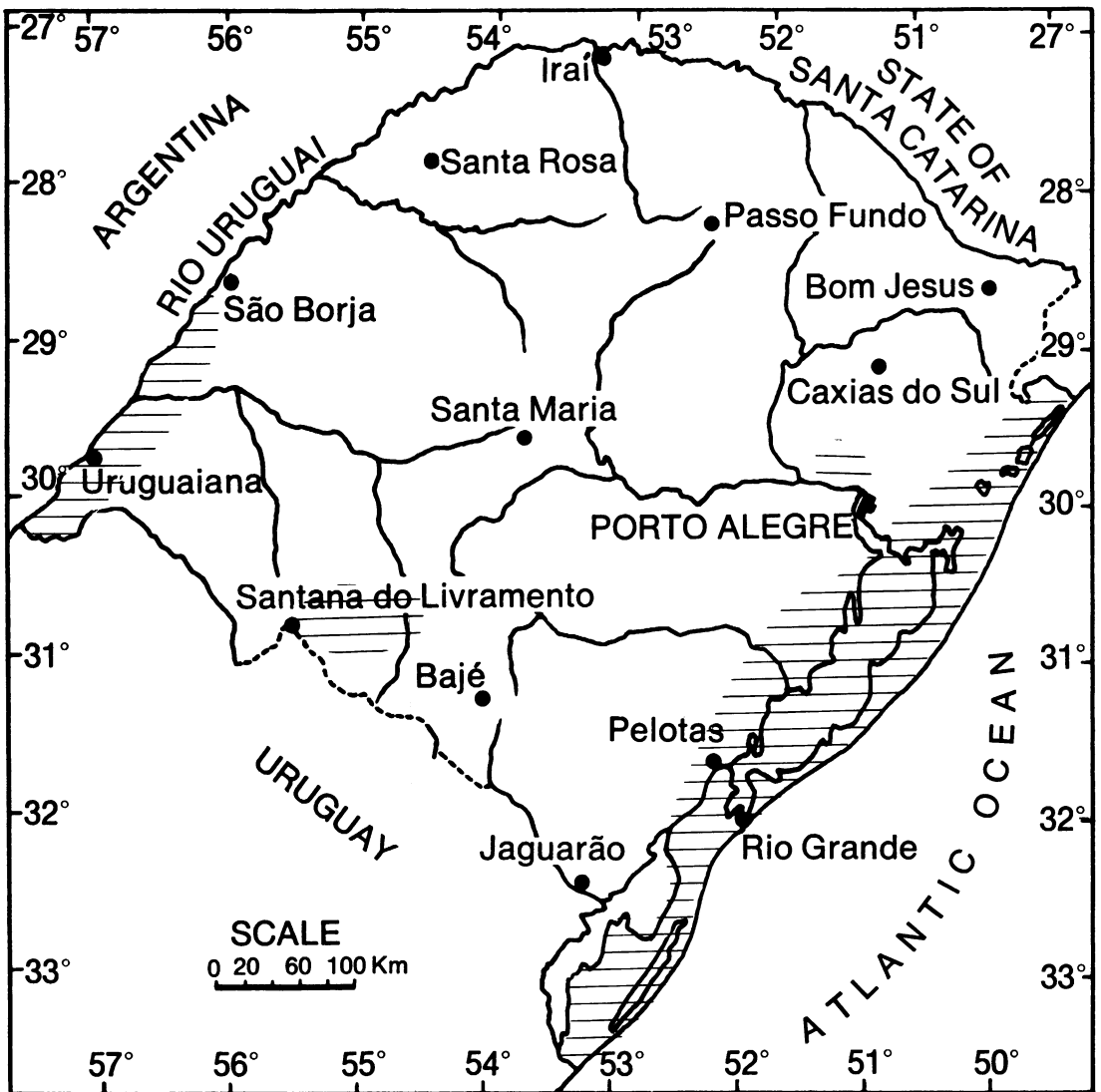
One of most interesting features of Rio Grande do Sul bird life is affinity of this species for *Xolmis dominicana*. This large, conspicuous tyrannid shares both hillside and marshy habitats of this icterid, perching on tops of low but prominent bushes, spikes of grass, stones, or other projecting objects to watch for prey which it picks off ground in flight. Dozens of times I have watched flocks of *X. flavus* come into marsh from hillside, or vice versa, and fly directly to immediate vicinity of a perched *X. dominicana*. When the *dominicana* flies to another perch, all *flavus* follow. On typical occasion *dominicana* was perched on high *Eryngium* spike in center of flock of *flavus*, five of which were perched lower and within radius of about one m. When *dominicana* flew no more than 5 m to another spike, three *flavus* immediately followed. This occurs throughout year, but I have been unable to determine what attraction *dominicana* has for *flavus*. Feeding does not seem to occur while they are perched together, and I have noticed no other interaction. Individual *dominicanas* accept *flavus* flocks without objection, but do not follow them. One country resident who told me he had been observing this phenomenon all his life, explained it by saying *dominicana* is "chief" of the *flavus* flock.

SPECIMENS: MCN: 1582–1583*. MN: 31276*, 32228*. AMNH: 316505–316510.

Agelaius thilius
Map 219

Yellow-winged Blackbird
Sargento
(Sergeant)

DISTRIBUTION AND STATUS: Locally common resident of entire littoral, lower Rio Uruguay area N to São Donato marsh, and



MAP 219. Geographical distribution of *Agelaius thilius* in Rio Grande do Sul.

scattered interior points, in marshy areas, usually remote from civilization and cultivation. Greatest relative abundance in Taim marsh and adjoining regions. *Agelaius t. petersii*.

FIELD MARKS: Male all black except for yellow at bend of wing. Female much more heavily and distinctly streaked below than any other local icterid.

SIZE: One immature female: 180 mm, 30.5 gr. One subadult male: 178 mm, 30 gr.

SOFT PART COLORS: Male: tarsus and bill black; eye dark.

VOICE: (R) Produces some attractive tinkling notes, usually interspersed with non-musical "chuck's" and "wip's" and often overshadowed by varied repertoire of drawn-out light raspy gagging, sounds of ripping cloth, and other mechanical-type noises. Notes of a female or juvenal were nondescript, irregularly timed "wip...wip-wip...wip...."

BREEDING: Male collected October 8, 1971 had much enlarged testes.

BEHAVIOR: In contrast to extremely gregarious *A. ruficapillus*, this species associates

only in pairs or small flocks, and its flight much weaker than that of congener. I only once saw *thilius* away from typical marsh habitat. On February 13, 1974, few hundred m from reeds and rushes at edge of Lagoa da Mangueira, about 15 were feeding in flooded soybean field, flying back and forth between planting and telephone wire running through it. I collected immature bird in female plumage there and found stomach filled with insects, caterpillars, and other small animal life.

SPECIMENS: MCN: 1595–1597*. MN: (WB)469*, (WB)1197*. AMNH: 321480–321489, 322099–322102, 521158.

Agelaius cyanopus

Map 220

Unicolored Blackbird

Carretão

(Type of ox cart, often with very squeaky wheels)

DISTRIBUTION AND STATUS: First registered for state in sawgrass of São Donato marsh (Belton, 1978a) and not yet found elsewhere. Seen May 7 and 8, 1974, November 23, 1974, and November 2, 1975. Only few birds observed on each occasion, either singly or in groups of up to about six. *Agelaius c. cyanopus*.

FIELD MARKS: All black male has long, slender bill. Female has streaking on yellow underparts and chestnut on back.

SIZE: One male: 197 mm, 43 gr.

SOFT PART COLORS: Adult male: tarsus and bill black; iris brown. Immature male in female plumage: tarsus and maxilla black; mandible light brownish gray; eye dark.

BEHAVIOR: Although Wetmore (1926, p. 381) found males of this species wary, flock of four males and two in female plumage attended my squeaking lure and perched on small clump of dried grass not more than 3 m from me.

SPECIMENS: MCN: 1593–1594*.

Agelaius ruficapillus

Map 220

Chestnut-capped Blackbird

Garibaldi

DISTRIBUTION AND STATUS: Abundant resident in reedy marshes and cultivated rice fields along entire littoral; through central trough, and W at least to Rosário do Sul;

down into rice-growing valleys of SW; and along lower Rio Uruguay valley N to São Donato. Some local movement, determined by rice cycle. Very scarce on Mostardas peninsula in late July 1981. Species must have occupied E and central RGS in significant numbers only within present century, for Ihering, who lived in heart of its present range from 1884 to 1893, wrote (1899a) that he had not yet obtained it although Burmeister had said it occurred here. While rice production probable factor in spread of species here, two did not coincide, for commercial rice growing well established as early as 1908 (H. Sta. Helena, personal commun.). Gliesch (1930), who worked primarily in E part of state, did not collect it between 1914 and 1927 and Kaempfer did not collect any during 1929–1931, but Garbe found it near Itaquí in 1914 (Pinto, 1944). At present it is contender for most abundant species in state. While range much more restricted than that of several other very common species, frequency and quantities in which it occurs in rice-growing areas is impressive. *Agelaius r. ruficapillus*.

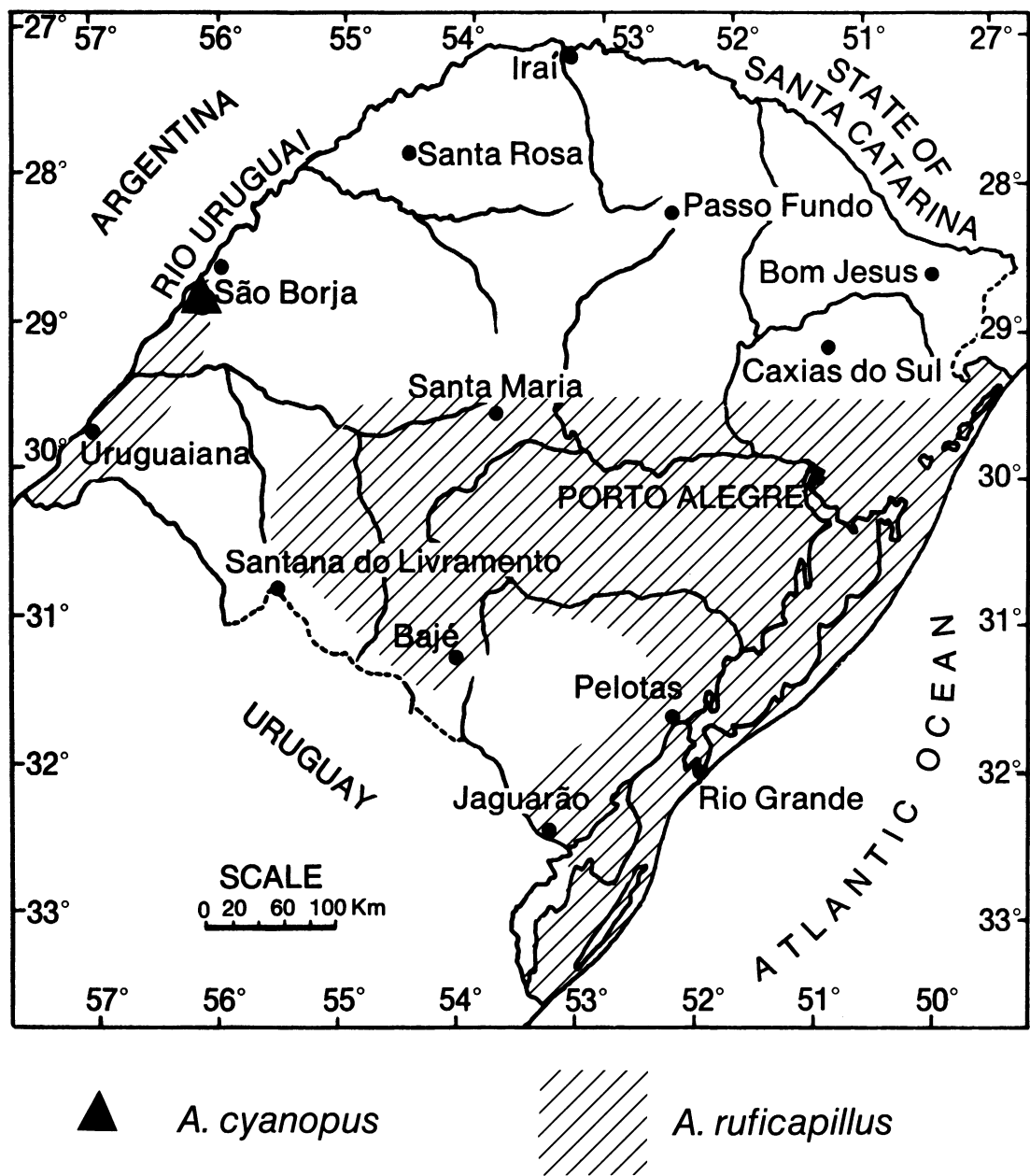
FIELD MARKS: Male has chestnut cap, throat, and breast often not readily visible at any distance. Nondescript streaked females distinguishable from young of *Molothrus bonariensis* by tawny throat and upper breast and by olivaceous tones in remaining plumage. Acquisition of full adult male plumage is prolonged process with considerable individual variation in relative rate at which chestnut and black replaces olive. While banding this species as long after breeding season as October 5 and 6, 1972, I found wide gamut of immature male plumages, ranging from mostly olive with only slight chestnut, to almost complete adult feathering lacking only chestnut on crown.

SIZE: Six males: 174–196 mm, 39–44 gr. Two females: 165–175 mm, each 32 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

VOICE: Glassy tinkle, often given in flight, and also a low, almost ventriloquial gurgle. Pair of males displaying at each other by stretching head and neck in cowbird fashion, made clicking sounds.

BREEDING: Male collected near Tôrres October 5, 1972 had greatly enlarged testes. Male



MAP 220. Geographical distribution of two species of *Agelaius* in Rio Grande do Sul.

gathered nesting material November 3, 1975 at São Donato marsh. On January 1977 I watched male constructing nest at Inhatium marsh, wrapping what appeared to be dead reeds around standing reeds among which it was being built. Female perched nearby, observing action but not participating. Klimai-

tis (1973) observed opposite division of labor between sexes in Buenos Aires province. On December 13, 1974 at Fazenda Primavera, Silva and I investigated two nests in sarandi thicket containing small nesting colony. They were 1.5 m apart, one about 60 cm, the other about 1 m above surface of water 1 m deep.

One nest made of heavy, dry sawgrasses, with roots and mosses in exterior portion, and lined with fine grass. It sat on almost horizontal branch, with some of construction material wound around branch. Cup very deep, 70 mm, with inside width 65 mm at top. Nest wall 29 mm thick at top. Each of two nests had three eggs, color between Bluish White and Very Pale Blue, lightly spotted black on large end. Similar nests, built among vertical reeds, one using 11 different reeds for support with grasses woven around each of them, were found N of Mostardas on January 26, 1974. One had three eggs being incubated. Near Uruguaiana on February 16, 1971 much display was taking place in flock, with males singing, flying up to float down to perches on top of rice stalks, and one male fluttering wings before female. On February 15, 1974 S of Rio Grande I collected female with almost fully formed egg in oviduct.

BEHAVIOR: During autumn and winter, especially when crop ripe, this species gathers in flocks of thousands in rice fields, often intermingled with *Molothrus bonariensis* and *M. rufoaxillaris*. In late afternoon they move in continuous smaller bands of 50 to 150 birds to roost in nearby marshes.

With acquisition of full adult male plumage so delayed, it is not surprising that large majority of birds one sees are in female or juvenal plumage. Even so, I have often seen flocks so uniformly composed of birds in female or juvenal plumage, and others containing preponderance of males or reasonable mixture of three, that it is apparent this species often separates into flocks by age or sex outside breeding season.

Rice is significant food item and probably principal one during harvest period from March through May. Rice growers claim birds do considerable damage so occasionally attempt control measures, without notable success. I found grasshopper along with rice in one stomach. When rice is unavailable, tastes seem to range widely. On September 26, 1974 I saw flock raiding ant nest—one built of short pieces of grass aboveground—which they had opened at top to expose number of interior passages. I believe they were eating ants, or eggs, for I saw no evidence of anting. On October 11, 1974 flock was feeding on eucalyptus flowers in trees near marsh edge.

While usually found in areas offering some cover, I have seen flock feeding in open, short-grass, water-saturated pasture, in manner of cowbirds. Although usually tolerant of other species, on July 14, 1973 I saw individuals from flock perched on weeds and reeds in roadside ditch leave their perches occasionally to chase *Tachycineta leucorrhoa* soaring nearby.

SPECIMENS: MCN: 256, 257, 1588–1592*. AMNH: 812781–812785*.

Sturnella (Leistes) superciliaris
Map 221

White-browed Blackbird
Policia-inglesa
(English Policeman)

DISTRIBUTION AND STATUS: Locally common resident, well dispersed throughout state but no records from most of NE highlands nor from N of 28°S. Found almost always in vicinity of field crops, such as rice, sorghum, or wheat, whether green or ripe. Although it occurs every month, relative infrequency of late fall and winter observations leads to assumption there may be considerable movement out of state during colder season. On other hand, some of largest flocks I have seen were in Uruguaiana area on July 13, 1973, so reduced occurrence may be due to concentration in certain areas. Presence in any given area sporadic, with numbers varying from few individuals to substantial flocks.

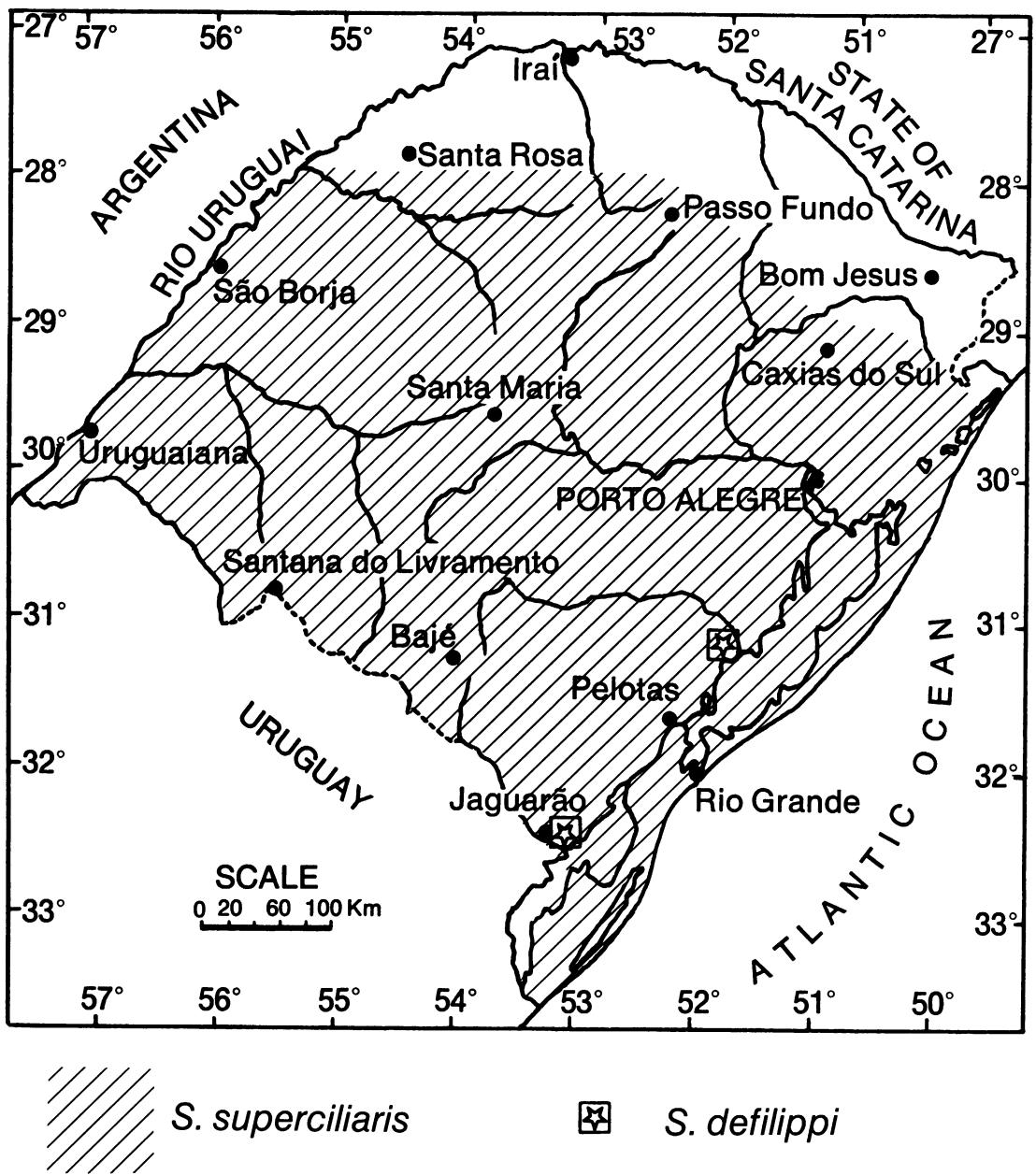
FIELD MARKS: Bright red breast of male distinctive. Female much lighter brown and more heavily mottled than female of any other local icterid, and often has pinkish cast to breast plumage.

SIZE: Two males: 174–182 mm, each 53 gr. One female: 170 mm, 39.5 gr.

SOFT PART COLORS: Male: tarsus reddish gray or grayish brown; maxilla black or very light tan; mandible black with gray at side of base or gray-brown; iris brown. Female: tarsus brownish gray; maxilla brown; mandible grayish tan; iris dark.

VOICE: (R) Song very high-pitched, thin and squeaky: “tsee t tseeee tee^{ee} chk chk chk.” Also produces variety of other sounds with thin, squeaky or mechanical quality.

BREEDING: Male collected September 25, 1971 had moderately enlarged testes. Male



MAP 221. Geographical distribution of the two species of *Sturnella* found in Rio Grande do Sul.

and female collected July 13, 1973 had inactive gonads.

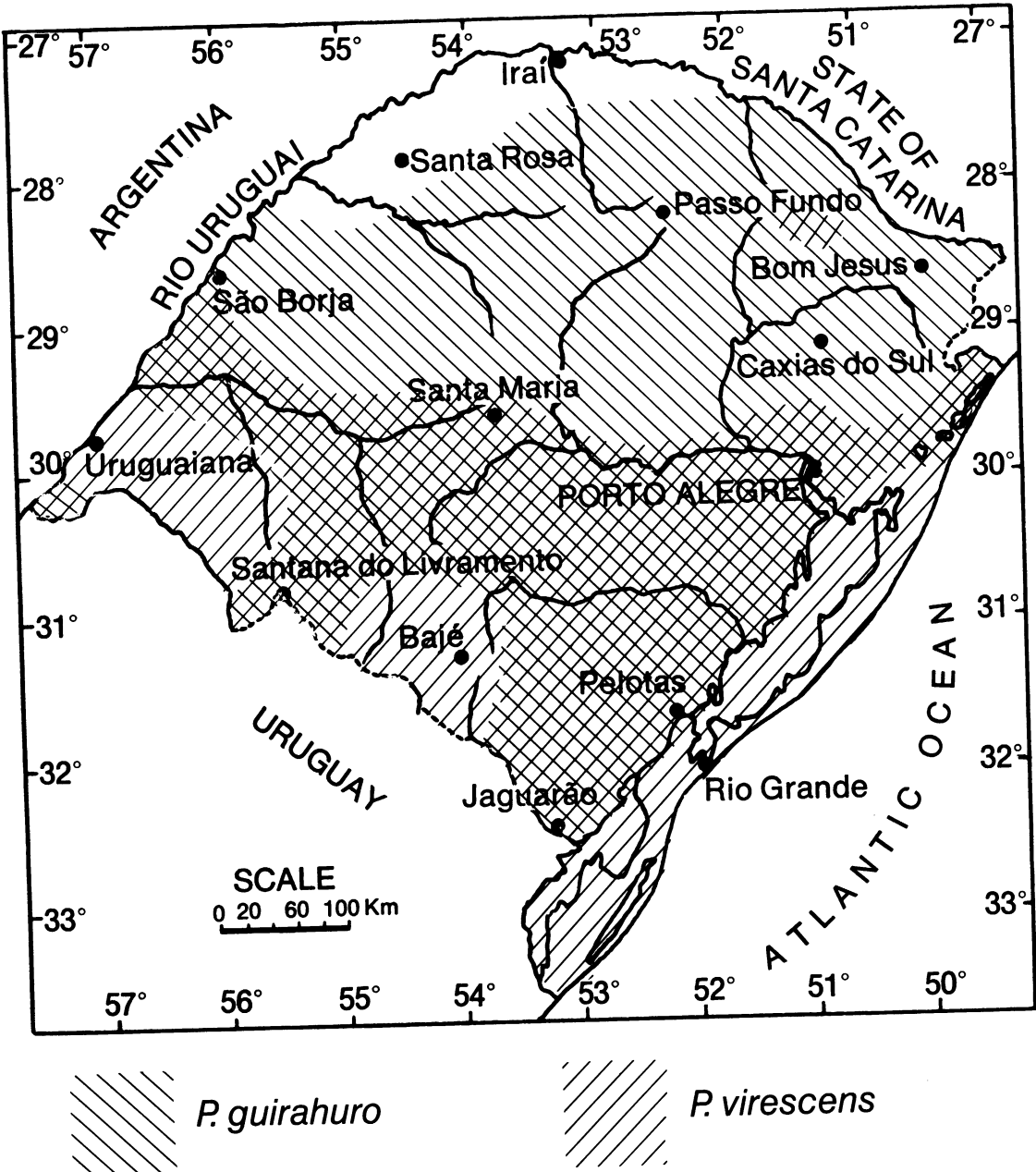
BEHAVIOR: Forages on ground in grain fields, often appearing at edges to sit on fence wires.

SPECIMENS: MCN: 1602–1604*. MN: 11449–11451. AMNH: 321717, 321718, 322092.

Sturnella defilippi
Map 221

Lesser Red-breasted Meadowlark
Peito-vermelho
(Red Breast)

Ihering (1899a) mentioned undated records for this species in São Lourenço and



MAP 222. Geographical distribution of the two *Pseudoleistes* species in Rio Grande do Sul.

Jaguarão. I have never seen it and know of no other records for state.

Pseudoleistes guirahuro
Map 222

Yellow-rumped Marshbird
Chupim-do-brejo
(Marsh Chupim)

DISTRIBUTION AND STATUS: Resident, in

well-drained, rolling grasslands having near-by marshy areas, in much of central area of state, but most regularly found in higher areas, especially of NE and SE hill country. Not registered in extreme N, most of littoral, and several Uruguayan border areas. Reasonably common, but less so than *P. virescens*.

FIELD MARKS: Differs from *P. virescens* by

yellow rump, larger size, and more extensive yellow on underparts, especially flanks.

SIZE: One male: 255 mm, 98 gr.

SOFT PART COLORS: Tarsus and bill black; iris (immature) gray-brown.

VOICE: (R) Song: usually three to five very high, shrill, often slurred notes in variable patterns, one or more of them rapidly trilled. Also a "chuk-chuk." Often vocalizes in flight, continuing to sing after alighting.

BREEDING: On October 14, 1971 nesting material was being carried into patch of broad-leaved plants in marsh in São Donato area, and on November 7, 1972 I saw nesting material being taken into patch of high bushes in marshy swale near Canela. On November 17, 1972 S of Encruzilhada do Sul adult was carrying food. Testes of males collected September 12, 1970 and June 4, 1972 undeveloped.

BEHAVIOR: Flocks of approximately 10 to 20 or more individuals can often be seen walking in steady progression as they forage in upland, hilly pastureland, frequently in company with *Xanthopsar flavus* in the more limited range of the latter. Nests, roosts, and rests in marshy areas where, in flatter or lower country, it comes into contact with *P. virescens*.

SPECIMENS: MCN: 619*, 1581*. AMNH: 316512, 316518–316528.

Pseudoleistes virescens

Map 222

Brown-and-yellow Marshbird

Dragão

(Dragon)

DISTRIBUTION AND STATUS: Common resident of marshy areas and low-lying moist meadows, mostly S of Ibicuí and Jacuí rivers to southern border, with northward extensions along littoral to Tôres and along Rio Uruguay to São Donato marsh area. Usually avoids higher, more rugged terrain, although I have found it at 400 m in Piratini. One record for March 8, 1971 from W of Vacaria at about 800 m was probably vagrant or misidentification.

FIELD MARKS: Smaller than *P. guirahuro*, with yellow more restricted on underparts and lacking on rump.

SIZE: One male: 240 mm, 88 gr. One female: 234 mm, 64 gr.

SOFT PART COLORS: Tarsus and bill black; iris of male and female collected March 24, 1975 Strong Reddish Brown, but Brownish Orange for live specimen of October 20, 1974.

VOICE: (R) Heavy chittering intermingled with high-pitched "chink's." Usually vocalize when flying. I saw perched flock begin to talk as another noisy one approached on wing, but all became silent when at rest together.

BREEDING: On August 19, 1971 pair rose up in display flight. They flew close together, beating wings fast until reaching peak at perhaps 40 m altitude, then came down gradually. Male and female collected March 24, 1975 had inactive gonads.

BEHAVIOR: Found almost exclusively in flocks, often 20 to 40 individuals. On March 22, 1972 near Dom Pedrito I saw several members of flock carrying sticks or pieces of grass as they flew. This seemed to be a form of display rather than related to nest-building, for none went toward a nesting area and nests would have been unlikely at that time of year. Birds carrying material flew with heads slightly elevated and wings more arched than those without, so it was possible to identify those carrying something before seeing it in bill. Prof. Scholl of University of Wisconsin (personal commun.) told me that near Arroio dos Ratos he had seen birds, certainly of this genus and probably this species, taking worms out of ears of corn without damaging ears. Stomach of specimen collected February 19, 1971 contained three grasshoppers. On November 2, 1975 at São Donato marsh one pursued and vigorously attacked *Buteo albicaudatus* flying across marsh at such altitude it seemed no immediate threat to any nest.

SPECIMENS: MCN: 389, 1579–1580*. MN: 32216*, 32247*. AMNH: 316513–316517, 321490–321493, 322081–322087.

Amblyramphus holosericeus

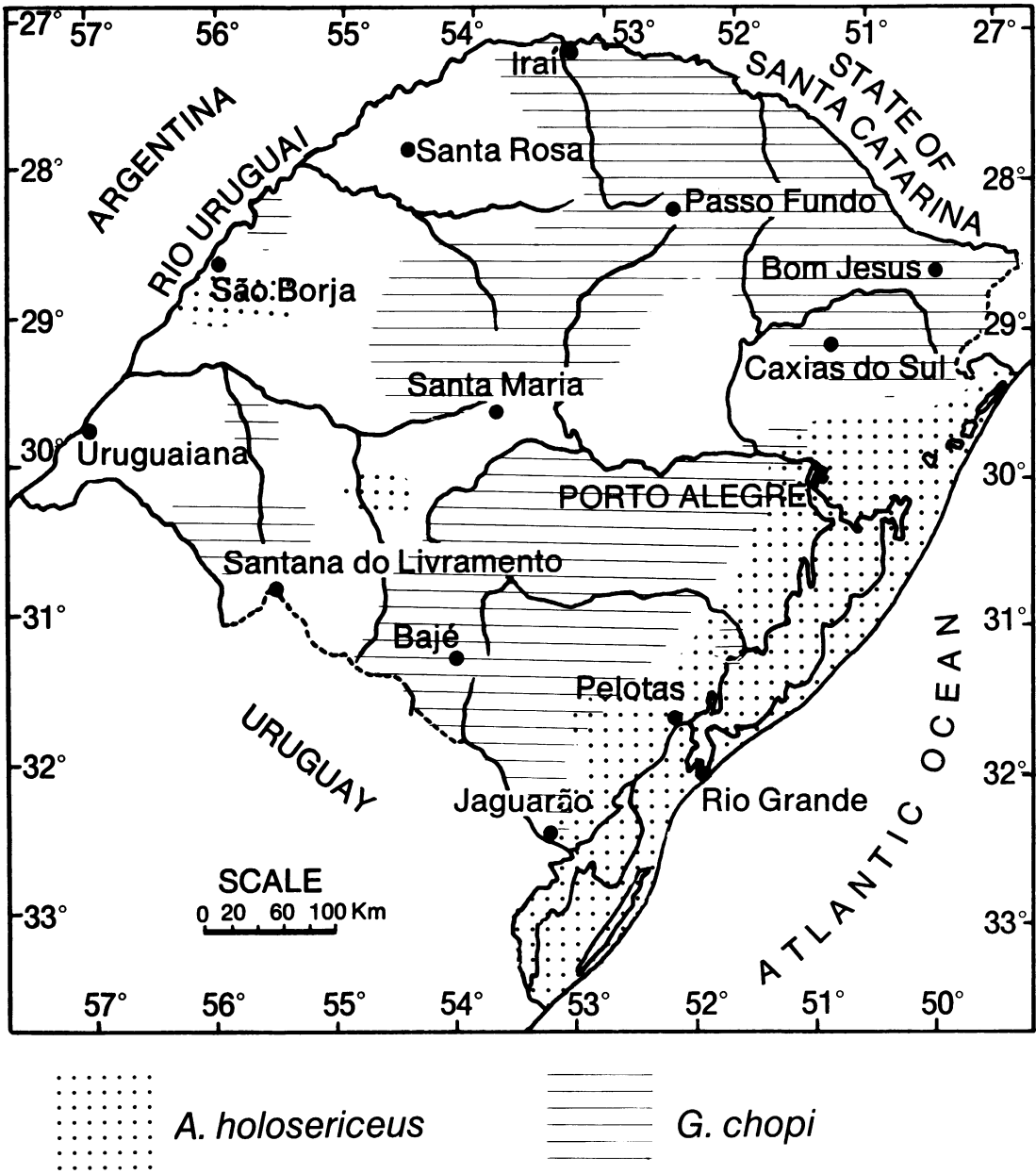
Map 223

Scarlet-headed Blackbird

Cardeal-do-banhado

(Marsh Cardinal)

DISTRIBUTION AND STATUS: Uncommon resident of marshes with reeds and other high vegetation along littoral and at scattered points inland: S of Pinheiro Machado; Inhatium marsh; São Donato marsh and



MAP 223. Geographical distribution of *Amblyramphus holosericeus* and *Gnorimopsar chopi* in Rio Grande do Sul.

vicinity. Rarely more than one pair or family in any one area.

FIELD MARKS: Vivid to Deep Reddish Orange head, neck, breast, upper back, and thighs contrast with remaining black plumage. Young birds acquire bright plumage on upperparts more slowly than on face and

breast, so must be observed carefully when seen from rear.

SIZE: One male: 250 mm, 86 gr. One female: 225 mm, 75.5 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

VOICE: (R in part) More attractive than

many icterid voices, and includes distinctive, clear whistle. Also a short, slightly muted, bell-like trill, reminiscent of ringing telephone, but less frequent.

BREEDING: I have seen young birds with black upperparts as early as January 26 and as late as July 28. On April 30, 1974 adults in Inhatium marsh were carrying food into large patch of broadleaved plants well out in deep water, and on one occasion brought out fecal matter, but I was unable to reach or see nest.

BEHAVIOR: Responds well to squeaking lure. One foraged on ground in plowed field with other icterids, and one perched on phone wire above corn field with no marsh in immediate vicinity.

SPECIMENS: MCN: 1600–1601*. AMNH: 316511, 321494, 321719–321724, 322088.

Gnorimopsar chopi
Map 223

Chopi Blackbird

Chupim (onomatopoetic) or *Graúna*

DISTRIBUTION AND STATUS: Common resident of hilly, upland campo, usually with trees or small groves, in N, NE, SE hills, and central section N of central trough. Occasionally found in lower open country in areas resembling typical habitat. I have never found it on littoral, but Ihering (1899a) collected specimens near São Lourenço and Jaguarão. Wetmore (1926) found it partial to marshy meadows. While marshy areas are common in swales between hills in its typical Rio Grande do Sul habitat, they are usually full of *Eryngium* spp. and other coarse growth, and not utilized by this species to any extent. *Gnorimopsar c. chopi*.

FIELD MARKS: All black, but considerably larger than *Molothrus bonariensis* or *M. rufoaxillaris*, with stouter, longer bill.

SIZE: One male: 230 mm, 79 gr. Three females: 218–228 mm, 75–84 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown.

VOICE: (R) High-pitched series of quickly whistled notes, attractive but not always musical, accompanied by some squawkier sounds, possibly from other individuals in flock. Brazilian vernacular name, *Chupim*, pronounced approximately “shooPEENG,”

is reasonable rendering of initial phrase of species' most distinctive vocalization.

BREEDING: Male collected November 1, 1970 at Bom Jesus had well-developed testes. Females collected September 30, 1974, October 30, 1970, February 2, 1972, and March 7, 1972 had inactive ovaries.

BEHAVIOR: Usually found in small flocks, and often calls attention to presence in trees by frequent singing, which also takes place on wing. In campo region NW of Santa Maria, where trees scarce, it sometimes perches on isolated tombs located on prominent hills. While I have found it feeding in corn fields, species does not have special reputation as agricultural pest in Rio Grande do Sul.

SPECIMENS: MCN: 1584–1587*. AMNH: 316529–316536, 810536–810538*.

Molothrus badius
Map 224

Bay-winged Cowbird

Asa-de-telha

(Tile Wing)

DISTRIBUTION AND STATUS: Common resident of open or scrubby country with trees or bushes in entire S, up to and including central trough, full area W of 55°W, and littoral to Santa Catarina border; occasionally or accidentally along S edge of planalto. *Molothrus b. badius*.

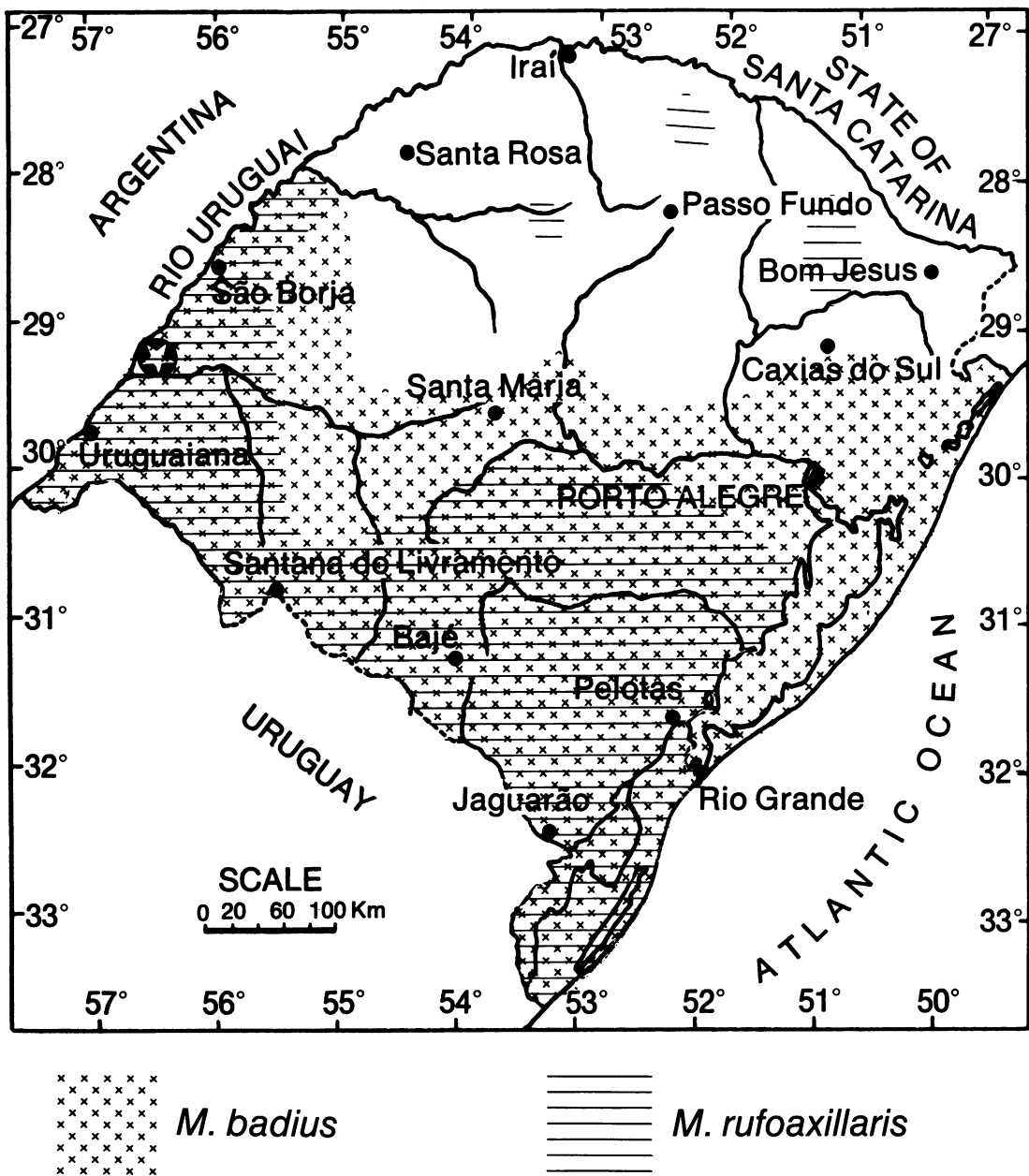
FIELD MARKS: Brownish gray body plumage with light rufous wings. Fledgling *M. rufoaxillaris* are practically identical, flock together with this species, and can probably only be separated with certainty in hand.

SIZE: Two males: 175–196 mm, 42–46 gr. One female: 184 mm, 41 gr.

SOFT PART COLORS: Tarsus and bill black; iris (live bird) Dark Brown. One specimen, believed to be immature, had gray tarsus, while another immature had gray tarsus and brown bill.

VOICE: (R) Thin, sharp, penetrating, plaintive whistles mostly on one high pitch, usually rendered singly but occasionally interspersed with attractive, complex, random song and some typically icterid squawks.

BREEDING: On February 22, 1975 pair was nesting in enclosed nest of *Phacellodumus ruber* at Fazenda Silêncio. Both parents were carrying insects to nestlings, which could be heard peeping. As I watched, pair of *M.*



MAP 224. Geographical distribution of two species of *Molothrus* and of *Dolichonyx oryzivorus* in Rio Grande do Sul.

rufoaxillaris perched in same tree without causing any reaction from *badius* pair. On May 9, 1971 fledgling being fed by adult E of Candelária. Male collected February 3,

1972 at Army Training Center had greatly enlarged testes. Female collected March 25, 1975 S of Pedras Altas had inactive ovary, and male collected previous day near Piratini had only moderately enlarged testes.

BEHAVIOR: Usually seen in small flocks of 15 to 20 individuals. They seem to spend less time on ground than either *M. bonariensis* or *M. rufoaxillaris*, but often forage there in mixed flocks with these species or with *Pseudoleistes virescens*. In flat, open country of extreme W where native trees scarce, *badius* often occurs in vicinity of eucalyptus plantings, and I have seen it foraging in eucalyptus trees. Voss and Sander (1981a) report it feeding on papaya (*Carica papaya* L.) and Japanese raisin (*Hovenia dulcis* Thunb.).

SPECIMENS: MCN: 1605–1606*. MN: (WB)467*, 11294. USNM: 461526*. AMNH: 321477–321479, 321714, 322098, 812789–812791*.

Molothrus rufoaxillaris

Map 224

Screaming Cowbird
Vira-bosta-picumã
(Sooty Turd-turner)

DISTRIBUTION AND STATUS: Resident, in grain fields, pastures, farmyards, roadside weed patches, primarily S of central trough and in area W of 55°30'W. Not seen on Mostardas peninsula. However, it appears sporadically throughout state and I have found it as far from its principal range as Vacaria. Extent to which range may be limited by distribution of its principal host, *M. badius*, is worth study. Although registered in every month of year, I have many more records for spring and summer than for other seasons. This could indicate some migratory movement. While reasonably common, it is far less numerous than *M. bonariensis*.

FIELD MARKS: Difficult to distinguish from *M. bonariensis*. See comments under that species. Rufous axillary feathers, if present, can only be seen in field under exceptional circumstances. As juvenals moulting to adult plumage change from plumage of *M. badius* foster parents to that typical of their own species, some bay feathers in wings persist after body plumage almost entirely black.

SIZE: Four males: 199–207 mm, 56–65 gr. Two females: 186–197 mm, 38–57 gr.

SOFT PART COLORS: Tarsus and bill black; iris brown to grayish brown.

VOICE: Voss (personal commun.) interprets it as "prrrtchuling" or "tcheling."

BREEDING: Birds collected between October 25 and February 16 all had much enlarged gonads, while female collected August 28, 1975 had inactive ovaries.

BEHAVIOR: *M. rufoaxillaris*, like *M. bonariensis*, flocks in grain fields, especially rice, but I have never seen truly large flock that did not have *M. bonariensis* as well as this species in it. It also associates with livestock and rides their backs. In one sizable mixed flock of *M. rufoaxillaris* and *Pseudoleistes virescens* feeding in plowed field near Pedras Altas on March 24, 1975, *rufoaxillaris* were all walking with tails half-cocked.

Young *rufoaxillaris* raised by *badius* associate with latter in mixed flocks, but my observations as to when they separate are contradictory. On February 15, 1975 I saw flock about half of which was in adult *rufoaxillaris* plumage and half in *badius* plumage, but all of latter I was able to examine showed beginnings of moult to *rufoaxillaris* plumage. On other hand, I have seen *badius* flocks with moulting *rufoaxillaris* juvenals among them on various dates from February 29 to June 6. Fact that *badius* in these flocks were *badius*, and not unmoulted *rufoaxillaris*, was in one case made evident by difference in behavior. At sound of shot to collect specimen, all *rufoaxillaris* in flock flew away, whereas all *badius* stayed on perches.

SPECIMENS: MCN: 431, 440, 1612–1618*. MN: 32225*, (WB)464*, (WB)466*, (WB)607*, (WB)650*. AMNH: 321471, 321472, 810534–810535*.

Molothrus bonariensis

Shiny Cowbird
Vira-bosta
(Turd-turner)

DISTRIBUTION AND STATUS: Resident, abundant throughout, in grain fields, pastures, farmyards, city gardens, woodland edges, brushy wasteland. Some local movement occurs, for very large flocks assemble in grain fields in fall. *Molothrus b. bonariensis*.

FIELD MARKS: Males difficult to distinguish

from *M. rufoaxillaris*. Purple sheen on plumage helpful, but not always present, and if sunlight absent or from wrong angle, not always visible. Bill longer and tail shorter than *rufoaxillaris*.

SIZE: Five males: 198–213 mm, 56.5–63 gr. Three females (sexed by plumage): 174–197 mm, 41–48 gr.

SOFT PART COLORS: Tarsus, bill and iris black.

VOICE: (R) Sweetly whistled, rapid, downward trending song, beginning with “sweet sweet” notes, identified for me by Sick, and uncharacteristic of usual icterid vocalization. Also, more typical hollow, gobbling call. Female gave short, metallic, ratchety-sounding bubbly outbursts, whereas notes of juvenal were plaintive “wheers’s.”

BREEDING: Parasitic. *Zonotrichia capensis* most frequently observed victim, with *Furnarius rufus* also common. On June 25, 1973 female trying to enter nest of *Anumbius anumbi* was chased away by owners. Male collected November 1, 1970 had moderately enlarged testes.

BEHAVIOR: While commonly seen in small flocks or pairs seeking nests to parasitize, their most spectacular manifestation is in huge flocks that often gather in grain fields, especially rice, during and after harvest. Those resting from feeding often completely cover long stretches of fence wire. Small bands often associate with livestock, either feeding on ground near them or riding backs of horses, cattle, and sheep. One flew methodically down series of moss-covered fenceposts, examining each with care and extracting edibles out of moss. On July 26, 1981 several were foraging in flowering eucalyptus trees. This is among many species that adopt flycatcher method of aerial pursuit during occasions when air filled with flying termites. Sexes sometimes flock separately. On July 10, 1973 near Barra do Quaraí, concentration of females had practically no males on hand, and on May 15, 1971 near Capão da Canoa when I approached mixed flock, males all flew off leaving females behind on perches. On evening of June 8, 1973 S of Bagé flock came to reeds at edge of small roadside lake to roost together with *Pseudoleistes virescens* and some *Furnarius rufus*. Voss and Sander (1981a) re-

port it feeding on Japanese persimmons (*Diospyros kaki* L.).

SPECIMENS: MCN: 230, 579, 592, 1607–1611*. MN: 16132, 16134, 16138, 32224*. AMNH: 316493–316504, 321473–321476, 321715, 321716, 322095–322097, 810533*, 812786–812788*.

Subfamily Dolichonychinae

Dolichonyx oryzivorus

Map 224

Bobolink

Triste-pia

(Sad Chirp)

Only state records for this species are four specimens collected by Garbe in Itaqui in December 1914 (Pinto, 1944, p. 587).

FAMILY FRINGILLIDAE

Subfamily Carduelinae

Carduelis (Spinus) magellanicus

Map 225

Hooded Siskin

Pintasilgo

DISTRIBUTION AND STATUS: Common to abundant resident, E of 54°30'W, with few records farther W, in open woodland, gardens, weed patches, open country with scattered trees. *Carduelis m. icterus*. Presumably *C. m. magellanicus*, form known in Uruguay, may be found close to border in S and W, but none from Rio Grande do Sul so far identified as *magellanicus*.

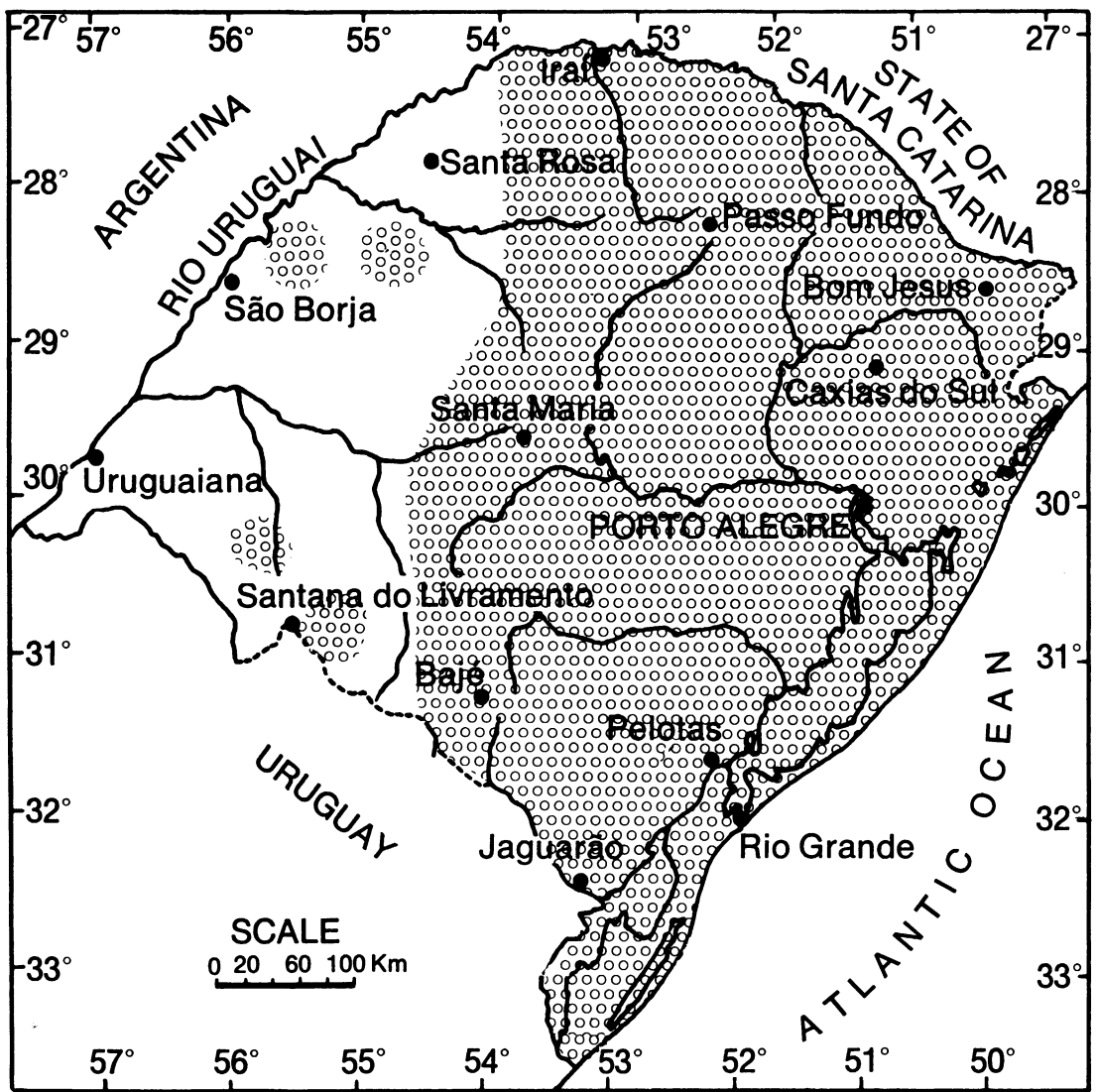
FIELD MARKS: Yellow in wings and tail of both sexes.

SIZE: One male: 115 mm, 11 gr.

SOFT PART COLORS: Tarsus grayish brown; maxilla dark gray with black band; mandible grayish; iris dark.

VOICE: (R) Prolonged light, sweet, canary-like, varied trills and warbles, all on approximately same pitch level. Note: thin, high, two-syllabled: “kwee ee?”.

BREEDING: Copulation observed October 7, 1973 and November 28, 1971; nesting (in *araucaria pom-pom*) November 29, 1970; and male feeding juvenal February 22, 1971. In courtship display February 11, 1978, male spread wings, arching them downward so they



MAP 225. Geographical distribution of *Carduelis magellanicus* in Rio Grande do Sul.

appeared to be touching branch on which he was standing, while singing vigorously.

BEHAVIOR: Small flocks are prominent on Gramado golf course in January, where they feed on grass seed in fairways and roughs. On November 7, 1975 near Casca, male fed for several minutes on seeds of small, multiple-headed yellow daisy abundant in that area. Voss and Sander (1981a) report the species feeding on *erva-cravo* (*Hyptis lacustris* S.H.) and *vassoura-vemalha* (*Dodonaea viscosa* L.).
SPECIMENS: MCN: 232, 1437–1438*. MN:

14234. AMNH: 315926–315937, 321417–321419, 321676–321679.

FAMILY ESTRILDIDAE

Estrilda astrild

Common Waxbill
Bico-de-lacre
(Lacquer-bill)

This small, scarlet-billed African immigrant has apparently been established in Porto Alegre metropolitan area for some years

but has not spread widely or increased in numbers enough to become more than rare. Sick (personal commun.) remembers seeing it in Porto Alegre prior to 1966. Voss (1979) registered it between 1962 and 1974 in outskirts of Novo Hamburgo, observing it there during most months of year, on one occasion in 1974 in flock of from 40 to 60 individuals. Although I reported (Belton, 1978a) that Sick saw one at Santa Vitória do Palmar in 1966, he has now clarified to me (personal commun.) this was cage-bird. I have not seen species in state and know of no Rio Grande do Sul specimen.

FAMILY PLOECIDAE

Passer domesticus

House Sparrow
Pardal

DISTRIBUTION AND STATUS: Resident throughout in cities, towns, small rural population centers, rural rice mills. Occasionally found at distance from human habitation in areas where ample grain has spilled from trucks along highways. Common in most areas, uncommon in high altitude areas of NE.

FIELD MARKS: Black bib separates male from any other sparrow with which it might be confused.

SIZE: One male: 146 mm, 24 gr. One female: 151 mm, 26.5 gr.

SOFT PART COLORS: Tarsus very light brown; male bill black; female bill grayish brown, lighter at base of mandible; iris brown.

VOICE: Querulous cheeps.

BREEDING: Pair collected N of Palmares do Sul on October 13, 1972 had much enlarged gonads. Adults were feeding fledglings on November 14 at Barra do Quaraí.

BEHAVIOR: Use *Furnarius rufus* houses, and compete for them with owners and other species that also utilize them for nesting. See under *F. rufus*. On May 5, 1973 I saw one carrying nesting material into *F. rufus* house. On August 17, 1971 one was carrying sticks into half-built *F. rufus* house being constructed on top of electric sign of gasoline station in small rural settlement. When I passed on October 5, 1971, *F. rufus* was again in possession of completed house. Voss and Sander

(1980, 1981a) reported it feeding on fruits of six different wild and cultivated plants.

SPECIMENS: MCN: 1562–1563*. MN: 14210. AMNH: 321685–321690.

FAMILY CORVIDAE

Cyanocorax caeruleus

Map 226

Azure Jay
Gralha-azul
(Blue Jay)

DISTRIBUTION AND STATUS: Resident, in forests and wooded areas, especially in higher altitudes of NE and S center, where araucaria predominates, but also near Garruchos, occasionally in central trough, and once seen just N of Jaguarão. Records of 50 and more years ago indicate it formerly occurred in what is now Porto Alegre metropolitan area and S along Lagoa dos Patos.

FIELD MARKS: Reminiscent of small Northern Hemisphere crow, but body plumage dark blue.

SIZE: One male: 384 mm, 272 gr.

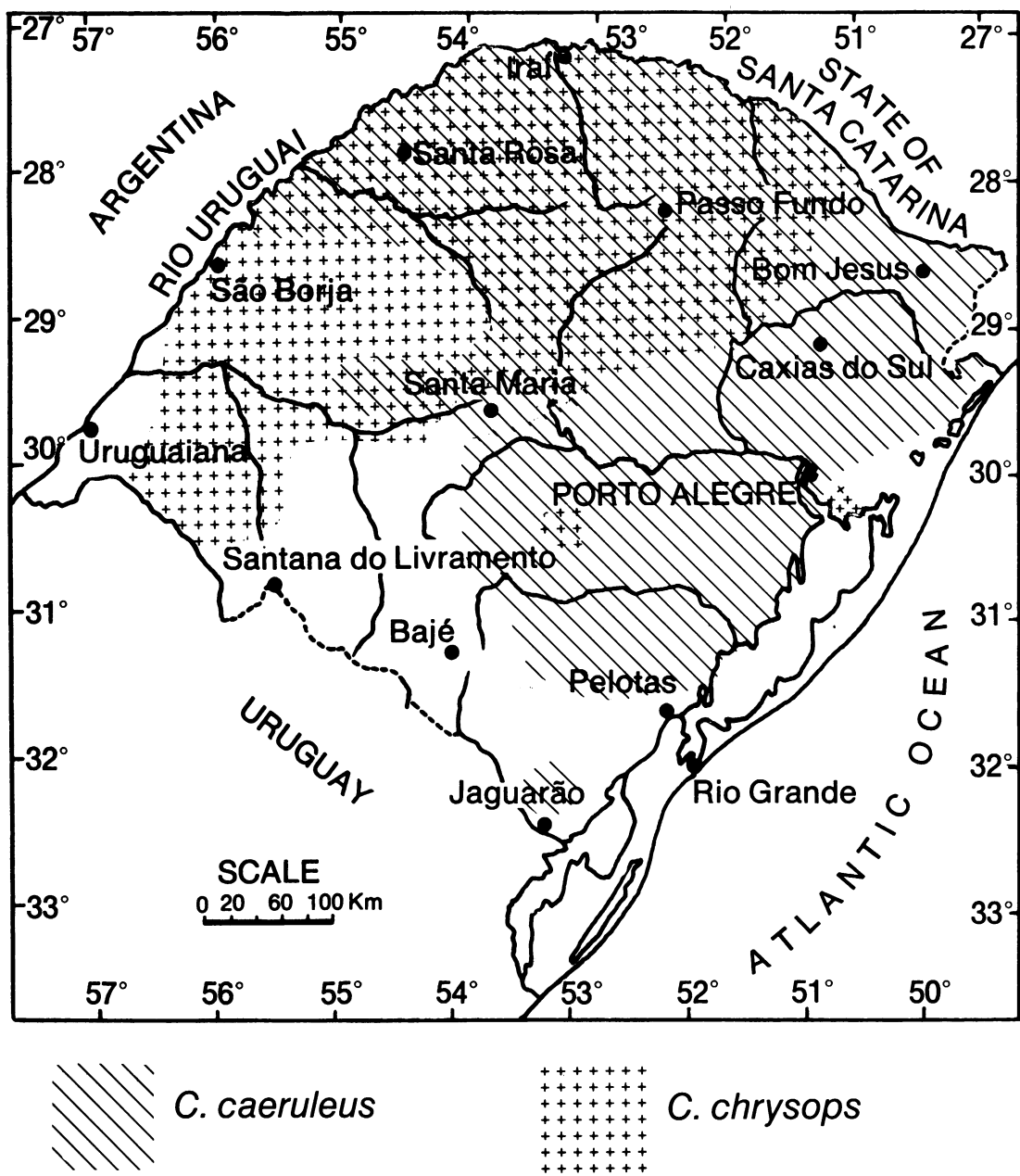
SOFT PART COLORS: Tarsus and bill black; iris dark.

VOICE: (R) Very loud, shrill, rasping but throaty “ahk ahk ahk . . .” delivered fast and continuously when agitated, more slowly and with slight downward slur other times. On January 9, 1977 at Rincão dos Pereira, one bird was “ahking” at rate of 134 per minute.

BREEDING: Male collected at Fazenda do Pompéu November 4, 1972 had small testes.

BEHAVIOR: Lives in small, loose flocks which often, and perhaps usually, approach and noisily follow humans walking in forest. If not already alerted to one's presence, they too readily respond to squeaking lure designed to attract small birds by perching high in nearby trees and calling loudly for many minutes. Tiring of this, they all disappear quite suddenly. One typical trait is to perch on prominent spot near treetop and there stand alert with crest raised, nervously and jerkily swinging whole body abruptly from side to side to survey surroundings. Flocks appear to wander over extensive areas, so not always found in same vicinity.

At Fazenda da Invernada on June 4, 1974 I saw one with bright red bill, resulting from,



MAP 226. Geographical distribution of the two species of *Cyanocorax* found in Rio Grande do Sul.

together with other flock members, tearing off and eating chunks from recently butchered leg of beef hanging in tree. Popular tradition has it that species buries large, cone-shaped araucaria seeds excess to their immediate food requirements for later use, thus

contributing significantly to spread of araucaria. I have not observed this, but if true its utility to birds must be limited since seeds are very abundant during period of two or three months but have very short storage life, either sprouting or spoiling within few weeks.

SPECIMENS: MCN: 1234*. MN: 1992, 1993.
AMNH: 316556–316568, 322080.

Cyanocorax chrysops
Map 226

Plush-crested Jay
Gralha-picaça
(Piebald Jay)

DISTRIBUTION AND STATUS: Resident, in forest and patches of woodland, mostly N and W of line between Santana do Livramento and Vacaria, with two records beyond this line, one NE of Caçapava do Sul and one at Itapuã. Varies from scarce to very common as one moves NW. Most common N of 28°30'S and W of 52°W. At Nonoai Forest Reserve far outnumbers *C. caeruleus*. *Cyanocorax c. chrysops*.

FIELD MARKS: Entire top of head covered with short, dense, vertically standing feathers which terminate abruptly at nape, producing ridged effect.

SIZE: One male: 354 mm, 160 gr. One female: 338 mm, 138 gr.

SOFT PART COLORS: Tarsus and bill black; iris yellow.

VOICE: (R) Small flock will often simultaneously produce amazing variety of indescribable sounds, reminiscent of electronic

music, often sounding more mechanical than musical. Among them are plaintive cries, staccato notes as if from broken whistle, gagging sounds, pipings, chuckles, "chew chew's," "chop chop chop's," and "chi chi chi's."

BREEDING: Pair collected August 7, 1973 at Garruchos not in breeding condition. Pair on September 12, 1971 at Turvo Forest Reserve courted by seizing each other's bills while moving slowly along horizontal branch. On November 21, 1973 at Nonoai Forest Reserve nearly adult-sized juvenal being fed by adult. It begged with cat-like yowl and by flapping wings.

BEHAVIOR: Lives in small, loose flocks and demonstrates same curiosity regarding human intruders as *C. caeruleus*. However, it is more shy than *caeruleus* and less persistent, aggressive, and noisy. While normally found only in forested areas, I have on two occasions seen single individuals in exposed positions on fence post and bridge railing up to 1 km away from forest. Voss and Sander (1980) report this species, as well as *caeruleus*, eating nuts of Paraná Pine (*Araucaria angustifolia*).

SPECIMENS: MCN: 243, 1245–1246*. MN: 6156, 6158. AMNH: 316544–316555.

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APPENDIX A: ANNOTATED CHECKLIST—BIRDS OF RIO GRANDE DO SUL

EXPLANATION OF SYMBOLS

Direction from Rio Grande do Sul of principal distributional range of known, assumed, or potential nesters in state (Dir.):

B = Brazil = to north

C = all sides

NE = to northeast

SW = to southwest

W = to west

Status of species (Stat.):

E = presumed extinct

M = migratory summer resident—nests in Rio Grande do Sul

N = migrant visitor from North America

P = pelagic visitor

R = all-year resident

S = migrant visitor from southern cone of South America

T = in-transit visitor

U = status unknown

V = vagrant

* = breeding assumed but not confirmed

= migration or residence assumed but not confirmed

Dir. Stat.

		RHEIDAE
C	R	<i>Rhea americana</i>
		TINAMIDAE
B	R*	<i>Tinamus solitarius</i>
B	R	<i>Crypturellus obsoletus</i>
NE	R	<i>Crypturellus noctivagus</i>
B	R*	<i>Crypturellus parvirostris</i>
B	R*	<i>Crypturellus tataupa</i>
C	R*	<i>Rhynchotus rufescens</i>
C	R	<i>Nothura maculosa</i>

	DIOMEDEIDAE
PV	<i>Diomedea exulans</i>
PV	<i>Diomedea epomophora</i>
P	<i>Diomedea melanophris</i>
P	<i>Diomedea chlororhynchos</i>
	PROCELLARIIDAE
PS	<i>Macronectes giganteus</i>
PS	<i>Fulmarus glacialisoides</i>
PS	<i>Daption capense</i>
P	<i>Pterodroma incerta</i>

Dir.	Stat.				
PV		<i>Pterodroma mollis</i>			CATHARTIDAE
P		<i>Pachyptila belcheri</i>	C	R*	<i>Coragyps atratus</i>
PV		<i>Pachyptila vittata</i>	C	R*	<i>Cathartes aura</i>
PV		<i>Pachyptila desolata</i>	C	R*	<i>Cathartes burrovianus</i>
P		<i>Procellaria aequinoctialis</i>	B	U	<i>Sarcoramphus papa</i>
PV		<i>Procellaria cinerea</i>			PANDIONIDAE
PV		<i>Calonectris diomedea</i>		N	<i>Pandion haliaetus</i>
P		<i>Puffinis gravis</i>			ACCIPITRIDAE
P		<i>Puffinus griseus</i>			
P		<i>Puffinus puffinus</i>		V	<i>Leptodon cayanensis</i>
		HYDROBATIDAE	B	M*	<i>Elanoides forficatus</i>
P		<i>Oceanites oceanicus</i>	C	R	<i>Elanus leucurus</i>
		SPHENISCIDAE	C	R	<i>Rostrhamus sociabilis</i>
			B	U	<i>Harpagus diodon</i>
PV		<i>Eudypetes chrysocome</i>	B	M	<i>Ictinea plumbea</i>
PV		<i>Eudypetes chrysolophus</i>		S	<i>Circus cinereus</i>
PS		<i>Spheniscus magellanicus</i>	C	R	<i>Circus buffoni</i>
		PODICIPEDIDAE		V	<i>Accipiter poliogaster</i>
			C	M#	<i>Accipiter striatus</i>
SW	R	<i>Rollandia rolland</i>	B	R	<i>Accipiter bicolor</i>
C	R	<i>Tachybaptus dominicus</i>	C	U	<i>Geranoospiza caerulescens</i>
C	R	<i>Podilymbus podiceps</i>		V	<i>Leucopternis polionota</i>
SW	R	<i>Podiceps major</i>	C	R	<i>Buteogallus urubitinga</i>
		FREGATIDAE	B	R	<i>Buteogallus meridionalis</i>
	P	<i>Fregata magnificens</i>	W	U	<i>Parabuteo unicinctus</i>
		PHALACROCORACIDAE		V	<i>Busarellus nigricollis</i>
C	R	<i>Phalacrocorax olivaceus</i>	C	R	<i>Geranoaetus melanoleucus</i>
		ANHINGIDAE	C	U	<i>Harpyhaliaetus coronatus</i>
B	R	<i>Anhinga anhinga</i>	C	R	<i>Buteo magnirostris</i>
		ARDEIDAE	B	U	<i>Buteo leucorrhous</i>
C	R	<i>Syrigma sibilatrix</i>	B	U	<i>Buteo brachyurus</i>
C	R	<i>Ardea cocoi</i>		N	<i>Buteo swainsoni</i>
C	R	<i>Ardea alba</i>	C	R*	<i>Buteo albicaudatus</i>
C	R	<i>Egretta ibis</i>		E	<i>Morphnus guianensis</i>
C	R	<i>Egretta thula</i>	B	U	<i>Harpia harpyja</i>
C	R	<i>Egretta thula</i>	B	U	<i>Spizastur melanoleucus</i>
C	M	<i>Ardeola striata</i>	B	U	<i>Spizaetus tyrannus</i>
NE	U	<i>Nyctanassa violacea</i>		E	<i>Spizaetus ornatus</i>
C	R	<i>Nycticorax nycticorax</i>			FALCONIDAE
	E	<i>Tigrisoma fasciatum</i>	C	R	<i>Polyborus plancus</i>
C	R#*	<i>Tigrisoma lineatum</i>	B	R*	<i>Milvago chimachima</i>
C	R	<i>Ixobrychus involucris</i>	SW	R	<i>Milvago chimango</i>
C	M#*	<i>Botaurus pinnatus</i>		V	<i>Herpetotheres cachinnans</i>
		CICONIIDAE	B	R	<i>Micrastur ruficollis</i>
C	M*	<i>Mycteria americana</i>	B	U	<i>Micrastur semitorquatus</i>
C	R	<i>Ciconia maguari</i>	C	R	<i>Falco sparverius</i>
		THRESKIORNITHIDAE	C	R	<i>Falco femoralis</i>
C	R	<i>Phimosus infuscatus</i>		N	<i>Falco peregrinus</i>
C	R	<i>Plegadis chihi</i>		E	<i>Falco deiroleucus</i>
W	R*	<i>Theristicus caerulescens</i>	C	R	ANATIDAE
C	R	<i>Theristicus caudatus</i>	C	R	<i>Dendrocygna bicolor</i>
	V	<i>Mesembrinibis cayennensis</i>	SW	R	<i>Dendrocygna viduata</i>
C	R	<i>Platalea ajaja</i>	SW	R	<i>Cygnus melanocoryphus</i>
		PHOENICOPTERIDAE	B	R*	<i>Coscoroba coscoroba</i>
S		<i>Phoenicopterus chilensis</i>	C	R	<i>Cairina moschata</i>
				S	<i>Sarkidiornis melanotos</i>
					<i>Callonetta leucophrys</i>

Dir. Stat.

C	R	<i>Amazonetta brasiliensis</i>
	S	<i>Anas sibilatrix</i>
SW	R	<i>Anas flavirostris</i>
SW	R	<i>Anas georgica</i>
	V	<i>Anas bahamensis</i>
SW	R	<i>Anas versicolor</i>
	VN	<i>Anas discors</i>
	V	<i>Anas cyanoptera</i>
	S	<i>Anas platalea</i>
SW	R	<i>Netta peposaca</i>
	S	<i>Heteronetta atricapilla</i>
C	R	<i>Oxyura dominica</i>
	S	<i>Oxyura vittata</i>

ANHIMIDAE

SW	R	<i>Chauna torquata</i>
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CRACIDAE

NE	R	<i>Ortalis motmot</i>
	E	<i>Penelope supercilii</i>
C	R	<i>Penelope obscura</i>
B	R#	<i>Aburria jacutinga</i>

PHASIANIDAE

B	R*	<i>Odontophorus capueira</i>
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ARAMIDAE

C	R	<i>Aramus guarauna</i>
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RALLIDAE

C	R	<i>Ortygonax sanguinolentus</i>
B	R	<i>Ortygonax nigricans</i>
C	R#*	<i>Pardirallus maculatus</i>
C	R*	<i>Aramides cajanea</i>
SW	R*	<i>Aramides ypecaha</i>
B	R	<i>Aramides saracura</i>
	V	<i>Porzana flaviventer</i>
B	U	<i>Porzana albicollis</i>
C	R	<i>Laterallus melanophaius</i>
C	U	<i>Laterallus leucopyrrhus</i>
	V	<i>Coturnicops notata</i>
C	R	<i>Porphyriops melanops</i>
C	R	<i>Gallinula chloropus</i>
C	M	<i>Porphyryla martinica</i>
SW	R	<i>Fulica armillata</i>
SW	R	<i>Fulica leucoptera</i>
SW	R	<i>Fulica ruffrons</i>

CARIAMIDAE

C	R	<i>Cariama cristata</i>
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JACANIDAE

C	R	<i>Jacana jacana</i>
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ROSTRATULIDAE

SW	M#	<i>Nycticryphes semicollaris</i>
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HAEMATOPODIDAE

C	R	<i>Haematopus palliatus</i>
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RECURVIROSTRIDAE

C	R	<i>Himantopus melanurus</i>
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CHARADRIIDAE

C	R	<i>Vanellus chilensis</i>
	N	<i>Pluvialis dominica</i>
	N	<i>Pluvialis squatarola</i>
	N	<i>Charadrius semipalmatus</i>
C	R	<i>Charadrius collaris</i>
	S	<i>Charadrius falklandicus</i>
	S	<i>Charadrius modestus</i>
	S	<i>Eudromias ruficollis</i>

SCOLOPACIDAE

	NT	<i>Limosa haemastica</i>
	N	<i>Bartramia longicauda</i>
	N	<i>Tringa melanoleuca</i>
	N	<i>Tringa flavipes</i>
	N	<i>Tringa solitaria</i>
	NV	<i>Catoptrophorus semipalmatus</i>
	N	<i>Actitis macularia</i>
	N	<i>Arenaria interpres</i>
	N	<i>Steganopus tricolor</i>
C	R	<i>Gallinago paraguayae</i>
NE	R*	<i>Gallinago undulata</i>
	NV	<i>Limnodromus</i> sp.
	NT	<i>Calidris canutus</i>
	N	<i>Calidris alba</i>
	N	<i>Calidris fuscicollis</i>
	NV	<i>Calidris bairdii</i>
	N	<i>Calidris melanotos</i>
	N	<i>Micropalama himantopus</i>
	N	<i>Tryngites subruficollis</i>

CHIONIDIDAE

SPV		<i>Chionis alba</i>
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STERCORARIIDAE

SP		<i>Catharacta skua</i>
NPV		<i>Stercorarius pomarinus</i>
NP		<i>Stercorarius parasiticus</i>

LARIDAE

	V	<i>Larus belcheri</i>
C	R*	<i>Larus dominicanus</i>
C	U	<i>Larus cirrocephalus</i>
C	R	<i>Larus maculipennis</i>
C	R*	<i>Phaetusa simplex</i>
C	R#*	<i>Gelochelidon nilotica</i>
	S	<i>Sterna hirundinacea</i>
	N	<i>Sterna hirundo</i>
	NV	<i>Sterna paradisaea</i>
C	R	<i>Sterna trudeaui</i>
C	R	<i>Sterna supercilii</i>
C	R#*	<i>Thalasseus maximus</i>
	S	<i>Thalasseus eurygnatha</i>

RYNCHOPIDAE

C	R*	<i>Rynchops niger</i>
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COLUMBIDAE

C	R	<i>Columba livia</i>
C	R	<i>Columba picazuro</i>
SW	R	<i>Columba maculosa</i>

Dir.	Stat.				
B	M#	<i>Columba cayennensis</i>	B	R*	<i>Nyctidromus albigollis</i>
B	R#*	<i>Columba plumbea</i>	B	M#*	<i>Caprimulgus rufus</i>
C	R	<i>Zenaida auriculata</i>	C	U	<i>Caprimulgus longirostris</i>
B	R	<i>Columbina talpacoti</i>	C	M	<i>Caprimulgus parvulus</i>
C	R	<i>Columbina picui</i>	C	R	<i>Hydropsalis brasiliiana</i>
B	U	<i>Claravis pretiosa</i>	NE	U	<i>Macropsalis creagra</i>
B	U	<i>Scardafella squammata</i>		V	<i>Eleothreptus anomalus</i>
C	R	<i>Leptotila verreauxi</i>			APODIDAE
B	R	<i>Leptotila rufaxilla</i>	B	M#	<i>Cypseloides fumigatus</i>
B	R	<i>Geotrygon montana</i>	B	R	<i>Streptoprocne zonaris</i>
		PSITTACIDAE	NE	R#	<i>Streptoprocne biscutata</i>
	E	<i>Anodorhynchus glaucus</i>	B	R*	<i>Chaetura cinereiventris</i>
	E	<i>Ara maracana</i>	B	M#	<i>Chaetura andrei</i>
C	R*	<i>Aratinga leucophthalmus</i>			TROCHILIDAE
C	R	<i>Pyrrhura frontalis</i>		V	<i>Ramphodon naevius</i>
SW	R	<i>Myiopsitta monachus</i>	B	R	<i>Phaethornis eurynome</i>
	V	<i>Forpus xanthopterygius</i>		V	<i>Eupetomena macroura</i>
B	R	<i>Pionopsitta pileata</i>	NE	R*	<i>Melanotrochilus fuscus</i>
B	R*	<i>Pionus maximiliani</i>		V	<i>Colibri serrirostris</i>
B	R	<i>Amazona pretrei</i>	B	R	<i>Anthracothonax nigricollis</i>
	V	<i>Amazona brasiliensis</i>	B	R*	<i>Stephanoxis lalandi</i>
	E	<i>Amazona aestiva</i>		V	<i>Lophornis magnifica</i>
B	R	<i>Amazona vinacea</i>	C	R	<i>Chlorostilbon aureoventris</i>
NE	R*	<i>Triclaria malachitacea</i>	B	R*	<i>Thalurania glaucopis</i>
		CUCULIDAE	C	R	<i>Hylocharis chrysura</i>
SW	R#	<i>Coccyzus cinereus</i>	B	R	<i>Leucochloris albigollis</i>
	N	<i>Coccyzus americanus</i>	B	R*	<i>Amazilia versicolor</i>
SW	M	<i>Coccyzus melacoryphus</i>	NE	U	<i>Amazilia fimbriata</i>
B	R	<i>Piaya cayana</i>	NE	U	<i>Aphantochroa cirrochloris</i>
B	M#	<i>Crotophaga major</i>		V	<i>Clytolaema rubricauda</i>
C	R	<i>Crotophaga ani</i>	B	R#	<i>Helimaster furcifer</i>
C	R	<i>Guira guira</i>	B	M	<i>Calliphlox amethystina</i>
C	R*	<i>Tapera naevia</i>			TROGONIDAE
B	U	<i>Dromococcyx phasianellus</i>	B	R	<i>Trogon rufus</i>
		TYTONIDAE	B	R	<i>Trogon surrucura</i>
C	R	<i>Tyto alba</i>			ALCEDINIDAE
		STRIGIDAE	C	R*	<i>Ceryle torquata</i>
C	R	<i>Otus choliba</i>	C	R	<i>Chloroceryle amazona</i>
B	R	<i>Otus atricapillus</i>	C	R	<i>Chloroceryle americana</i>
C	R#	<i>Bubo virginianus</i>			MOMOTIDAE
B	R	<i>Pulsatrix perspicillata</i>	B	R#	<i>Baryphthengus ruficapillus</i>
C	R	<i>Glaucidium brasilianum</i>			BUCCONIDAE
C	R	<i>Athene cunicularia</i>	B	R*	<i>Nystalus chacuru</i>
	E	<i>Ciccaba virgata</i>			RAMPHASTIDAE
B	R	<i>Strix hylophila</i>	B	U	<i>Pteroglossus castanotis</i>
C	R*	<i>Rhinopteryx clamator</i>		E	<i>Selenidera maculirostris</i>
	E	<i>Asio stygius</i>	B	U	<i>Baillonius bailloni</i>
C	U	<i>Asio flammeus</i>	B	R	<i>Ramphastos dicolorus</i>
	V	<i>Aegolius harrisii</i>	B	R	<i>Ramphastos toco</i>
		NYCTIBIIDAE			PICIDAE
C	M#	<i>Nyctibius griseus</i>	B	R	<i>Picumnus nebulosus</i>
		CAPRIMULGIDAE	B	R*	<i>Picumnus temminckii</i>
B	M#*	<i>Lurocalis semitorquatus</i>		V	<i>Picumnus cirratus</i>
	N	<i>Chordeiles minor</i>	B	R	<i>Melanerpes candidus</i>
C	M	<i>Podager nacunda</i>			

Dir.	Stat.				
B	R	<i>Melanerpes flavifrons</i>	B	R	<i>Philydor rufus</i>
W	R*	<i>Picoides mixtus</i>	B	R	<i>Automolus leucophthalmus</i>
C	R	<i>Veniliornis spilogaster</i>	B	R	<i>Sclerurus scansor</i>
B	R*	<i>Piculus aurulentus</i>	B	R	<i>Xenops contaminatus</i>
C	R	<i>Colaptes melanochloros</i>	B	R#	<i>Xenops rutilans</i>
C	R	<i>Colaptes campestris</i>			FORMICARIIDAE
B	R	<i>Celeus flavescens</i>	B	R*	<i>Batara cinerea</i>
	E	<i>Dryocopus galeatus</i>	B	R#*	<i>Mackenziaena severa</i>
B	R	<i>Dryocopus lineatus</i>	B	R	<i>Mackenziaena leachii</i>
B	R*	<i>Campephilus robustus</i>	C	R	<i>Thamnophilus caerulescens</i>
	E	<i>Campephilus leucopogon</i>	C	R	<i>Thamnophilus ruficapillus</i>
		DENDROCOLAPTIDAE	B	R	<i>Dysithamnus mentalis</i>
B	U	<i>Dendrocincla fuliginosa</i>		V	<i>Myrmotherula gularis</i>
B	R	<i>Sittasomus griseicapillus</i>	NE	R*	<i>Myrmotherula unicolor</i>
W	R*	<i>Drymornis bridgesii</i>	B	U	<i>Drymophila ferruginea</i>
B	R#	<i>Xiphocolaptes albicollis</i>	B	R	<i>Drymophila malura</i>
B	R	<i>Dendrocolaptes platyrostris</i>	B	R	<i>Pyriglena leucoptera</i>
W	R	<i>Lepidocolaptes angustirostris</i>	NE	R	<i>Myrmeciza squamosa</i>
B	R	<i>Lepidocolaptes squamatus</i>	NE	R#	<i>Formicarius colma</i>
B	R	<i>Lepidocolaptes fuscus</i>	B	R	<i>Chamaeza campanisona</i>
B	R*	<i>Campylorhamphus falcularius</i>	NE	R	<i>Chamaeza ruficauda</i>
		FURNARIIDAE	B	R#*	<i>Grallaria varia</i>
SW	R	<i>Geositta cunicularia</i>	B	R#	<i>Grallaria ochroleuca</i>
	S	<i>Cinclodes fuscus</i>	B	R	<i>Conopophaga lineata</i>
NE	R	<i>Cinclodes pabsti</i>			RHINOCRYPTIDAE
C	R	<i>Furnarius rufus</i>	B	R*	<i>Scytalopus speluncae</i>
W	R	<i>Leptasthenura platensis</i>	NE	U	<i>Scytalopus indigoticus</i>
B	R	<i>Leptasthenura setaria</i>			TYRANNIDAE
NE	R	<i>Leptasthenura striolata</i>	B	M	<i>Phyllomyias fasciatus</i>
SW	R	<i>Synallaxis phryganophila</i>	B	M#	<i>Phyllomyias burmeisteri</i>
B	R	<i>Synallaxis ruficapilla</i>	B	R	<i>Phyllomyias virescens</i>
SW	R	<i>Synallaxis frontalis</i>	C	R	<i>Campptostoma obsoletum</i>
W	U	<i>Synallaxis albescent</i>	W	M	<i>Sublegatus modestus</i>
C	R	<i>Synallaxis spixi</i>	W	R	<i>Suiriri suiriri</i>
B	R	<i>Synallaxis cinerascens</i>	B	M#	<i>Myiopagis caniceps</i>
B	R	<i>Certhiaxis obsoleta</i>	B	M#	<i>Myiopagis viridicata</i>
SW	R	<i>Certhiaxis pyrrhophia</i>	B	R	<i>Elaenia flavogaster</i>
SW	R	<i>Certhiaxis sulphurifera</i>	B	M	<i>Elaenia spectabilis</i>
C	R	<i>Certhiaxis cinnamomea</i>		T	<i>Elaenia albiceps</i>
W	R	<i>Thripophaga baeri</i>	C	M	<i>Elaenia parvirostris</i>
	V	<i>Thripophaga hudsoni</i>	B	M	<i>Elaenia mesoleuca</i>
NE	R	<i>Phacellodomus erythrophthalmus</i>	B	R	<i>Elaenia obscura</i>
SW	R	<i>Phacellodomus striaticollis</i>	C	R	<i>Serpophaga nigricans</i>
W	R	<i>Phacellodomus ruber</i>	C	R	<i>Serpophaga subcristata</i>
B	R#*	<i>Phacellodomus dendrocolaptoides</i>		S	<i>Tachuris rubrigastra</i>
SW	R	<i>Spartonoica maluroides</i>		V	<i>Polystictus pectoralis</i>
SW	R	<i>Phleocryptes melanops</i>	W	M#	<i>Pseudocolopteryx sclateri</i>
SW	R	<i>Limnornis curvirostris</i>	SW	R	<i>Pseudocolopteryx flaviventris</i>
SW	R	<i>Limnornis rectirostris</i>	B	M	<i>Euscarthmus meloryphus</i>
C	R	<i>Anumbius annumbi</i>	B	R#	<i>Mionectes rufiventris</i>
W	R*	<i>Coryphistera alaudina</i>	B	R	<i>Leptopogon amaurocephalus</i>
C	R	<i>Lochmias nematura</i>	B	R#*	<i>Phylloscartes eximius</i>
W	R	<i>Pseudoseisura lophotes</i>	B	M#	<i>Phylloscartes flaveolus</i>
C	R	<i>Philydor rufosuperciliatus</i>	C	R	<i>Phylloscartes ventralis</i>
	V	<i>Philydor amaurotis</i>	NE	R#*	<i>Phylloscartes difficilis</i>
B	R#	<i>Philydor lichtensteini</i>	B	R#	<i>Corythopsis delalandi</i>
B	R#*	<i>Philydor atricapillus</i>			

Dir.	Stat.				
B	R#	<i>Myiornis auricularis</i>	B	R	<i>Chiroxiphia caudata</i>
B	U	<i>Hemitriccus diops</i>			COTINGIDAE
B	R	<i>Hemitriccus obsoletus</i>	B	M	<i>Phibalura flavirostris</i>
NE	R	<i>Hemitriccus orbitatus</i>	NE	R	<i>Carpornis cucullatus</i>
B	R	<i>Todirostrum plumbeiceps</i>	B	M#	<i>Pyroderus scutatus</i>
B	R	<i>Tolmomyias sulphureus</i>	B	M	<i>Procnias nudicollis</i>
B	R	<i>Platyrinchus mystaceus</i>			PHYTOTOMIDAE
NE	R#	<i>Platyrinchus leucoryphus</i>			<i>Phytotoma rutila</i>
C	M	<i>Myiophobus fasciatus</i>	SV		
	V	<i>Contopus cinereus</i>			HIRUNDINIDAE
C	M	<i>Empidonax euleri</i>	B	M	<i>Tachycineta albiventer</i>
B	M#	<i>Cnemotriccus fuscatus</i>	C	R	<i>Tachycineta leucorrhoa</i>
C	M	<i>Pyrocephalus rubinus</i>		S	<i>Tachycineta leucopyga</i>
C	R	<i>Xolmis cinerea</i>	C	M	<i>Progne tapera</i>
	S	<i>Xolmis coronata</i>	C	M	<i>Progne chalybea</i>
C	R	<i>Xolmis dominicana</i>	C	R	<i>Notiochelidon cyanoleuca</i>
SW	R	<i>Xolmis irupero</i>	C	R	<i>Alopocheilidon fucata</i>
	SV	<i>Neoxolmis rufiventris</i>	C	R	<i>Stelgidopteryx ruficollis</i>
	S	<i>Lessonia rufa</i>	C	M	<i>Riparia riparia</i>
C	R	<i>Knipolegus cyanirostris</i>		N	<i>Hirundo rustica</i>
NE	M#	<i>Knipolegus nigerrimus</i>		N	<i>Petrochelidon pyrrhonota</i>
B	R	<i>Knipolegus lophotes</i>			MOTACILLIDAE
	S	<i>Hymnops perspicillata</i>	SW	R	<i>Anthus furcatus</i>
B	R	<i>Fluvicola leucocephala</i>	C	R	<i>Anthus lutescens</i>
B	M#	<i>Colonia colonus</i>	SW	R	<i>Anthus correndera</i>
	V	<i>Alectrurus tricolor</i>	B	M#	<i>Anthus nattereri</i>
	V	<i>Alectrurus risora</i>	SW	R	<i>Anthus hellmayri</i>
B	R#	<i>Gubernetes yetapa</i>			TROGLODYTIDAE
C	R	<i>Satrapa icterophrys</i>		V	<i>Campylorhynchus turdinus</i>
B	M	<i>Hirundinea ferruginea</i>	W	U	<i>Cistothorus platensis</i>
C	R	<i>Machetornis rixosus</i>	C	R	<i>Troglodytes aedon</i>
B	R	<i>Muscipipra vetula</i>			MIMIDAE
B	M*	<i>Attila phoenicurus</i>	SW	R	<i>Mimus saturninus</i>
NE	R#	<i>Attila rufus</i>		S	<i>Mimus triurus</i>
B	M#	<i>Sirystes sibilator</i>			TURDIDAE
C	M	<i>Myiarchus swainsoni</i>	B	M	<i>Platycichla flavipes</i>
B	U	<i>Myiarchus ferox</i>	B	M	<i>Turdus nigriceps</i>
W	U	<i>Myiarchus tyrannulus</i>	C	R	<i>Turdus rufiventris</i>
C	R	<i>Pitangus sulphuratus</i>	B	R#	<i>Turdus leucomelas</i>
B	M	<i>Megarhynchus pitangua</i>	C	R	<i>Turdus amaurochalinus</i>
B	R	<i>Myiozetetes similis</i>	B	R	<i>Turdus albicollis</i>
C	M	<i>Myiodynastes maculatus</i>			SYLVIIDAE
B	M	<i>Legatus leucophaeus</i>	B	R#	<i>Poliophtila lactea</i>
C	M	<i>Empidonomus varius</i>	SW	R	<i>Poliophtila dumicola</i>
W	M	<i>Empidonomus aurantioatrocristatus</i>			EMBERIZIDAE
C	M	<i>Tyrannus melancholicus</i>			Emberizinae
C	M	<i>Tyrannus savana</i>	C	R	<i>Zonotrichia capensis</i>
B	R*	<i>Pachyrhamphus viridis</i>	C	R	<i>Ammodramus humeralis</i>
B	R#*	<i>Pachyrhamphus castaneus</i>	B	R	<i>Haplospiza unicolor</i>
C	M	<i>Pachyrhamphus polychropterus</i>	C	R	<i>Donacospiza albifrons</i>
B	M	<i>Pachyrhamphus validus</i>		SV	<i>Diuca diuca</i>
B	M#	<i>Tityra cayana</i>	NE	R#*	<i>Poospiza thoracica</i>
B	R	<i>Tityra inquisitor</i>	C	R	<i>Poospiza nigrorufa</i>
		PIPRIDAE	B	R*	<i>Poospiza lateralis</i>
B	R	<i>Schiffornis virescens</i>			
B	U	<i>Piprites chloris</i>			
B	M#	<i>Piprites pileatus</i>			

Dir.	Stat.				
W	R#	<i>Poospiza melanoleuca</i>	B	U	<i>Tangara cyanocephala</i>
C	R	<i>Sicalis flaveola</i>	C	R	<i>Tangara preciosa</i>
C	R	<i>Sicalis luteola</i>	B	R*	<i>Dacnis cayana</i>
B	R	<i>Emberizoides herbicola</i>			Tersininae
B	R	<i>Emberizoides ypiranganus</i>	B	M	<i>Tersina viridis</i>
C	R	<i>Embernagra platensis</i>			PARULIDAE
B	R	<i>Volatinia jacarina</i>			<i>Parula pitiayumi</i>
	V	<i>Sporophila frontalis</i>	C	R	<i>Geothlypis aequinoctialis</i>
B	M#	<i>Sporophila plumbea</i>	C	R	<i>Basileuterus culicivorus</i>
B	R	<i>Sporophila collaris</i>	C	R	<i>Basileuterus leucoblepharus</i>
C	R	<i>Sporophila caerulescens</i>	B	R#	<i>Conirostrum speciosum</i>
B	M	<i>Sporophila bouvreuil</i>	B	R	<i>Coereba flaveola</i>
W	M#	<i>Sporophila hypoxantha</i>			VIREONIDAE
W	M#	<i>Sporophila ruficollis</i>			Cyclarhinae
W	M#*	<i>Sporophila palustris</i>			<i>Cyclarhis gujanensis</i>
	V	<i>Sporophila cinnamomea</i>			Vireoninae
NE	M	<i>Sporophila melanogaster</i>	C	R	<i>Vireo olivaceus</i>
B	R#	<i>Oryzoborus angolensis</i>	B	R	<i>Hylophilus poicilotis</i>
B	U	<i>Amaurospiza moesta</i>			ICTERIDAE
	V	<i>Arremon taciturnus</i>			Icterinae
SW	R*	<i>Gubernatrix cristata</i>	B	R#	<i>Cacicus haemorrhous</i>
C	R	<i>Coryphospingus cucullatus</i>	C	R	<i>Cacicus chrysopterus</i>
SW	R	<i>Paroaria coronata</i>	W	R	<i>Icterus cayanensis</i>
		Cardinalinae	SW	R	<i>Xanthopsar flavus</i>
B	R#	<i>Pitylus grossus</i>	SW	R	<i>Agelaius thilius</i>
B	R	<i>Saltator similis</i>	W	U	<i>Agelaius cyanopus</i>
B	R	<i>Saltator maxillosus</i>	C	R	<i>Agelaius ruficapillus</i>
SW	R	<i>Saltator aurantirostris</i>	C	R	<i>Sturnella supercilialis</i>
C	R	<i>Passerina glaucocaerulea</i>		V	<i>Sturnella defilippi</i>
B	R	<i>Passerina brissonii</i>	C	R	<i>Pseudoleistes guirahuro</i>
		Thraupinae	SW	R	<i>Pseudoleistes virescens</i>
B	R#	<i>Cissopis leveriana</i>	SW	R	<i>Amblyramphus holosericeus</i>
B	R	<i>Pyrrhocomma ruficeps</i>	C	R	<i>Gnorimopsar chopi</i>
B	R	<i>Hemithraupis guira</i>	SW	R	<i>Molothrus badius</i>
B	U	<i>Nemosia pileata</i>	SW	R	<i>Molothrus rufoaxillaris</i>
B	R	<i>Tachyphonus coronatus</i>	C	R	<i>Molothrus bonariensis</i>
B	R	<i>Trichothraupis melanops</i>			Dolichonychinae
B	R	<i>Habia rubica</i>	NV		<i>Dolichonyx oryzivorus</i>
C	M	<i>Piranga flava</i>			FRINGILLIDAE
C	R	<i>Thraupis sayaca</i>			Carduelinae
NE	R#	<i>Thraupis cyanoptera</i>	C	R	<i>Carduelis magellanicus</i>
NE	R	<i>Thraupis palmarum</i>			ESTRILDIDAE
SW	R	<i>Thraupis bonariensis</i>	B	R*	<i>Estrilda astrild</i>
C	R*	<i>Stephanophorus diadematus</i>			PLOCEIDAE
B	R	<i>Pipraeidea melanonota</i>	C	R	<i>Passer domesticus</i>
B	R	<i>Euphonia chlorotica</i>			CORVIDAE
B	R*	<i>Euphonia violacea</i>	B	R*	<i>Cyanocorax caeruleus</i>
B	R	<i>Euphonia chalybea</i>	C	R	<i>Cyanocorax chrysops</i>
B	R	<i>Euphonia musica</i>			
B	R	<i>Euphonia pectoralis</i>			
B	R#	<i>Chlorophonia cyanea</i>			
B	U	<i>Tangara seledon</i>			

APPENDIX B: SPECIES DISCUSSED IN SPECIES ACCOUNTS BUT EXCLUDED FROM RIO GRANDE DO SUL LIST

Jabiru mycteria
Gampsonyx swainsonii
Dendrocygna autumnalis
Aratinga solstitialis
Aratinga aurea
Brotogeris tirica
Chordeiles acutipennis
Nyctiphrynus ocellatus
Glaucidium hirsutum

Trogon curucui
Veniliornis affinis
Philydor (Cichlocolaptes) leucophrys
Hypodaleus guttatus
Taraba major
Ramphocaelus melanurus
Orthogonys chloricterus
Phaeothlypis (Basileuterus) rivularis

APPENDIX C: RIO GRANDE DO SUL BIRD SPECIES CONSIDERED ENDANGERED OR PRESUMED EXTINCT IN STATE

E = ENDANGERED

E *Tinamus solitarius*
X *Tigrisoma fasciatum*
E *Harpyhaliaetus coronatus*
X *Morphnus guianensis*
X *Harpia harpyja*
E *Spizastur melanoleucus*
E *Spizaetus tyrannus*
X *Spizaetus ornatus*
E *Falco peregrinus*
X *Falco deiroleucus*
X *Penelope superciliosus*
E *Aburria jacutinga*
E *Odontophorus capueira*
X *Anodorhynchus glaucus*

X = PRESUMED EXTINCT

X *Ara maracana*
E *Amazona brasiliensis*
X *Amazona aestiva*
X *Ciccaba virgata*
X *Asio stygius*
E *Pteroglossus castanotis*
X *Selenidera maculirostris*
E *Baillonius bailloni*
E *Ramphastos dicolorus*
E *Ramphastos toco*
X *Dryocopus galeatus*
E *Campephilus robustus*
X *Campephilus leucopogon*
E *Oryzoborus angolensis*

APPENDIX D: GAZETTEER: RIO GRANDE DO SUL PLACE NAMES OF ORNITHOLOGICAL SIGNIFICANCE

This gazetteer includes all RGS place names mentioned in this book, as well as those on labels of specimens collected during the fieldwork for this study. In addition, localities mentioned or visited by Ihering, Garbe, Snethlage, Gliesch, Kaempfer, Camargo, Sick, and Voss have been included to the extent information is available. Unless otherwise indicated I have made observations at each place listed. Those places where I made regular seasonal observations are marked “#.” Geographic coordinates are given by two series of four digits, the first representing degrees and minutes of S latitude, the second indicating degrees and minutes of W longitude. They are followed by the altitude in meters.

In Brazil, states are politically subdivided into municipalities. Each municipality bears the same name as its capital city. Thus, Alegrete refers not only to the city of that name, but to all the surrounding region administered from the city. All municipal capitals listed here are marked with an asterisk. The designation “do Sul” has been added to the name of many RGS municipalities to differentiate them from municipalities with the same name in other parts of Brazil. In common usage the “do Sul” is often omitted.

Names beginning with Arroio = creek; Banhado = marsh; Estância = ranch; Fazenda = ranch; Granja = farm; Lagoa = lake; Passo = crossing; and Rio = river are alphabetized under the second capitalized word in the name. Where one of these words forms part of the official name of a municipality or town, it is alphabetized under this word as well.

A

- Aceguá. 3152 5410 265 m. Town on Uruguayan frontier S of Bagé. Grasslands and small gallery forests.
- Açude de Araçá. 3111 5154 20 m. Reservoir in rice and cattle area in Mun. of São Lourenço.
- Agudo*. 2938 5318 approx. 220 m. Town near foot of escarpment.
- Alegrete*. 2947 5547 90 m. City in western campanha.
- #Álvaro Tarouco Dias farm. 3207 5242 10 m. Rice farm near mouth of Lagoa Mirim.
- #Amoreiras, Faz. das. 2920 5041 840 m. Also referred to as Dr. Didi's. Situated on road between Canela and São Francisco de Paula on edge of escarpment with forest and grasslands. Property of Diederich E. H. Huebbe.
- Antas, Rio das. Name given to upper reaches of Rio Taquari above mouth of Rio Guaporé at 2910 5153.
- Antônio Lima farm. 3232 5305 10 m. Rice and cattle property 6 km E of Jaguarão near west shore of Lagoa Mirim.
- Antônio Prado*. 2852 5117 680 m. Planalto town in mixed farming area.
- Apanhador. 2904 5049 approx. 800 m. Agricultural region on Caxias do Sul/Tainhas road.
- #Aparados da Serra National Park. 2909 5005 950 m. Typical araucaria country at top of escarpment, with intervening open grasslands. Park also extends into lowlands of Santa Catarina, but all my work and records are for areas at top of escarpment. Santa Catarina boundary begins at top edge of escarpment. Itaimbezinho, often used as name for whole area, is canyon which is principal geographic feature of the park.
- Aracuri-Esmeralda Ecological Station. See Pompeu, Fazenda do.
- Arambaré. 3055 5130 3 m. Small community on W shore of Lagoa dos Patos.
- Aratiba*. 2723 5219 approx. 400 m. Town on slopes of planalto leading down to upper Rio Uruguay.
- Aratinga. 2921 5011 approx. 1100 m. Village at top of coastal escarpment on Serra do Pinto road between Terra de Areia and Tainhas.
- #Ari Xavier farm. 2821 5256 520 m. At Km 232 on Highway BR-285 W of Carazinho. Has larger forest remnants than most properties in planalto.
- Arroio dos Ratos*. 3005 5144 approx. 80 m. Town on Highway BR-290 in central trough.
- Arroio Grande. 2945 5046 approx. 200 m. Part of German agricultural settlement around Taquara in Ihering's day. Home of Theodor Bischoff, one of his collectors.

- Arroio Grande*. 3215 5305 39 m. Town in southern littoral W of Lagoa Mirim.
- Árvore Só, Faz. da. 2838 5043 approx. 1000 m. Ranch 29 km E of Vacaria on road to Bom Jesus. Property of João Lisboa Boeira.
- Atlântida. 2947 5002 1 m. Beach resort 2.5 km SW of Capão da Canoa.

B

- Bagé*. 3120 5406 200 m. Sometimes Bajé. City in southern cattle country.
- Baios de Fora, Faz. 2836 4935 approx. 1200 m. Near Silveira, Bom Jesus. Cattle and araucaria country. Camargo collecting locality.
- Barão de Cotegipe*. 2738 5223 680 m. Town west of Erechim.
- Barracão*. 2740 5125 500 m. Community in formerly forested area near Rio Pelotas and close to Espigão Alto Forest Reserve.
- Barra do Lageado Grande. 2723 5414 150 m. Community on shore of Rio Uruguay near mouth of Lageado Grande, a stream shown on most maps as Caa-Iari.
- Barra do Ouro. 2935 5018 approx. 500 m. Formerly called Marqués do Erval. Village in valley of Rio Maquiné in coastal foothills.
- Barra do Quaraí. 3012 5734 45 m. On Rio Quaraí, across from Bella Union, Uruguay and about 6 km upstream from confluence of Quaraí and Rio Uruguay. Closest town to espilinho parkland.
- Barra do Rio Azul. 2723 5226 approx. 400 m. Community on N slope of planalto.
- Barra do Ribeiro*. 3018 5118 3 m. Town on W shore of Rio Guaíba, S of Porto Alegre.
- Barra do Rio Camaquã. 3117 5145 5 m. Mouth of Rio Camaquã. Ihering lived on an island here 1887-1893.
- Barragem Capané. 3013 5256 approx. 100 m. Dam and reservoir in rice growing area S of Cachoeira do Sul.
- Barragem do Salto. See Eletra.
- Barros Cassal*. 2906 5235 500 m. Town in grassland and araucaria area of planalto.
- Bento Gonçalves*. 2909 5131 672 m. City in industrial region at S edge of planalto. Camargo collecting locality.
- Boa Vista antenna. 3114 5159 100 m. High point in municipality of São Lourenço. Mixed agriculture and grazing area. Grove of very large *Ficus* sp. trees.
- Bojuru. 3138 5125 10 m. Village on Mostardas peninsula.
- Bom Jesus*. 2840 5024 1020 m. Town amid grasslands in planalto. Much of Camargo collecting done in this municipality.
- Boçoroca*. 2845 5454 260 m. Community in

grasslands on railroad between Santiago and São Luis Gonzaga.

Bossoroca, Rio. approx. 3015 5345 180 m. Also known as Rio São Sepé. Crosses main east-west highway, BR-290.

Breno Caldas Faz. Not precisely located in municipality of Viamão. Voss observation locality. I have not been there.

Bretanha, Granja. 3228 5309 30 m. Rice-growing property W of Lagoa Mirim.

Bugio, Arroio. 2805 5217 approx. 600 m. Stream crossing Passo Fundo/Getúlio Vargas highway.

Butiá*. 3007 5158 approx. 80 m. Coal mining town on Highway BR-290 west of Porto Alegre.

Butuí, Rio. Minor affluent of Rio Uruguay at 2856 5618. Well upstream it forms one boundary of Faz. Silêncio.

C

Cabanha São Martim. 3108 5405 approx. 375 m. Cattle raising property in grasslands with gallery forests.

Caçapava do Sul*. 3031 5329 420 m. City in southeastern hills.

Cachoeira do Sul*. 3002 5253 70 m. City on banks of Rio Jacuí.

Caí, Rio. Major tributary of Rio Jacuí with headwaters near São Francisco de Paula and mouth at 2956 3016.

Calça Bota, Arroio. 2924 5444 approx. 350 m. Stream crossing road between Jaguari and Santiago.

Camaquã*. 3051 5149 30 m. City in rice and cattle area between Porto Alegre and Pelotas.

Camaquã, Rio. Large river arising in southeastern hills and flowing into Lagoa dos Patos at 3117 5145.

Camaquã, Rio/Caçapava do Sul. 3050 5340 140 m. Point on upper Rio Camaquã in municipality of Caçapava do Sul at which I collected.

Cambará do Sul*. 2903 5009 1000 m. Town in timber and cattle country of high NE.

Campo Bom*. 2941 5104 approx. 125 m. Industrial community at foot of escarpment E of Novo Hamburgo. Kaempfer collected here.

Canabarro, Arroio. 2840 5105 720 m. Stream crossing Highway BR-116 at Km 206, S of Vacaria.

Canal de São Gonçalo. 3147 5212 1 m (mouth). Wide river through which Lagoa Mirim drains into Lagoa dos Patos.

Canal Taraba. 2938 5000 1 m. Short sluggish stream draining Lagoa Itapeva into Lagoa dos Quadros through marshy edges and frequently flooded pastures.

Canção. 3122 5307 approx. 350 m. Crossroads in SE hills.

Candelária*. 2940 5247 160 m. Agricultural town on Rio Pardo in central trough near foot-hills of escarpment.

Candiota. 3136 5343 193 m. Railroad station in open grassland of SE hills. Kaempfer collecting locality. Known now for Candiota power plant about 7 km NE.

Cândido Godoi*. 2757 5446 approx. 225 m. Town in deforested region of NW.

Canela*. 2922 5048 830 m. Resort town at top edge of escarpment. Gliesch collected here.

Caneleiro, Faz. 3042 5244 380 m. Livestock ranch in SE hills.

Canella. Former spelling of Canela.

Canguçu*. 3124 5240 420 m. City in SE hills.

Cangussu. Alternate spelling for Canguçu.

Canoa*. 2955 5115 10 m. Industrial community adjacent to Porto Alegre.

Capão da Canoa. 2944 5001 1 m. Beach resort on NE coast.

Capivari. 3010 5038 10 m. Highway junction where Porto Alegre-Cidreira highway branches S to Mostardas and N to Osório.

Capivari, Banhado de. Marsh between Capivari and northernmost extension of Lagoa dos Patos.

Caracol State Park. 2917 5051 approx. 650 m. Site of impressive waterfall 8 km NE of Canela.

Carazal. 2924 5055 800 m. Region of small agriculture and forest remnants 4 km E of Gramado.

Carazinho*. 2817 5248 520 m. City in planalto near junction of Highways BR-285 and BR-386.

Carreiro quarry, Rio. 2836 5152 480 m. Abandoned rock quarry near river crossing highway between Bento Gonçalves and Passo Fundo.

#Casa Branca, Faz. 2936 5615 70 to 100 m. Municipality of Alegrete. Livestock ranch in campanha on Passo do Silvestre road between Alegrete and Itaqui. Property of Maria Pires Correia.

Casamento, Lagoa do. 3015 5038. Northernmost bay in Lagoa dos Patos.

Casca*. 2834 5158 600 m. Town in planalto on highway from Bento Gonçalves to Passo Fundo.

Casca. 3034 5039 10 m. Grassland region along road N of Mostardas.

Casino. Earlier spelling of Cassino.

#Cassino. 3211 5210 2 m. Beach resort about 6 km SW of Rio Grande bar.

#Casuarinas, Faz. das. 3020 5310 approx. 80 m. Cattle and rice lands, with gallery forests

- on bordering streams. Property of Naldo Prates Correa.
- Casuzza Ferreira. 2852 5042 approx. 850 m. Community in eastern planalto.
- Catuípe*. 2815 5401 276 m. Town in western planalto.
- Caxias do Sul*. 2910 5111 800 m. Industrial city and grape production center near S edge of planalto.
- Centro de Instrução São Jerônimo. 2957 5156 20 m. Army training and maneuver area on S bank of Rio Jacuí.
- Centro Novo. 2715 5357 approx. 200 m. Administrative headquarters of Turvo State Forest Reserve. Agricultural area, formerly forested, at edge of reserve secondary forest.
- Cerca Velha. 2905 5246 approx. 500 m. Livestock raising area near S edge of planalto.
- Cerro Largo*. 2809 5444 200 m. Town in Ijuí valley.
- Chuí. 3341 5327 5 m. Southernmost town in Brazil, at Uruguayan border.
- Chuí, Arroio. 3345 5322 (mouth). Small stream flowing into Atlantic and forming border between Brazil and Uruguay for short distance.
- Cidreira. 3011 5013 3 m. Seaside resort E of Porto Alegre.
- Ciriaco*. 2821 5153 approx. 750 m. Town in planalto.
- Coaró, Rio. 2823 5440 approx. 250 m. Stream crossing Highway BR-285 E of São Luis Gonzaga.
- Colégio, Banhado do. 3100 5145 5 m. Extensive swamp S of Camaquã, now almost entirely drained and converted to agriculture.
- Colônia Dona Clara. 2742 5244 400 m. Erroneously cited as "Colônia Doña Clara" in Naumburg (1935). Agricultural settlement in previously heavily forested region, about 7 km N of Ronda Alta. Kaempfer collecting locality. Area now devoted to field crops with forests almost entirely destroyed.
- Colônia Rizícola No. 1. 3020 5023 10 m. Agricultural settlement devoted to rice culture on littoral about 50 km SE of Palmares do Sul.
- Colônia São Pedro. 2922 4951 20 m. Agricultural community in foothills of escarpment W of N end of Lagoa Itapeva. Kaempfer collected here.
- Conceição, Passo da. 3035 5505 approx. 120 m. River crossing on Highway BR-158 S of Rosário do Sul.
- Conceição do Arroio. Former name of Osório.
- Conceição lighthouse. 3144 5129. On ocean beach of Mostardas peninsula.
- Cornélios. 2938 5004 3 m. Agricultural community at mouth of Canal Taraba where it flows into Lagoa dos Quadros.
- Correa Fazenda. See Casuarinas, Faz. das.
- Correio, Passo do. 3044 5340 160 m. Crossing of small stream in Seival valley, on road leading to Rio Camaquã and Highway BR-153.
- Corumim. 2937 4956 2 m. Ocean beach community between Capão da Canoa and Tôrres.
- Criciumal*. 2730 5406 300 m. Town in formerly forested area of NW.
- Cruz, Passo da. 3015 5719 approx. 55 m. Point on Rio Quaraí in area probably once espinilho parkland, now planted to grains and soybeans. Snethlage collecting locality.
- Cruz Alta*. 2838 5337 469 m. City in planalto to grasslands.
- Curral Alto. 3258 5246 10 m. Crossroads amid sandy grazing land and rice fields on Pelotas-Chuí highway.
- Curupá, Arroio. Escarpment stream flowing from vicinity of Sobradinho SW to join Rio Jacuí at 2934 5319.

D

- Dias farm, Álvaro Tarouco. See Álvaro Tarouco Dias farm.
- Dias ranch, Libindo Chaves. See Libindo Chaves Dias ranch.
- Derrubadas. 2716 5353 300 m. Village in formerly forested area now planted to field crops on road from Tenente Portela to Turvo State Forest Reserve.
- Dr. Didi's. See Amoreiras, Faz. das.
- Dois Irmãos, Hamburgo Velho. 2938 5105. Two hills with altitudes of 459 and 448 m, lying between Hamburgo Velho district of Novo Hamburgo and present town of Dois Irmãos*. Snethlage collecting locality.
- Dom Feliciano*. 3042 5212 approx. 250 m. Town in SE hills.
- Dom Pedrito*. 3059 5440 128 m. Town near E edge of campanha in grazing and field crop area.
- Dona Francisca*. 2937 5322 100 m. Town at foot of escarpment near Rio Jacuí entrance into central trough.

E

- East jetty. See Rio Grande bar.
- Eletra. 2919 5041 830 m. Site of Barragem do Salto, large dam, on road between Canela and São Francisco de Paula.
- Élamo Udich farm. 2812 5353 360 m. 20 km N of Ijuí. Formerly forested, now an area of mixed farming and remnant forests.

Encruzilhada do Sul*. 3033 5232 400 m. Town in SE hills.

Enforcados, Passo dos. 3053 5336 120 m. Ford on Rio Camaquã in SE hills near Highway BR-153.

Entrada, Passo da. approx. 2742 5242 600 m. Stream bordering Colônia Dona Clara running NE from Ronda Alta to Rio Passo Fundo. Kaempfer collected here, but exact site unknown and may now be inundated by damming of Rio Passo Fundo.

Entrepelado. 2943 5044 approx. 50 m. Agricultural community near Rio dos Sinos, 9 km SE of Taquara.

Erebango. 2751 5218 720 m. Planalto community on railroad N from Passo Fundo. Kaempfer collecting locality.

Erechim*. 2738 5216 787 m. Planalto city in formerly forested area.

Erexim. Alternate spelling for Erechim.

Eerval Grande*. 2723 5235 780 m. Town on slopes of planalto leading down to Rio Uruguay.

Esmeralda*. 2804 5112 1000 m. Community in araucaria country at N edge of planalto.

Esmeralda/Vacaria/Muitos Capões road junction. 2813 5107 960 m.

Espigão Alto State Forest Reserve. 2736 5130 500 m. Now much diminished araucaria stand.

Espinilho, Faz. 2907 5603 100 m. Cattle ranch with headquarters near Massambará, administered at time of our visit by Swift do Brasil. Extensive grasslands with swampy forests, connected with São Donato marsh at W end of property.

Espinilho parkland. See Quaraí-chico, Arroio.

Esquina do Pontal. 3053 5128 10 m. Road junction N of Arambaré.

Estância Ipiranga. See Ipiranga, Estância.

Esteira. 2838 5052 900 m. Agricultural community 15 km SE of Vacaria amid grasslands and araucaria.

Espumoso*. 2833 5251 approx. 325 m. Planalto valley town in area of field crops.

Estrela *. 2930 5157 189 m. Port town on Rio Taquari.

F

Farroupilha*. 2913 5121 750 m. Industrial city near S edge of planalto. Camargo collected here.

Fauro ranch. 2841 5104 750–800 m. Small ranch in grassland and araucaria country at km 204 of Highway BR-116 S of Vacaria.

Feio, Passo. 2722 5258 510 m. Stream crossing in Nonoai State Forest Reserve on road

from Nonoai to Planalto. Forest, some of it disturbed.

Fontoura Xavier*. 2859 5221 approx. 550 m. Community in area of broken forests and grassland near S edge of planalto.

Forno, Lagoa do. 2920 4953 10 m with surrounding altitudes to 247 m. Lake, now practically disappeared, was amid coastal humid forests near Tôrres. Kaempfer collected here.

Fortaleza da Serra. 2904 4958 1100 m. High point on coastal escarpment amid grasslands with spectacular views of coastline. E of Cambará do Sul.

Freire, Passo do. 3026 5338 approx. 300 m. A stream crossing 12 km S of Highway BR-290 at km 254.

Fundo, Passo. See Passo Fundo.

G

Garibaldi*. 2915 5133 635 m. Wine producing town at S edge of planalto.

Garruchos. 2811 5538 80 m. Village on banks of Rio Uruguay. Remnant forests in vicinity form approximate southern limit for several tropical species.

Girúá*. 2802 5422 420 m. Town in western planalto.

Getúlio Vargas*. 2754 5214 640 m. Town in formerly forested region of planalto.

#Gramado*. 2923 5053 825 m. Town on ridge in araucaria country between southern escarpment and headwaters of Rio Caí. Most local banding and observation done in home garden and woods behind at 428 R (now 20 de Setembro) St., later at 368 P (now Piratini) St. Some on Nelz property on hill just E of town center.

#Gramado Golf Club. 2920 5054 approx. 800 m. Natural grassland openings amid araucaria and mixed forest.

Grande, Arroio. See Arroio Grande.

Grande, Rio. See Rio Grande.

Gravataí*. 2957 5100 12 m. Industrial community on main highway from Porto Alegre to coast, part of Porto Alegre metropolitan area.

Gravataí, Rio. Drains low lying regions E of Porto Alegre. Flows W into Jacuí delta at northern edge of Porto Alegre.

Guacho. 2844 5105 871 m. Crossroads community on Highway BR-116 SW of Vacaria.

Guaíba*. 3007 5120 10 m. Town on Rio Guaíba across from Porto Alegre.

Guaíba, Rio. Broad estuary through which waters of Rio Jacuí flow to Lagoa dos Patos.

Guaporé*. 2850 5154 480 m. Town in south-

ern planalto. Camargo collecting locality. I have not been there.

Guarama*. 2735 5207 756 m. Town on N edge of planalto.

Guarapuitã, Arroio. 2957 5710 55 m. Stream crossed by highway from Uruguaiana to Barra do Quaraí, SW of Uruguaiana.

Guaraxaim, Arroio. 3053 5139 10 m. Stream crossed by road between Camaquã and Arambaré.

Guarda, Passo da. 3048 5559 approx. 220 m. Junction of old road to Quaraí with road between Santana do Livramento and Alegrete.

Guirra, Arroio. 2923 5037 780 m. Small stream crossed by old road between Canela and São Francisco de Paula 9 km NW of latter. Flows through rocky grasslands at this point.

H

Hamburgo Velho. 2940 5107 approx. 100 m. Suburb of city of Novo Hamburgo. Kaempfer collecting site.

Harmonia. 3004 5609 200 m. Point where road from Santana do Livramento forks to Alegrete or Uruguaiana. Open campanha.

Hermenegildo Beach. See Praia do Hermenegildo.

Herval*. 3202 5324 300 m. Town in southern section of SE hills.

Horizontalina*. 2738 5419 383 m. Agricultural center in formerly forested area of NW.

I

IBDF Forest Reserve. 2924 5025 approx. 1000 m. Forestry reserve and nursery in araucaria country.

Ibicuí, Rio. Largest river in western RGS, flowing into Rio Uruguay at 2925 5647.

Ibicuí da Faxina, Arroio. 3038 5513 approx. 125 m. Stream crossing highway between Santana do Livramento and Dom Pedrito.

Ibirubá*. 2837 5306 350 m. Agricultural town in field crop area of planalto.

Igaú, Arroio. 2804 5131 approx. 800 m. Stream crossed by road from Lagoa Vermelha to Barracão, approx. 15 km N of Lagoa Vermelha.

Ijuí*. 2823 5355 316 m. Planalto city in formerly mostly forested area.

Ijuí, Rio. Flows W from planalto into Rio Uruguay at 2758 5520. Crossing N of Ijuí at 2819 5354, approx. 250 m. Crossing near Pirapó at 2803 5512, approx. 100 m.

Ilha das Garças. 2958 5113 5 m. Island in Rio Jacuí delta near Porto Alegre.

Ilha do Doutor. Residence of von Ihering 1887–1893 at mouth of Rio Camaquã.

Imbaá. 2943 5655 under 100 m. Stream and railroad whistle stop NE of Uruguaiana. Snethlage collecting locale.

Inhatium, Banhado de. 3016 5432 approx. 125 m. Marsh crossed by Highway BR-290 W of São Gabriel.

#Invernada, Fazenda da. 3105 5252 170 to 220 m. Municipality of Canguçu. Ranch with open grazing land and gallery forests on Highway BR-392 between Canguçu and Santana da Boa Vista. Property of Arnaldo Tarouco Dias.

#Ipiranga, Estância. 3304 5256 5 m. Rice and cattle ranch in flat, sandy terrain between Lagoa Mirim and Lagoa da Mangueira, with abundant lakes and marshes. Property of Leivas Leite & Cia. of Pelotas.

Ipunchi, Arroio. 2820 5531 80 m. Small stream in marshy grassland area crossed by road from Santo Antônio das Missões to Garuchos.

Iraí*. 2712 5315 approx. 200 m. City near banks of upper Rio Uruguay in most northerly section of state. Small municipal forest reserve at edge of city.

Irapuá, Arroio or Rio. 3019 5311 approx. 60 m. Stream crossed by Highway BR-290 at Km 200 which forms W and N boundaries Faz. das Casuarinas.

Itaimbezinho. 2909 5005 950 m. Deep, narrow canyon, principal geographic feature of Aparados da Serra National Park.

Itaimbezinho/Cambará do Sul road junction. 2911 5012 1000 m. Point where road to Aparados da Serra National Park branches off from São Francisco de Paula/Cambará do Sul road.

Itapeva. 2923 4945. Small headland projecting into ocean about 6 km S of Tôrres. Southernmost headland in Rio Grande do Sul.

Itapeva, Lagoa. Long, narrow, coastal lake at N end of littoral with N tip a few km S of Tôrres.

Itapuã State Park. 3023 5104 5 m. Area with rocky hills at point where Rio Guaíba empties into Lagoa dos Patos. Silva and Fallavena have worked there.

Itapororó, Rio. 2936 5615 70 m. Affluent of Rio Ibicuí, flowing through grasslands, marshy areas, and gallery forest. Forms E border of Faz. Casa Branca.

Itaqui*. 2908 5635 approx. 75 m. Town on Rio Uruguay. Garbe collected there.

Itatiba do Sul*. 2724 5227 560 m. Town on slopes of planalto leading down to Rio Uruguay.

J

#Jacaré, Lagoa do. 2920 4949 10 m. Lake with marshy edges 8 km W of Tôrres.

- Jacuí, Rio. Largest river within state, rising in central planalto and flowing S to central trough, thence E to vicinity of Porto Alegre where it empties into estuary known as Rio Guaíba.
- Jacuí crossing, Santa Maria/Candelária road. 2941 5318 less than 100 m. Somewhat upstream from point at which river swings E.
- Jaguarão*. 3208 5323 approx. 70 m. Town on Rio Jaguarão across from Uruguay.
- Jaguarão, Rio. 3239 5311 (mouth). River flowing into Lagoa Mirim. Forms boundary with Uruguay for most of its course. During his work in RGS, Kaempfer collected on Uruguayan side of mouth.
- Jaguari*. 2930 5441 106 m. Town at foot of escarpment near its W end.
- Jaguari, Rio. 2942 5508 less than 100 m (mouth). Stream flowing from SW edge of planalto into Rio Ibicuí.
- Jaguari-mirim, Arroio. 2936 5505 less than 100 m. Affluent of Rio Jaguari crossed by road from São Francisco de Assis to São Vicente do Sul.
- Jaraú, Cerro do. 3012 5630 304 m. Rocky outcropping north of Quaraí, the farthest W hills in RGS.
- Júlio de Castilhos*. 2913 5341 504 m. Town amid open grasslands of planalto.

K

- Kaster, Arroio dos. 3135 5233 approx. 100 m. Stream crossing on road from Pelotas to Cançu.
- Kennedy Highway. BR-386, leading from Tabaí up escarpment and across central planalto to Carazinho and beyond.
- #Kreutz, Pedro property. 2749 5441 310 m. Small farm 3 km NW of Santo Cristo, in formerly forested area of mixed farming with forest remnants.

L

- Lageado das Pedras. 2806 5420 350 m. Stream crossing south of Giruá.
- Lageado Grande. 2906 5040 approx. 850 m. Crossroads community in open grazing land of high northeast.
- Lagoa Vermelha*. 2814 5131 800 m. Town in araucaria area of planalto. Kaempfer collected there.
- Laranjeira. See Laranjeira.
- Laranjeira. 2748 5449 260 m. Small farming community, now in municipality of Santo Cristo, which was Gliesch's only collecting locality in western RGS.
- Lavras do Sul*. 5354 3048 approx. 250 m. Town in SE hills.
- #Libindo Chaves Dias ranch. 3044 5340 250

- m. Small cattle ranch on hills overlooking Seival valley.
- Lima farm, Antônio. See Antônio Lima farm.
- Linha Cachoeira. 2925 5219 400 m. Community on S slope of escarpment above Venâncio Aires.
- Livramento, Santana do*. See Santana do Livramento.

M

- Maçambará. See Massambará.
- Machadinho*. 2734 5139 500 m. Community in formerly forested area near Rio Uruguay.
- Mampituba, Rio. River flowing into Atlantic just N of Tôres which forms boundary with Santa Catarina on littoral.
- Mangueira, Estância. 3303 5248 10 m. Rice and cattle ranch on W shore of Lagoa da Mangueira.
- Mangueira, Lagoa da. 3305 5249 3 m. Extensive lagoon close to ocean in southernmost part of RGS. Coordinates are for point on W shore where I camped and collected. Kaempfer collected 15 km W of S end.
- Manuel Viana. 2936 5529 approx. 80 m. Town on Rio Ibicuí.
- Marcelino Ramos*. 2727 5155 364 m. Town on banks of upper Rio Uruguay.
- Marcellino Ramos. Earlier spelling for Marcelino Ramos.
- Mariano Pimentel. 3021 5135 approx. 150 m. Village in NE corner of SE hills.
- Mariante. 2942 5158 approx. 35 m. Community near Highway RS-240 at crossing of Rio Taquari.
- Maria Santa. Locality in municipality of Encruzilhada do Sul not precisely located.
- Massambará. 2907 5603 100 m. Campanha grasslands community.
- Matzenbacher farm. See Nelson Matzenbacher farm.
- Melos, Passo dos. 3045 5305 300 m. Stream crossing N of Santana da Boa Vista on road to Rincão dos Pereira.
- Minas do Leão*. 3008 5203 approx. 110 m. Coal mining town on Highway BR-290.
- Mirim, Lagoa. Second largest body of water in RGS, occupying large portion of southern littoral.
- Mofka farm, Pedro. See Pedro Mofka farm.
- Monte Alegre. 2954 5203 approx. 20 m. Old railroad station near Faz. Primavera.
- Montenegro*. 2942 5127 35 m. Town at foot of escarpment near Rio Caí. Formerly known as São João do Montenegro.
- Moreira. 2928 5051 approx. 150 m. Village in escarpment valley near Gramado.

#Morro Pelado. 2922 5047 835 m. Promontory of altiplano at escarpment edge jutting out into surrounding canyons about 5 km SE of Canela. Well covered with forest, some primary, some secondary, some exotic plantings.

Mostardas*. 3107 5055 10 m. Town roughly halfway down peninsula which separates Lagoa dos Patos from Atlantic Ocean.

Mostardas lighthouse. 3115 5054. On ocean beach approx. 15 km N of point where Lagoa do Peixe enters the sea.

Mostardas peninsula. My designation for long, unnamed peninsula separating Lagoa dos Patos from Atlantic Ocean.

Muitos Capões. 2819 5111 930 m. Village near Highway BR-285 between Vacaria and Lagoa Vermelha at junction of road leading to Aracuri-Esmeralda Ecological Station.

Mundo Novo. Name of general area surrounding Taquara which was settled by German immigrants in nineteenth century. Site of most of Ihering's collecting.

Mundo Novo, Banhado do. 3224 5246 3 m. Marsh on W side of Lagoa Mirim near Ponta Alegre.

N

Nelson Matzenbacher farm. 3008 5124 20 m. Small farm with some woods at Km 32 of Highway BR-116 S of Porto Alegre.

Nhu-Porã. 2847 5547 approx. 120 m. Crossroads and railroad whistle stop in grasslands 25 km SE of São Borja.

Nonoai*. 2722 5247 600 m. Town in formerly forested area of mixed farming. Kaempfer was reported as having worked here (Naumburg, 1935), but municipality was much larger then and areas where he collected near present town of Ronda Alta are well S of current Nonoai jurisdiction.

#Nonoai State Forest Reserve. Extensive reserve of both virgin and disturbed forest. Most of my work done at or near Passo Feio on highway between Planalto and Nonoai at 2721 5257 514 m.

Nonohay. Former spelling of Nonoai.

Nova Petrópolis*. 2922 5108 approx. 525 m. Town at junction of Highways BR-116 and RS-235 on ridge of escarpment.

Novo Hamburgo*. 2941 5108 20 m. Industrial city at foot of escarpment and northern edge of Porto Alegre metropolitan area.

Novo Württemberg. Former name of Panambi.

O

Osório*. 2953 5016 15 m. Town at foot of escarpment at point where it reaches southern

limit and turns W. Formerly Conceição do Arroio. Kaempfer collected there.

P

Pacheca. 3108 5147 10 m. Crossroads community on N bank of Rio Camaquã approx. 15 km upstream from mouth.

Paleró, Faz. 3016 5127 10 m. Rice and cattle ranch near W shore of Lagoa dos Patos.

Palmares do Sul. 3015 5030 10 m. Town in rice and cattle area at base of Mostardas peninsula. Kaempfer collected here, calling it "Palmares."

Palmeira das Missões*. 2754 5319 587 m. Town in western planalto in field crop area, formerly mostly forested.

Panambi*. 2818 5330 400 m. Planalto town in agricultural colony area. Formerly Novo Württemberg, Garbe collecting locality.

Pantano Grande. 3012 5222 approx. 80 m. Crossroads community on Highway BR-290 at junction for Encruzilhada do Sul and Rio Pardo.

Paraíso. 2927 4948 2 m. Beach community SW of Tôrres.

Pardo, Rio. Sizeable river flowing S from planalto, entering Rio Jacuí at town of Rio Pardo. Crossing S of Vera Cruz is at 2950 5232 approx. 50 m.

Pardo, Rio (town). See Rio Pardo.

Parque Zoológico. 2947 5110 15 m. State-owned zoo on Highway BR-116 between Sapucaia do Sul and São Leopoldo. Site of many Voss observations.

Passinha. Kaempfer collecting area not located by Naumburg (1935). Very probably it was Passinhos.

Passinhos. 3002 5023 10 m. Crossroads in sandy grassland near coast.

Passo Fundo*. 2815 5225 680 m. Central planalto city amid grasslands, many now in field crops. Kaempfer, Gliesch, and Camargo collected there.

Patos, Lagoa dos. Largest body of water in RGS, occupying large portion of littoral. Kaempfer collected near it N of São Lourenço.

Pedras, Arroio das. Affluent of Rio Camaquã, entering it at 3155 5225.

Pedras, Passo das. 3125 5207 approx. 100 m. Stream crossing at Km 202 on Highway BR-116 between Pelotas and Porto Alegre.

Pedras Altas. 3144 5335 386 m. Town in grasslands of SE hills.

Pedras Brancas. Former name of Guaíba. Ihering lived there briefly.

Pedregal. 2905 5246 approx. 500 m. District near Cerca Velha, with partially wooded escarpment valley.

- #Pedreira, Faz. da. 3058 5431 approx. 300 m. Ranch in grasslands with grazing and field crops. Property of Pedro Duval and L. F. Cirne Lima.
- #Pedro Mofka farm. 2820 5256 520 m. Property immediately adjoining that of Ari Xavier, with good patches of remnant forest.
- Pedro Osório*. 3152 5250 40 m. Town on Rio Piratini 45 km W of Pelotas.
- #Peixe, Lagoa do. Narrow, extremely shallow, 30 km long lagoon with entrance into ocean, SW of Mostardas. Often partially dry in summer. My work done principally in vicinity of 3120 5105.
- Pelotas*. 3145 5220 10 m. Industrial and commercial center on Canal de São Gonçalo near its entry into Lagoa dos Patos. Gliesch collecting locale.
- Pelotas, Rio. Name of Rio Uruguay upstream from confluence of Rio Canoas on Santa Catarina side at 2736 5125.
- Pejuçara*. 2926 5339 approx. 450 m. Town in central planalto.
- Picada Tocana. District of Mundo Novo, one source of Ihering specimens.
- Pinhal. 3015 5015 3 m. Ocean beach community E of Porto Alegre.
- Pinhal Alto. 2925 5103 approx. 350 m. Agricultural community on side of escarpment valley near Nova Petrópolis.
- Pinheiro Machado*. 3134 5325 approx. 400 m. Town in SE hills.
- Piquiri, Arroio. Affluent of Rio Jacuí from S which crosses Highway BR-290 SE of Cachoeira do Sul. Shown on some maps as Arroio Petingua. My collecting here done near 3006 5244 approx. 70 m.
- Pirapó. 2803 5515 approx. 80 m. Village in lower Ijuí valley.
- Pirataba. 2915 4952 15 m. Agricultural community near Santa Catarina border on alluvial plain behind Tôrres.
- Piratini*. 3127 5306 342 m. Small town in grasslands of SE hills.
- Piratini, Rio. Affluent of Rio Uruguay at 2805 5526. My collecting done at ferry crossing at 2818 5515 approx. 110 m. Another Rio Piratini flows by Pedro Osório and into Canal de São Gonçalo.
- Pituba. 2946 5051 approx. 120 m. Agricultural community with nearby caves in low hills separating Rio dos Sinos from Rio Gravataí.
- Planalto*. 2720 5304 300 m. Town in formerly forested agricultural area of planalto.
- Poço das Antas. 2927 5140 approx. 300 m. Community at foot of escarpment, source of some Gliesch specimens when area was virgin forest. I have not been there.
- #Pompéu, Faz. do. 2814 5110 900 m. Grasslands with scattered araucaria groves. *Amazona pretrei* roosting place. Part of property now included within Aracuri-Esmeralda Ecological Station.
- Ponta Alegre. 3223 5247 2 m. Peninsula extending into W side of Lagoa Mirim near Banhado Mundo Novo.
- Pontal, Banhado do. 2954 5125 15 m. Shallow, marshy lake at edge of main railroad line W from Porto Alegre. Property of several hunting groups.
- #Pontal, Faz. do. 2948 5009 5 m. Cattle and pineapple farm with marshes, lakeshore, and remnant coastal forest. Property of Bernardino M. Martins.
- Porteirinha. 2841 5112 800 m. Community on Highway RS-122 between Vacaria and Antônio Prado.
- Porto Alegre*. 3002 5112 10 m. Capital and principal city of RGS. Gliesch collecting locality.
- Porto de Tapes. Designation used by Naumburg (1935) for town of Tapes.
- Porto Garcia. 2712 5401 approx. 120 m. Guard station within Turvo Forest Reserve, situated on left bank of Rio Uruguay.
- Porto Lucena*. 2751 5501 110 m. Town on left bank of Rio Uruguay.
- Porto Mauá. 2735 2841 approx. 115 m. Town on left bank of Rio Uruguay.
- Porto Xavier*. 2755 5508 approx. 95 m. Town on left bank of Rio Uruguay.
- Potrerinhos, Faz. 2836 4959 1150 m. Cattle ranch in araucaria and grasslands country of extreme NE corner. Property of Algimir Rodríguez Borges. Camargo collecting locality.
- Povos. 3050 5041 10 m. Grassland area on road N of Mostardas.
- Praia Paraíso. See Paraíso.
- Praia do Hermenegildo. 3340 5316. Small ocean beach community 13 km NE of Uruguayan border.
- Praia Laranjal. 3144 5212 1 m. Lagoa dos Patos beach resort E of Pelotas.
- Primavera, Faz. 2956 5203 20 m. Ranch on N bank of Rio Jacuí near old Monte Alegre railroad station. Mixed grasslands and woods. Property of Nero Freitas.
- Progresso, Faz. Not precisely located. Former ranch situated near Cachoeirinha* on outskirts of Porto Alegre.

Q

- Quadros, Lagoa dos. 2940 5007 3 m. Shallow lake behind Capão da Canoa.
- Quaraí*. 3023 5627 100 m. Town on Rio Quaraí across from Uruguay.

Quaraí, Rio. River flowing W into Rio Uruguay and forming boundary between Rio Grande do Sul and Uruguay.

#Quaraí-chico, Arroio. 3011 5730 50 m. Small stream entering Rio Uruguay upstream a few km from mouth of Rio Quaraí. Forms NW boundary of best remaining remnant of espinilho parkland in RGS.

#Quatro Irmãos, Granja. 3212 5235 10 m. Extensive cattle and rice ranch on E side of Canal de São Gonçalo, with many lakes and marshes.

Quinta. 3204 5216 6 m. Community on road between Pelotas and Rio Grande at junction of road to Chuí and Uruguay. Kaempfer collected here.

Quintão. 3024 5016 3 m. Ocean beach community near base of Mostardas peninsula.

Quitéria do Nascimento schoolhouse. 3037 5030 10 m. Rural community on road S to Mostardas.

R

Rancho Jane. 2919 5046 830 m. Small cattle ranch near Saiqui.

Ratos, Arroio dos. See Arroio dos Ratos.

Rei, Arroio del. Short stream flowing into Lagoa Mirim at 3252 5256 through marshy terrain. Kaempfer collecting place listed by Naumburg (1935) as "Arroio d'El Rey."

Restinga Seca*. 2948 5323 36 m. Town in central depression SE of Santa Maria.

Reunó, Rio. River crossed by road between São Martinho and Criciumal at 5357 2741 approx. 280 m.

Rincão da Porta. 2943 5312 approx. 80 m. Community on road between Candelária and Santa Maria.

#Rincão do Faxinal. 2810 5534 approx. 100 m. Grasslands and forest on banks of Rio Uruguay near Garruchos.

Rincão dos Kroeff. 2927 5022 approx. 1050 m. Rural community on edge of escarpment near IBDF Forest Reserve.

#Rincão dos Pereira. 3048 5303 300 m. Agricultural region in SE hills with grasslands and hillside forests of araucaria where *Amazona pretrei* roost in summer.

Rio Grande*. 3202 5206 5 m. Principal port of RGS, near point where Lagoa dos Patos flows into sea.

Rio Grande bar. 3212 5205. Mouth of channel through which Lagoa dos Patos connects with Atlantic Ocean. Jetties have been constructed on both sides and extend into ocean for 2 or more km.

Rio Grande do Sul. Southernmost state of Brazil.

Ihering referred to present city of Rio Grande by this name.

Rio Grande jetty. See West jetty or East jetty.

Rio Pardo*. 2959 5222 25 m. Town at point where Rio Pardo flows into Rio Jacuí.

Riozinho. 2937 5029 100 m. Village in formerly forested area at headwaters of Rio dos Sinos.

Ronda Alta*. 2747 5248 680 m. Small town in formerly forested area with mixed agriculture and field crops near Kaempfer collecting sites of Colônia Dona Clara and Passo da Entrada.

Roque Gonzales*. 2807 5502 approx. 120 m. Town in lower Ijuí valley.

Rosário do Sul*. 3015 5455 90 m. Town in central campanha.

S

Saiqui. 2919 5046 820 m. Crossroads 5 km N of Canela where escarpment forest meets SW corner of grasslands of high NE.

Sal, Arroio do. 2932 4952. Ocean beach community between Tôres and Capão da Canoa.

Salso, Arroio do. 3020 5410 approx. 100 m. Stream crossed by Highway BR-290 at Km 299.

Sananduva*. 2757 5149 approx. 750 m. Town in previously forested area now devoted to agriculture. Kaempfer collecting locality.

Sander. 2929 5047 66 m. Agricultural community on highway between Gramado and Taquara.

Sanga Pangaré. 3028 5029 10 m. Slough draining into bay of Lagoa dos Patos crossed by road to Mostardas from N.

Santa Bárbara do Sul*. 2823 5315 528 m. Town in grassland and field crop area of planalto.

Santa Cruz, Rio. Principal tributary of Rio Caí, crossed by road from São Francisco de Paula to Bom Jesus at 2922 5031 790 m in grassland areas with small patches of woodland.

Santa Cruz do Sul*. 2943 5225 122 m. Tobacco marketing center at foot of escarpment. Kaempfer collected here.

Santa Isabel. 3205 5236 5 m. Village on W bank of Canal de São Gonçalo, site of ferry crossing on road connecting Pelotas/Chuí highway and Pelotas/Jaguarão highway. Kaempfer collected here.

Santa Izabel. Earlier spelling of Santa Isabel.

Santa Maria*. 2942 5348 approx. 200 m. Important city in center of state at foot of es-

- carpment and near divide between Rio Jacuí and Rio Ibicuí watersheds.
- Santa Maria quarry. 2937 5345 approx. 400 m. Abandoned stone quarry on spur of escarpment above Santa Maria.
- Santa Maria, Rio. River flowing from escarpment into Rio dos Sinos near Taquara at 2942 5048.
- Santana da Boa Vista*. 3053 5307 approx. 420 m. Town in cattle raising and mixed farming region of SE hills.
- Santana do Livramento*. 3054 5533 approx. 300 m. Commercial center in campanha on Uruguayan border.
- Santa Rita do Sul/Flor da Praia road intersection. 3104 5133 10 m. Grazing and rice growing area near W shore of Lagoa dos Patos.
- Santa Rosa*. 2752 5429 approx. 300 m. Commercial and agricultural center in NW.
- Santa Terezinha. 2954 5005. Ocean beach community 10 km N of Tramandaí.
- Santa Vitória do Palmar*. 3332 5322 10 m. Town in extreme southern tip of RGS in grazing and rice area.
- Santiago*. 2911 5452 404 m. Town near edge of remains of escarpment where it blends into campanha.
- Santo Ângelo*. 2818 5415 275 m. Planalto town and municipality which formerly included Gliesch collecting locality of Laranjeira.
- Santo Antônio, Estância. Not precisely located. Ranch about 40 km E of Santana do Livramento where Sick collected *Nycticyrpes semicollaris*.
- Santo Antônio beach. 3145 5214. Beach town on Lagoa dos Patos E of Pelotas.
- Santo Antônio da Patrulha*. 2950 5031 70 m. Town on state highway between Porto Alegre and Osório.
- Santo Antônio das Missões*. 2831 5515 213 m. Town near Highway BR-285 between São Luis Gonzaga and São Borja.
- Santo Cristo*. 2749 5440 280 m. Town in formerly forested area now devoted to small mixed farming, field crops and forest remnants.
- São Borja*. 2840 5600 85 m. Agricultural center on Rio Uruguay.
- São Conçalo, Rio. Designation used by Naumburg (1935) for Canal de São Gonçalo.
- São Diogo. 3157 5355 approx. 100 m. Small community on Rio Jaguarão across from Uruguay.
- #São Donato, Banhado. 2857 5611 approx. 80 m. Large marsh on highway between São Borja and Itaqui.
- #São Francisco, Faz. 3153 5338 300 m. Cattle ranch in SE hills, property of Francisco Mascarenhas.
- São Francisco de Assis*. 2934 5507 200 m. Town in valley of Rio Itaqui.
- São Francisco de Paula*. 2927 5034 960 m. Town in SE corner of planalto near edge of escarpment in grassland and araucaria region. Kaempfer, Gliesch, and Camargo collecting locality.
- São Francisco de Paula Forest Reserve. See IBDF Forest Reserve.
- São Gabriel*. 3020 5420 119 m. Town in grasslands on Highway BR-290.
- São Jerônimo*. 2957 5144 15 m. Coal mining town on S bank of Rio Jacuí.
- São João. 2922 5048 approx. 550 m. Agricultural community in valley below Morro Pelado. Subsistence agriculture with considerable native vegetation on nearby cliffs and sides of steep valleys.
- São João do Monte Negro. Early name for present town of Montenegro.
- São José. 3038 5333 approx. 330 m. Small community 15 km S of Caçapava do Sul on road to Lavras do Sul.
- #São José, Faz. 3048 5244 approx. 200 m. Ranch with grazing and field crops in SE hills. Property of A. Peccim & Cia.
- São José do Erval. 2902 5218 approx. 500 m. Community in area of mixed farming and remnant forests on Passo Fundo/Porto Alegre highway.
- São José do Norte*. 3200 5202 2 m. Town at tip of Mostardas peninsula. Gliesch collected in vicinity.
- São José do Ouro*. 2747 5135 600 m. Town in mixed farming area with forest remnants on N slope of planalto.
- São Leopoldo*. 2947 5110 approx. 20 m. City N of Porto Alegre, within its metropolitan area. Camargo and Voss worked here.
- São Lourenço do Sul*. 3122 5158 3 m. City and municipality S of mouth of Rio Camaquã. Kaempfer collected here.
- São Lucas do Meriti, Faz. 2814 5540 80 m. Cattle ranch with grasslands and gallery forests extending to banks of Rio Uruguay. On downstream side of Garruchos from Rincão do Faxinal.
- São Luis Gonzaga*. 2825 5457 250 m. Agricultural center in grazing and field crop area.
- São Manuel. 2848 5101 800 m. Community 10 km SE of Guacho.
- São Martinho*. 5358 2742 approx. 300 m. Town in formerly forested field crop region of NW.
- São Nicolau*. 2811 5516 160 m. Town in grazing and field crop area S of Rio Ijuí.

São Pedro. See Colônia São Pedro.

São Pedro, Estância. 3008 5728. Grazing and rice lands, bordering Rio Uruguay and Arroio Quaraí-chico. Was probably once espinilho parkland. Property of Amb. Batista Luzardo.

São Pedro do Sul*. 2938 5411 179 m. Agricultural center near headwaters of Rio Ibicuí.

#São Roberto, Faz. 3025 5550 approx. 200 m. Sheep and cattle ranch with shallow-soiled grasslands and gallery forests. Property of Clélia and J. W. Thomé.

São Sebastião do Cai*. 2931 3023 approx. 50 m. Town in valley of Rio Cai.

São Sepé*. 3010 5335 175 m. Town on highway S of Santa Maria in foothills on S side of central depression.

São Simon, Faz. 3058 5049 10 m. Rice and cattle property on road N of Mostardas.

São Valentim*. 2733 5231 approx. 550 m. Town in area of mixed farming and forest remnants on N slope of planalto.

São Vicente do Sul*. 2942 5441 118 m. Town in upper Rio Ibicuí valley, formerly named General Vargas.

Sapiranga*. 2938 5101 approx. 25 m. Town at foot of escarpment E of Novo Hamburgo, becoming industrialized. Kaempfer collecting locality, then forest country.

Sapucaia do Sul*. 2950 5109. Industrialized community S of São Leopoldo within Porto Alegre metropolitan area. Zoological Park, where Voss has made observations, is nearby.

Sapyranga. Former spelling of Sapiranga.

#Seival, Passo do. 3044 5343 150 m. Basin surrounded by grassy hills with scattered trees and clumps on highway between Caçapava do Sul and Lavras do Sul.

Seival valley. See Seival, Passo do.

Serafim Schmidt. Name on some maps for place known locally as Sete Leguas.

Serra Grande. 2927 5054 720 m. Community of small mixed farming 8 km S of Gramado.

Serrinha do Pinhal. 2920 5255 350 m. Community with small mixed farming and remnant forests in valley of Rio Jacuí tributary.

Sertão*. 2759 5215 738 m. Town N of Passo Fundo in formerly forested area of planalto.

#Sete Leguas. Closest settlement to relatively large area of native forest near edge of escarpment where I worked at 2922 5224 660 m.

#Silêncio, Faz. do. 2900 5554 approx. 100 m. Cattle and field crop area with narrow gallery forests. Property of Sergio Bastos Silva.

Silveira. 2835 5003 approx. 1000 m. Community in extreme NE corner of RGS. Camargo collected in vicinity.

Silveira Martins. 2938 5335 approx. 320 m. Town on spur of escarpment E of Santa Maria.

Silvestre, Passo do. 2925 5626 approx. 60 m. Ferry crossing of Rio Ibicuí on road from Alegrete to Itaqui.

Sinimbu. 2932 5231 80 m. Village in escarpment valley on Rio Pardo. Kaempfer collected in vicinity. I have not been there.

Sobradinho*. 2924 5303 440 m. Town on slopes of escarpment in upper Rio Jacuí basin.

Sobradinho. 2904 5531 approx. 200 m. Road junction between Itaqui and Santiago.

Soledade*. 2850 5231 approx. 550 m. Planalto town in grasslands with some forest remnants nearby.

Solidão lighthouse. 3042 5029. On ocean beach of Mostardas peninsula. Name "Solidão" also applies to entire area extending almost across peninsula about 55 km NE of Mostardas.

T

Tabaí. 2939 5143 approx. 50 m. Road junction where Highways BR-386 and RS-240 cross.

Taim. 3230 5235 3 m. Village near E shore of Lagoa Mirim at N edge of Taim marsh.

#Taim, Arroio. Small stream, partially canalized, which drains Taim marsh into Lagoa Mirim at 3234 5235.

Taim Ecological Station. Federal reserve which encompasses important portion of Taim marsh extending from N end of Lagoa da Mangueira N and W to Lagoa Mirim.

Taim pumping station. 3233 5235 5 m. Structure built for pumps in now abandoned project to drain Taim marsh.

Tainhas. 2916 5019 approx. 1000 m. Crossroads community in high grasslands of NE with nearby araucaria forests.

Tapejara*. 2804 5201 680 m. Agricultural town in formerly forested area of planalto now devoted to field crops and grazing.

Tapes*. 3041 5124 3 m. Town on bay in W shore of Lagoa dos Patos.

Taquara*. 2939 5047 39 m. Town near foot of escarpment, headquarters of Ihering during principal period of his collecting.

Taquara, Arroio. 2940 5415 approx. 80 m. Stream crossing Highway RS-453 SW of São Pedro do Sul.

Taquari*. 2948 5151 approx. 25 m. Town in central trough on Rio Taquari. Camargo and Gliesch collecting area.

Taquari, Rio. Largest tributary of Rio Jacuí, with mouth at 2957 5143.

Taquary. Former spelling of Taquari.

#Tarumã, Faz. 3122 5317 approx. 400 m. Cattle and field crop ranch in SE hills. Property of Francisco Mascarenhas.

Tavares*. 3113 5100 10 m. Town S of Mostardas, closest settlement to access road to W side of Lagoa do Peixe.

Tenente Portela*. 2722 5346 approx. 325 m. Town in extreme NW on road to Turvo State Forest Reserve.

Terra de Areia. 2935 5005 10 m. Community on Highway BR-101 between Osório and Tôres in grazing and pineapple growing area.

#Timbaúva, Faz. 3027 5123. Cattle and rice ranch occupying transition area between littoral and SE hills. Property of Fernando Kroeff.

Torquato Severo. 3101 5411 approx. 370 m. Road junction in grasslands of SE hills.

#Tôres. 2920 4944. Northernmost coastal town in RGS, only place in RGS where rocks project into sea. Gliesch and Camargo collected there.

Tramandaí*. 2959 5008 2 m. Beach resort at point where drainage from lakes of northern littoral flow into Atlantic. Gliesch collected there.

Tramandahy. Former spelling of Tramandaí.

Três Bocas. 2907 5543 approx. 125 m. Junction of road to Faz. Silêncio on São Borja-Santiago road.

Três Cachoeiras. 2927 4956 10 m. Village on Highway BR-101 near W shore of Lagoa Itapeva which had good nearby remnant coastal forest patches in 1973, now destroyed.

Três Coroas*. 2932 5046 56 m. Town on highway between Gramado and Taquara.

Três Forquilhas. 2931 5006. Village in coastal escarpment valley, mentioned by Naumburg (1935) as on the "border of a lagoon," without further identification.

Três Forquilhas, Rio. River of coastal escarpment draining into Lagoa Itapeva at 2935 5000.

Três Passos*. 5356 2727 approx. 325 m. Town on formerly forested NW slope leading to Rio Uruguay.

Triunfo*. 2956 5144 approx. 15 m. Town on N bank of Rio Jacuí at mouth of Rio Taquari. Gliesch collection locality.

Triumpho. Former spelling of Triunfo.

Tupanciretã*. 2905 5351 461 m. Town in grasslands region of planalto.

Turvo, Rio. Affluent of Rio Uruguay, entering it at 2716 5404. Forms S boundary of Turvo State Forest Reserve.

#Turvo State Forest Reserve. 2715 5357 approx. 300 m (headquarters). Extensive re-

serve of secondary tropical forest with some virgin areas, bordering Rio Uruguay.

U

Udich farm, Élamo. See Élamo Udich farm.

Uiam, Lagoa or Lagoa Uiaim. Kaempfer collecting locality not located by Naumburg (1935), but placed speculatively between Tôres and Osório on her map. Kaempfer was there July 14, 1931, between Quinta on July 12 and Uruguay Cattle Ranch on July 16, so it is clearly between these latter two places, presumably one of the many small lakes in this flat, poorly drained area.

Umbu, Faz. do. 2907 5317 280 m. Ranch with field crops and grazing, with forests on some slopes leading down to western affluents of Rio Jacuí. Property of João Vieira.

Uruguaiana*. 2945 5705 approx. 70 m. Westernmost city in RGS, on banks of Rio Uruguay. Garbe collecting locality.

Uruguay border. Designation given by Kaempfer to one of his collecting localities in municipality of Santa Vitória do Palmar. Presumably about 3340 5330.

Uruguay Cattle Ranch. 3218 5238 10 m. Kaempfer collecting locality not precisely located by Naumburg (1935). It is immediately S of Granja Quatro Irmãos. I have not been there.

Uruguay, Rio. Largest river of RGS, forming most of its boundary with Santa Catarina and all of it with Argentina.

V

Vacaria*. 2830 5056 950 m. Town in grasslands of high NE. Kaempfer and Camargo collecting locality.

Vaccaria. Former spelling of Vacaria.

ValdeSerra. 2929 5342 approx. 480 m. Road junction in grasslands at edge of escarpment on road from Santa Maria to Cruz Alta.

#Valente, Faz. do. 3128 5408 160 m. Grazing ranch S of Bagé on road to Aceguá near crossing of Rio Negro. Property of João Paes.

Velhaco, Arroio do. 3045 5138 approx. 30 m. Stream crossed by Highway BR-116 between Porto Alegre and Camaquã.

Venâncio Aires*. 2937 5211 210 m. Town in region of mixed agriculture at foot of escarpment.

Vera Cruz*. 2944 5230 125 m. Agricultural center in mixed farming area emphasizing tobacco.

Vermelha, Lagoa. See Lagoa Vermelha.

Viamão*. 3005 5102 approx. 50 m. Town E

of Porto Alegre at edge of metropolitan area.
 Gliesch collecting locality.

X

Xavier farm, Ari. See Ari Xavier farm.

W

West Jetty. See Rio Grande bar. West jetty is reached from Cassino.

APPENDIX E: AUTHOR'S ITINERARY IN RIO GRANDE DO SUL

Following is a record of my travel performed for bird observation within Rio Grande do Sul during the period September 1, 1970–November 27, 1983. It does not include hundreds of one-day or shorter visits to points in all directions from my residence in Gramado, especially to such productive sites as Morro Pelado, Fazenda das Amoreiras, Caracol State Park, Carazal, Saiqui, Gramado Golf Club, and the woods behind our house, or one day and occasional overnight visits to Porto Alegre. Periods of absence from Rio Grande do Sul are noted. Thus, for any dates not mentioned below, it is likely, in the absence of transitory weather or personal problems, that some observational activity was under way in the region around Gramado.

After each date, principal points visited are listed, with the last named being where the night was spent. Beginning July 1971, I traveled by trailer, often spending nights along the roadside. In these cases the name of the municipality or closest town is given unless some more specific geographic designation is available.

SEPTEMBER 1970

- 1 Gramado–Colônia Rizícola No. 1
- 2 Colônia Rizícola No. 1
- 3 Tramandaí–Gramado
- 18 Gramado–Northeast beaches–Tôrres
- 19 Barra de Ouro–Riozinho–Gramado

OCTOBER 1970

- 9 Gramado–Canal Taraba–Lagoa dos Quadros
- 10 Lagoa Itapeva–Capão da Canoa–Lagoa dos Quadros
- 11 Gramado
- 16 Gramado–Tainhas–Terra de Areia–Tôrres
- 17 Lagoa do Jacaré–Gramado
- 30 Gramado–Bom Jesus
- 31 Faz. Potreirinhos

NOVEMBER 1970

- 1 Faz. Baios de Fora–Faz. Potreirinhos
- 2 Gramado
- 9 Gramado–Cachoeira do Sul
- 10 Alegrete
- 11 Harmonia–Uruguaiana–Barra do Quaraí–Arroio Quaraí-chico
- 12–13 Arroio Quaraí-chico
- 14 Uruguaiana
- 15 Itaqui–São Borja
- 16 Santiago–Ijuí
- 17 Carazinho
- 18 Gramado

DECEMBER 1970

- 2 Gramado–IBDF Forest Reserve
- 3 IBDF Forest Reserve
- 4 Gramado
- 13–31 Not in RGS

JANUARY 1971

- 1–8 Not in RGS
- 28 Gramado–IBDF Forest Reserve
- 29 IBDF Forest Reserve
- 30 Gramado

FEBRUARY 1971

- 11 Gramado–Porto Alegre–Alegrete
- 12–16 Arroio Quaraí-chico
- 17 Harmonia–Santana do Livramento
- 18 Bagé
- 19 Pelotas–Rio Grande
- 20 Cassino–Gramado
- 28 Gramado–Bento Gonçalves–Passo Fundo

MARCH 1971

- 1 Palmeira das Missões–Derrubadas
- 2–4 Porto Garcia
- 5 Tenente Portela–Três Passos–Santa Rosa
- 6 Giruá–São Nicolau–São Borja
- 7 São Luis Gonzaga–Cruz Alta
- 8 Ibirubá–Passo Fundo–Lagoa Vermelha–Vacaria
- 9 Bom Jesus–Gramado
- 27 Gramado–Pelotas–Jaguarão–Antonio Lima farm
- 28 Lima farm–Rio Grande
- 29 Cassino–Pelotas
- 30 Gramado

APRIL 1971

- 3 Gramado–Banhado do Pontal
- 4 Banhado do Pontal
- 5 Gramado

MAY 1971

- 8 Gramado-São Sebastião do Cai-Montenegro-Santa Cruz
- 9 Candelária-Dona Francisca-Cruz Alta
- 10 Ibirubá-Espumoso-Passo Fundo
- 11 Tapejara-Sananduva-Vacaria
- 12 Gramado-Taquara-Tramandaí
- 13 Beaches-Capão da Canoa-Lagoa dos Quadros
- 14 Lagoa dos Quadros
- 15 Gramado
- 22 Gramado-Lageado Grande-Bom Jesus-Silveira
- 23 Bom Jesus-Faz. do Pompéu-Vacaria
- 24 Antonio Prado-Caxias do Sul-Gramado
- 25 Camaquã-Gramado

MAY 28-JUNE 25, 1971 Not in RGS

JULY 1971

- 12 Gramado-Porto Alegre-São Lourenço
- 13-14 Cassino beaches
- 15-19 Estância Ipiranga
- 20 Hermenegildo beaches
- 21 Santa Vitória do Palmar-Chuí-Curral Alto
- 22 Boa Vista antenna
- 23 Gramado

AUGUST 1971

- 9 Gramado-Novo Hamburgo-Santa Cruz
- 10 Candelária-Rio Pardo-Santa Cruz
- 11 Gramado
- 15 Gramado-Porto Alegre
- 16 Pantano Grande
- 17-19 Seival valley
- 20 Gramado

SEPTEMBER 1971

- 9 Gramado-Garibaldi-Estrela-São José do Erval
- 10 Carazinho-Sarandi-Palmeira das Missões
- 11-20 Turvo State Forest Reserve
- 21 Tenente Portela-Iraí-Planalto
- 22-23 Nonoai State Forest Reserve
- 24 Ronda Alta
- 25 Passo Fundo-Casca-Veranópolis
- 26 Gramado

OCTOBER 1971

- 5 Gramado-Porto Alegre-Pantano Grande
- 6 São Gabriel-Rosário do Sul
- 7 Alegrete-Harmonia
- 8-11 Arroio Quaraí-chico
- 12 Uruguaiana
- 13 Itaquí-Faz. Espinilho
- 14 Banhado São Donato-Faz. Espinilho
- 15 Faz. Espinilho
- 16 Sobradinho-Manuel Viana-Arroio Jaguari-mirim
- 17 São Vicente do Sul-São Pedro do Sul

- 18 Santa Maria-Rio Jacuí crossing on S. Maria/Candelária road
- 19 Santa Cruz-Rio Pardo
- 20 Gramado
- 24 Gramado-Cambará do Sul-Florianópolis, S.C.

OCTOBER 25-NOVEMBER 5, 1971 Not in RGS

NOVEMBER 1971

- 6 Laguna, S.C.-Tôrres-Tainhas-Gramado
- 19-21 Gramado-Morro Pelado
- 22-23 Guacho
- 24 Vacaria-Faz. do Pompéu-Lagoa Vermelha
- 25-26 Espigão Alto Forest Reserve
- 27 Machadinho
- 28 Erechim-Sertão
- 29 Gramado

DECEMBER 1971

- 13 Gramado-Porto Alegre-Viamão-Tramandaí
- 14 Beaches-Cidreira-Capão da Canoa
- 15-16 Tôrres-beaches-Colônia São Pedro-Lagoa do Jacaré
- 17 Gramado
- 29 Gramado-Caxias do Sul-Guacho
- 30 Gramado

JANUARY 1972

In Gramado and vicinity

FEBRUARY 1972

- 1 Gramado-Porto Alegre-Guaíba
- 2 Butiá-CISJ
- 3-6 Faz. São José
- 7 Camaquã-Gramado
- 28 Gramado-Porto Alegre-Arroio do Velhaco
- 29 Pelotas-West jetty-beaches-Cassino

MARCH 1972

- 1 Rio Grande-Quinta-Santa Isabel
- 2 Pedro Osório-Pelotas-Santo Antônio beach
- 3 Pelotas-Canguçu-Faz. da Invernada
- 4-6 Faz. da Invernada
- 7 Santana da Boa Vista-São José-Seival valley
- 8-9 Seival valley
- 10-11 Faz. das Casuarinas
- 12 Arroio dos Ratos-Guaíba
- 13 Gramado
- 20 Gramado-Porto Alegre-Barragem Capané
- 21 Lavras do Sul-Dom Pedrito
- 22-24 Faz. da Pedreira
- 25 Bagé-Faz. do Valente
- 26 Aceguá-Faz. do Valente
- 27 Bagé-São Gabriel
- 28 Passo do Freire (12 km S of BR-290 at Km 254)
- 29 Gramado

APRIL 1972

- 14 Gramado-Porto Alegre

- 15 Viamão-Pinhal
- 16 Cidreira-Quintão-beaches-Capão da Canoa
- 17-18 Tramandaí-beaches-Arroio do Sal-Capão da Canoa
- 19 Lagoa dos Quadros-beaches-Tôrres-Itapeva
- 20-23 Northern littoral-beaches-Itapeva and vicinity
- 24 Gramado

MAY 1972

- 10 Gramado-Caxias do Sul-Fauro ranch
- 11-13 Faz. do Pompéu
- 14-16 Espigão Alto F.R.
- 17 São José do Ouro-Marcelino Ramos-Guarana
- 18 Erechim-São Valentim-Nonoai Forest Reserve
- 19-20 Nonoai Forest Reserve
- 21 Ronda Alta-Sarandi-Kennedy Highway Km 233
- 22 Casca-Rio Carreiro quarry
- 23 Gramado

JUNE 7-AUGUST 25, 1972 Not in RGS

SEPTEMBER 1972

- 17 Gramado-Fauro ranch
- 18-20 Faz. do Pompéu
- 21 Vacaria-Gramado
- 22 Gramado-Morro Pelado
- 23-24 Faz. das Amoreiras
- 25 Gramado

OCTOBER 1972

- 2 Gramado-Faz. das Amoreiras
- 3 São Francisco de Paula-Taquara-Capão da Canoa
- 4-8 Tôres-beaches-Lagoa do Jacaré and vicinity
- 9 Osório-Rio Pagaré
- 10 Mostardas
- 11 Lagoa do Peixe-Mostardas
- 12 Palmares do Sul
- 13 Gramado
- 19 Gramado-Porto Alegre-Guaíba
- 20 Butiá-CISJ
- 21 CISJ
- 22-26 Faz. São José and vicinity
- 27 Gramado

NOVEMBER 1972

- 3 Gramado-Saiqui-Vacaria
- 4 Faz. do Pompéu
- 5 Vacaria-Antônio Prado
- 6 Gramado
- 16 Gramado-Faz. São José
- 17 Faz. São José
- 18 Encruzilhada do Sul-Pantano Grande
- 19-20 Faz. das Casuarinas
- 21-23 Seival Valley

- 24-25 Faz. da Invernada
- 26 Pelotas-Cassino
- 27 Cassino-beach-Santa Vitória do Palmar-Cassino
- 28-29 Granja Quatro Irmãos
- 30 Santa Isabel-Granja Quatro Irmãos

DECEMBER 1972

- 1 Granja Quatro Irmãos
- 2 Rio Grande-Camaquã
- 3 Gramado
- 18 Gramado-Osório
- 19 Osório
- 20 Capão da Canoa-beaches-Tramandaí-Osório
- 21 Osório
- 22 Gramado

JANUARY 1973

- 12 Gramado-Vacaria-Lagoa Vermelha
- 13 Carazinho-Panambi
- 14 Ijuí-Élamo Udich farm
- 15 Udich farm
- 16 São Martinho-Rio Reunó
- 17-18 Crissiumal-Barra do Lageado Grande
- 19 Horizontina-Santa Rosa
- 20-22 Santo Cristo
- 23 Porto Mauá-Santo Cristo
- 24 Cerro Largo-Roque Gonzales-Pirapó
- 25 São Nicolau-Garruchos
- 26-29 Faz. São Lucas do Mereti
- 30 Santo Antônio das Missões-São Luis Gonzaga
- 31 Ijuí-Cruz Alta

FEBRUARY 1973

- 1 Gramado
- 13-28 Not in RGS

MARCH 1973

- 30 Gramado-Aparados da Serra National Park
- 31 Aparados da Serra National Park

APRIL 1973

- 1-3 Aparados da Serra National Park
- 4 Gramado
- 10 Gramado-Porto Alegre-embarked on "Almirante Saldanha"
- 11 Rio Grande
- 12-17 At sea off coast of RGS
- 18 Lagoa dos Patos
- 19 Disembarked Porto Alegre-Gramado

MAY 1973

- 4 Gramado-São Leopoldo-Guaíba
- 5 Barro do Ribeiro-Faz. Timbaúva
- 6 Tapes-Faz. Paleró
- 7 Arambaré-Santa Rita road junction
- 8 Camaquã-Pacheca-Boa Vista antenna
- 9 Pelotas-beaches-Cassino
- 10-13 Granja Quatro Irmãos and vicinity

- 14-16 Estância Ipiranga
- 17 Pelotas-Boa Vista antenna
- 18 Gramado
- 30 Gramado-Porto Alegre
- 31 Novo Hamburgo

JUNE 1973

- 1 São Lourenço-Canguçu-Faz. da Invernada
- 2-4 Faz. da Invernada
- 5 Canguçu-Cancelão
- 6 Pinheiro Machado-Bagé
- 7-8 Faz. do Valente and vicinity
- 9-11 Faz. da Pedreira and vicinity
- 12 Lavras do Sul-Seival valley
- 13-14 Seival valley and vicinity
- 15-16 Faz. das Casuarinas
- 17 Gramado

JULY 1973

- 3 Gramado-Porto Alegre-Pantano Grande
- 4 Rosário do Sul-Passo da Conceição
- 5-8 Faz. São Roberto
- 9-12 Arroio Quarai-chico and vicinity
- 13 Uruguaiana-Alegrete
- 14 Faz. das Casuarinas
- 15 Cachoeira do Sul-Santa Cruz-Rio Pardo
- 16 Gramado
- 24 Gramado-São Leopoldo-Taquari
- 25-28 Ari Xavier farm and vicinity
- 29-30 Élamo Udich farm
- 31 Catuípe-Santo Ângelo-Santo Cristo

AUGUST 1973

- 1 Porto Lucena-Santo Cristo
- 2 Santo Cristo
- 3 Cândido Godoi-São Luis Gonzaga-Arroio Apunchi
- 4 Garruchos-Rincão do Faxinal
- 5-7 Rincão do Faxinal
- 8 Santo Antônio das Missões-São Luis Gonzaga
- 9 Ijuí-Cruz Alta
- 10 Carazinho-São Leopoldo-Gramado
- 29 Gramado-Capão da Canoa
- 30 Capão da Canoa and nearby beaches
- 31 Três Cachoeiras

SEPTEMBER 1973

- 1 Tôres
- 2 Três Cachoeiras
- 3 Gramado
- 12 Gramado-Faz. Timbaúva
- 13-14 Faz. Timbaúva
- 15 Tapes-Arambaré
- 16 Santa Rita do Sul-Pacheca-Boa Vista antenna
- 17 Gramado
- 26-27 Faz. do Pontal
- 28 Porto Alegre

- 29 Faz. do Pontal-Três Cachoeiras
- 30 Porto Alegre

OCTOBER 1973

- 1 Gramado
- 11 Gramado-Faz. das Amoreiras
- 12-13 Faz. das Amoreiras
- 14 Gramado-Esteio
- 15-16 CISJ
- 17 Gramado
- 20 Gramado-Camaquã-Pacheca
- 21 Gramado

NOVEMBER 1973

- 6 Gramado-Aparados da Serra National Park
- 7 Aparados da Serra National Park
- 8 Faz. das Amoreiras
- 9 Gramado
- 16 Gramado-Porto Alegre-Banhado do Pontal
- 17 Fontoura Xavier-Nonoai Forest Reserve
- 18-21 Nonoai Forest Reserve
- 22-23 Ari Xavier farm
- 24 São Luis Gonzaga
- 25-28 Rincão do Faxinal
- 29 Santo Antônio das Missões-Bossoroca
- 30 Tupanciretã

DECEMBER 1973

- 1 São Pedro do Sul-Santa Maria-São Sepé
- 2 Faz. das Casuarinas
- 3 Gramado
- 8-31 Not in RGS

JANUARY 1974

- 1 Not in RGS
- 19 Gramado-Morro Pelado
- 20 Gramado
- 25 Gramado-Porto Alegre-Quitéria do Nascimento schoolhouse
- 26 Mostardas-Tavares
- 27 Lagoa do Peixe and nearby beaches
- 28 Bojuru
- 29 São José do Norte-Rio Grande-Boa Vista antenna
- 30 Gramado

FEBRUARY 1974

- 6 Gramado-Porto Alegre-Tapes
- 7 Arambaré-Pacheca-Pelotas
- 8 Taim-Curral Alto
- 9-11 Estância Ipiranga
- 12 Hermenegildo beach-beaches-Lagoa da Mangueira
- 13 Taim marsh
- 14-16 Granja Quatro Irmãos and vicinity
- 17 Cassino
- 18-19 Álvaro T. Dias farm
- 20 Pelotas-Boa Vista antenna
- 21 Gramado

MARCH 1974

- 22 Gramado-Venâncio Aires-Linha Cachoeira
- 23-25 Sete Leguas
- 26 Barros Cassal-Serrinha do Pinhal
- 27 Serrinha do Pinhal
- 28 Sobradinho-Agudo
- 29 Val de Serra-Santa Maria
- 30 Silveira Martins-Sobradinho
- 31 Candelária-Vera Cruz

APRIL 1974

- 1 Venâncio Aires-Mariante
- 2 Gramado
- 22 Gramado-Faz. do Pompéu
- 23 Faz. do Pompéu
- 24 Gramado
- 26 Gramado-Porto Alegre-Pantano Grande
- 27-28 Faz. das Casuarinas
- 29 Banhado Inhatium
- 30 Rosário do Sul-Passo da Conceição

MAY 1974

- 1-2 Faz. São Roberto
- 3 Quaraí-Uruguaiana-Arroio Quaraí-chico
- 4-5 Arroio Quaraí-chico
- 6 Highway BR-472 crossing of Rio Ibicuí
- 7 Banhado São Donato
- 8-9 Faz. Casa Branca
- 10 Alegrete-Manuel Viana
- 11-12 Faz. Silêncio
- 13 Santiago-Jaguari
- 14 Santa Maria-Faz. das Casuarinas
- 15 Gramado
- 24 Gramado-Porto Alegre-Viamão
- 25 Viamão-Quitéria do Nascimento school-house
- 26 Mostardas-Tavares
- 27-28 Lagoa do Peixe and nearby beaches
- 29 Mostardas
- 30 Faz. São Simon
- 31 Gramado

JUNE 1974

- 23 Gramado-Faz. do Pontal
- 24-26 Faz. do Pontal
- 27 Tramandai-beaches-Faz. do Pontal
- 28 Porto Alegre-Faz. do Pontal
- 29-30 Lagoa do Jacaré

JULY 1974

- 1 Lagoa do Jacaré
- 2 Gramado
- 3 Gramado-Aparados da Serra National Park
- 4-6 Aparados da Serra National Park
- 7 Gramado
- 15 Gramado-Faz. do Pompéu-Vacaria
- 16 Gramado
- 17 Gramado-Porto Alegre-Nelson Matzenbacher farm
- 18 Praia Laranjal

19-20 Faz. Tarumã

- 21 Pedras Altas-Herval
- 22 São Diogo-Herval
- 23-24 Jaguarão
- 25-26 Arroio Grande-Ponta Alegre
- 27 Arroio Grande-Álvaro T. Dias farm
- 28 Santa Isabel-Taim marsh
- 29-30 Cassino and beaches
- 31 Boa Vista antenna

AUGUST 1974

- 1 Pacheca
- 2 Tapes-Faz. Timbaúva
- 3-4 Faz. Timbaúva
- 5 Gramado
- 13 Gramado-Mariante
- 14 Venâncio Aires-Sete Leguas
- 15-17 Sete Leguas
- 18 Santa Cruz-Rio Pardo
- 19 Rio Pardo-Cachoeira do Sul
- 20 Cachoeira do Sul
- 21 Rio Pardo-São Sebastião do Cai-Gramado

SEPTEMBER 1974

- 6 Gramado-São Leopoldo-Rio Pardo
- 7-10 Faz. Primavera
- 11 Gramado
- 18 Gramado-Boa Vista antenna
- 19 Taim marsh
- 20-21 Estância Ipiranga
- 22-23 Praia do Hermenegildo and nearby beaches
- 24 Estância Mangueira
- 25 Taim marsh
- 26-27 Cassino
- 28 Boa Vista antenna
- 29 Dom Feliciano
- 30 Butiá-Gramado

OCTOBER 1974

- 9 Gramado-Porto Alegre-São Leopoldo
- 10-13 Banhado do Pontal
- 14 Porto Alegre-Boa Vista antenna
- 15-17 Faz. Tarumã
- 18-20 Faz. São Francisco
- 21-22 Faz. do Valente
- 23 Rio Camaquã, Caçapava do Sul
- 24 Rio Pardo crossing, south of Vera Cruz
- 25 Sapucaia do Sul
- 26 Gramado

NOVEMBER 1974

- 12 Gramado-Sete Leguas
- 13-14 Sete Leguas
- 15 Soledade
- 16-17 Pedregal, Cerca Velha
- 18 Sobradinho-Arroio Curupá
- 19 Santa Maria quarry
- 20 Jaguari
- 21-22 Faz. Silêncio

- 23 Banhado São Donato
- 24-25 Faz. Casa Branca
- 26-27 Faz. São Roberto
- 28 Santana do Livramento-Arroio Ibicuí da Faxina
- 29-30 Faz. da Pedreira

DECEMBER 1974

- 1-2 Faz. das Casuarinas
- 3 Gramado
- 11 Gramado-Faz. Primavera
- 12-13 Faz. Primavera
- 14 Gramado

JANUARY 1975

- 15 Gramado-Rio Pardo crossing, Vera Cruz
- 16 Cachoeira do Sul-Arroio Piqueri
- 17 Faz. Caneleira
- 18 Passo dos Melo
- 19-20 Faz. da Invernada
- 21-22 Faz. Tarumã
- 23 Faz. São Francisco
- 24 Jaguarão
- 25 Ponta Alegre
- 26 Pedro Osório-Pinheiro Machado
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- 28-29 Lavras do Sul-Seival valley-Rio Camaquã, Caçapava do Sul
- 30 Cachoeira do Sul-Arroio Piqueri
- 31 Gramado

FEBRUARY 1975

- 13 Gramado-Arroio dos Ratos
- 14 Faz. das Casuarinas
- 15 Rincão dos Pereira
- 16 Banhado Inhatium
- 17-18 Faz. São Roberto
- 19 Faz. Casa Branca
- 20 Passo do Silvestre, Rio Ibicuí
- 21 Banhado São Donato
- 22-23 Faz. Silêncio
- 24 Santiago
- 25 São Pedro do Sul
- 26 Santa Cruz
- 27 Gramado

MARCH 1975

- 21 Gramado-Porto Alegre-Faz. das Casuarinas
- 22 Rincão dos Pereira
- 23 Canguçu-Faz. Tarumã
- 24 Faz. São Francisco
- 25 Passo dos Enforcados, Rio Camaquã
- 26 Gramado

APRIL 8-JULY 31, 1975 Not in RGS

AUGUST 1975

- 1 Not in RGS
- 22 Gramado-Rio das Antas/Bom Jesus
- 23-24 Faz. da Árvore Só
- 25-26 Faz. do Pompéu

- 27 Sertão
- 28 Erechim-Erval Grande
- 29 Barra do Rio Azul/Aratiba
- 30 Sertão
- 31 Gramado

SEPTEMBER 1975

- 24 Gramado-Porto Alegre-Viamão
- 25-27 Faz. do Pontal and beaches
- 28-30 Lagoa do Jacaré

OCTOBER 1975

- 1 Lagoa do Jacaré
- 2 Gramado
- 15 Gramado-São Leopoldo
- 16-17 Ari Xavier farm
- 18 São Luis Gonzaga
- 19 Gramado
- 21 Gramado-São Luis Gonzaga
- 22-31 Rincão do Faxinal, Garruchos

NOVEMBER 1975

- 1-2 Banhado São Donato
- 3 Santo Antônio das Missões
- 4 São Nicolau-Rio Ijuí, Roque Gonzales
- 5 Santo Cristo
- 6 Rio Carreiro quarry
- 7 Gramado
- 29 Gramado-Faz. das Amoreiras
- 30 Faz. das Amoreiras

DECEMBER 1975

- 1 Gramado
- 22 Gramado-Pelotas
- 23 Chuí-Uruguay
- 24-31 Not in RGS

JANUARY 1976

- 1 Not in RGS
- 2 Chuí-Estância Ipiranga
- 3 Estância Ipiranga
- 4 Arroio del Rei-Taim marsh
- 5 Granja Quatro Irmãos
- 6 Santa Isabel
- 7 Cassino and beaches
- 8 Porto Alegre
- 9 Gramado
- 20 Gramado-Faz. das Amoreiras
- 21-23 Faz. do Pontal and beaches
- 24-26 Lagoa do Jacaré
- 27-28 Banhado do Pontal

FEBRUARY 1976

- 1-28 Gramado

MARCH 1976

- 12 Gramado-Faz. das Amoreiras
- 13 Faz. das Amoreiras
- 14 Gramado

APRIL 2-NOVEMBER 11, 1976 Not in RGS

NOVEMBER 12–DECEMBER 31, 1976 In Gramado

JANUARY 1977

- 4 Gramado–Faz. do Pontal
- 5 Faz. do Pontal
- 6 São Leopoldo
- 7 Faz. das Casuarinas
- 8–9 Rincão dos Pereira
- 10–11 Cabanha São Martim
- 12 Arroio Ibicuí da Faxina
- 13 Santana do Livramento
- 14 Rosário do Sul–Santa Maria–Julio de Castilhos
- 15–17 Faz. do Umbu
- 18 Espumoso–Soledade–Barros Cassal
- 19 Sete Leguas
- 20 São Leopoldo

JANUARY 21–APRIL 14, 1977 In Gramado

APRIL 15–OCTOBER 27, 1977 Not in RGS

NOVEMBER 1977

- 10 Gramado–São Leopoldo
- 11 Alegrete
- 12–17 Uruguaiiana–Arroio Quaraí-chico
- 18–21 Rincão do Faxinal/Garruchos
- 22 São Luis Gonzaga
- 23 Santo Ângelo–Três Passos–Rio Turvo crossing
- 24–26 Turvo Forest Reserve
- 27 Seberi
- 28 Gramado

DECEMBER 1977–JANUARY 1978 In Gramado

FEBRUARY 1978

- 10 Gramado–Faz. das Casuarinas
- 11–14 Faz. São Roberto

FEBRUARY 15–APRIL 14, 1978 In Gramado

APRIL 15–OCTOBER 4, 1978 Not in RGS

OCTOBER 1978

- 16 Gramado–Faz. do Pontal
- 17–18 Faz. do Pontal
- 19–22 Lagoa do Jacaré
- 23 Gramado
- 27 Gramado–Rincão dos Pereira
- 28–29 Rincão dos Pereira
- 30 Gramado

NOVEMBER 1978

- 1 Gramado–Aparados da Serra National Park
- 2–5 Aparados da Serra National Park
- 6 Gramado
- 7 Gramado–Pedro Mofka ranch
- 8–10 Pedro Mofka ranch
- 11 Banhado do Pontal

- 12 Gramado
- 14 Gramado–Faz. do Pontal
- 15–16 Faz. do Pontal
- 17 Gramado
- 27–30 Not in RGS

DECEMBER 1978

- 1–9 Not in RGS

JANUARY 1979

- 17 Gramado–Aparados da Serra National Park
- 18 Gramado
- 23 Gramado–Porto Alegre
- 24 Barra do Ribeiro–Arambaré–Gramado

JANUARY 25–APRIL 28, 1979 In Gramado

APRIL 29–NOVEMBER 5, 1979 Not in RGS

NOVEMBER 1979

- 6–24 In Gramado
- 25–30 Not in RGS

DECEMBER 1979

- 8 Gramado–Sapucaia do Sul–Mariano Pimentel
- 9 Faz. das Casuarinas
- 10–14 Rincão dos Pereira
- 15 São Leopoldo
- 16 Gramado

DECEMBER 20, 1979–JULY 9, 1981 Not in RGS

JULY 1981

- 21 Gramado–São Leopoldo
- 22 Pinhal–beach–Lagoa do Peixe
- 23 Lagoa do Peixe
- 24 Beach–Bojuru
- 25 Beach–São José do Norte–Retiro
- 26 Estreito
- 27 Bojuru–beach–Pinhal–São Leopoldo
- 28 Gramado
- 29 Gramado–Porto Alegre
- 30 Santana do Livramento–Quaraí–Faz. São Roberto
- 31 Faz. São Roberto

AUGUST 1981

- 1 Faz. São Roberto
- 2 Santana do Livramento–Porto Alegre
- 3 Gramado
- 22 Gramado–Iraí
- 23–25 Iraí
- 26 Gramado

SEPTEMBER 6, 1981–OCTOBER 15, 1983 Not in RGS

OCTOBER 1983

- 23 Gramado–Banhado do Capivari
- 24–27 Banhado do Capivari
- 28 São Leopoldo

29 Faz. das Casuarinas
30–31 Arroio Quarai-chico

NOVEMBER 1983

1–3 Arroio Quaraí-chico
4 Fazenda São Roberto

5 São Gabriel
6 Gramado
17–19 Itapuã
20 Gramado
27 Departed RGS

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