

The correct use of the name *Scytalopus speluncae* (Ménétriés, 1835), and the description of a new species of Brazilian tapaculo (Aves: Passeriformes: Rhinocryptidae)

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Abstract

Scytalopus speluncae was described from a specimen taken at São João del Rei, Minas Gerais, Brazil. Ménétriés described it as having the throat and the central breast evidently whitish, but since then this name has been rather surprisingly attributed to the uniformly slate gray Mouse-colored Tapaculo of the eastern coastal Atlantic Forest of Brazil. Contrary to previous findings, our analysis of the holotype, two new specimens from the type locality (topotypes) and original description of *Scytalopus speluncae* indicates that this name must be applied to the pale gray form with rufous-barred thighs that is found in Minas Gerais. This species is apparently very common in São João del Rei. This paper redescribes *Scytalopus speluncae*, correcting this name application, and describing, as a new species, populations from the Serra do Mar and vicinity, previously misidentified as *S. speluncae*.

Key words: *Scytalopus speluncae*, new species, Brazil, taxonomy

Resumo

Scytalopus speluncae foi descrita com base em um espécime proveniente de São João del Rei, Minas Gerais, Brasil. Ménétriés descreveu essa espécie como tendo a garganta e o centro do peito “evidentemente esbranquiçados” mas, desde então, esse nome tem sido surpreendentemente atribuído ao “tapaculo-preto” da floresta atlântica da costa brasileira. Contrariamente aos estudos anteriores, nossa análise do holótipo, de dois espécimes recentemente coletados na localidade tipo (topótipos) e da descrição original de *Scytalopus speluncae* indicam que esse nome deve ser atribuído à forma cinza clara com “calções” ocre barrados que é encontrada em Minas Gerais, a

qual é muito comum em São João del Rei. Este artigo redescreve *Scytalopus speluncae*, corrigindo a aplicação desse nome e descrevendo, como uma nova espécie, a população da Serra do Mar e adjacências, que antes era erradamente identificada como *S. speluncae*.

Palavras chave: *Scytalopus speluncae*, espécie nova, Brasil, taxonomia

Introduction

The genus *Scytalopus* Gould, 1836, is one of the most interesting and taxonomically complex of all suboscine passerine birds. Its members are small, usually gray, associated with mountains, and range from Costa Rica to southernmost Argentina (Whitney 1994; Krabbe & Schulenberg 1997). Populations of *Scytalopus* are highly susceptible to local isolation and many species have proved difficult to detect because of their tiny distributions. The vast majority of species are morphologically very similar, and in many instances may be distinguished only by their vocalizations and molecular data. Only very recently have ornithologists gained sufficient experience and confidence to conduct much-needed revisions of species limits within the genus. Consequently, the number of species recognised within *Scytalopus* has risen steadily, from 11 in 1970 to about 40 nowadays, with two additional species, both from Colombia, described in 2005 alone (Cuervo *et al.* 2005; Krabbe *et al.* 2005).

The species-group *Scytalopus speluncae* occurs in south-eastern Brazil and extreme northeastern Argentina and has been subject to reasonable scrutiny over the last 50 years (e.g. Sick 1960; Vielliard 1990; Krabbe & Schulenberg 2003), resulting in the description of three new species, *Scytalopus novacapitalis* Sick, 1958, *Scytalopus iraiensis* Bornschein *et al.*, 1998, and *Scytalopus pachecoi* Maurício, 2005.

Scytalopus speluncae was based on a specimen described as having been taken at São João del Rei, Minas Gerais, Brazil and having the throat and the central breast evidently whitish (“devident blanchâtre vers le milieu de la gorge et de la poitrine”, Ménétriés 1835: 527). Since then, however, this name has rather surprisingly been attributed to the uniformly slate gray Mouse-colored Tapaculo of the Serra do Mar and vicinity in the eastern coastal Atlantic Forest of Brazil (Fig. 1, see also Krabbe & Schulenberg 2003).

The first author to identify the eastern Atlantic Forest birds as *S. speluncae* was Ihering (1907), who applied this name as a replacement for *Scytalopus sylvestris* Taczanowski, 1874, used by Miranda-Ribeiro (1905). Later, Miranda-Ribeiro (1923) would also associate the names *Scytalopus magellanicus* (Gmelin, 1789) and *Scytalopus niger* (Swainson, 1838) with specimens from Itatiaia and Nova Friburgo, in the state of Rio de Janeiro. All these names (except *S. speluncae*) were considered inapplicable by Chapman (1915), Cory and Hellmayr (1924), and Holt (1928) as their types are all from the Andean region.

Application of the name *S. speluncae* in all subsequent literature to the Serra do Mar

populations may in part be attributed to the fact that, since the 1830s, no species of *Scytalopus* had been recorded in the environs of São João del Rei (Vielliard 1990). For this reason, some authors questioned the validity of São João del Rei as the correct type locality (Sick 1960; Maurício 2005), a judgment reinforced by obvious problems associated with the type locality of other specimens collected by Ménétriés during his comparatively brief sojourn in Brazil (Pacheco 2004). Vielliard (1990) suggested that environmental degradation might explain what he mistakenly thought to be the modern-day absence of the species in this region, but he was also forced to admit that São João del Rei appears somewhat inland of the currently accepted distribution of the slate gray form.

During field work in the Chapada Diamantina, Bahia, in the northernmost part of the Espinhaço geological complex, we collected some specimens of *Scytalopus* in December 1995 and October 1996 that are somewhat intermediate between the whitish-gray *S. novacapitalis* and the dark gray coastal specimens traditionally identified as *S. speluncae*. The Chapada Diamantina lies within the same geological complex as São João del Rei, although the localities are situated at opposite extremes of this range. At that time, it was evident that analysis of the holotype and of fresh material from the type locality of *S. speluncae* would be needed to resolve the identification of the new specimens, so their identity was left unresolved and they were listed simply as "*Scytalopus* sp." in Parrini *et al.* (1999: 94).

As part of his study, Maurício (2005:18) analysed our specimens from the Chapada Diamantina, also referring to them as *Scytalopus* sp., which treatment he also applied to other specimens from the Espinhaço range in Minas Gerais (see also Krabbe & Schulenberg 2003: 771). He considered that several populations of *Scytalopus* in eastern Brazil almost certainly await description, presumably as species. Of paramount importance, however, is the resolution of the correct application of the name *Scytalopus speluncae*, the senior species name of the superspecies, as none of the recent taxonomic revisions of east Brazilian *Scytalopus* (Ridgely & Tudor 1994; Bornschein *et al.* 1998; Krabbe & Schulenberg 2003; Maurício 2005) has included a reanalysis of the holotype, which is housed at the Zoological Institute (Russian Academy of Sciences), St. Petersburg.

Our study of this case corroborates the conclusions of Krabbe and Schulenberg (2003) and Maurício (2005), who accepted the existence of two species within the *Scytalopus speluncae* species-group in southeastern Brazil. According to these authors and our own analysis, the populations of *Scytalopus* from the Espinhaço range of Minas Gerais and Bahia differ from those of the Serra do Mar and vicinity. These two species can be distinguished by the following characters. The Serra do Mar species is uniformly Blackish Neutral Gray (82–83, of Smithe 1975) whereas the Espinhaço species is Medium to Light Neutral Gray (86) with some whitish on the abdominal area, as well as having the rump, thighs and vent black with rufous fringes to the feathers (Fig. 1). Their vocalizations are also quite different.

However, our analysis of the holotype, the two new topotypical specimens, and the

original description of *Scytalopus speluncae* strongly suggests that this name must be applied to the pale gray form with rufous-barred thighs that is found in Minas Gerais. This paper redescribes *Scytalopus speluncae*, correcting its application, and describing, as a new species, populations from the Serra do Mar previously 'misidentified' as *S. speluncae*.

Methods

We analyzed two recently collected topotypes of *S. speluncae* collected by MAR and RS, in September 2005 at São João del Rei, Minas Gerais (21°04'16.8''S, 44°20'19.4''W), and the holotype (ZISP 145251) and type description (including original plate) of *Scytalopus speluncae*. For diagnosis of taxa we adopted standard English terms, with occasional reference to some of the Latin terms of Baumel *et al.* (1993). We also examined specimens of all species of the complex held at the Museu Nacional, Universidade Federal do Rio de Janeiro (MNRJ), Museo Argentino de Ciencias Naturales, Buenos Aires (MACN), Museu de Zoologia da Universidade de São Paulo (MZUSP), and American Museum of Natural History, New York (AMNH), including the holotype and paratypes of *Scytalopus novacapitalis* (MNRJ) and *S. iraiensis* (MNRJ). The specimens of *S. pachecoii* are from Misiones, Argentina (MACN and AMNH). Specimen analysis focused on plumage coloration (using Smithe 1975 as a basis for colors) and morphometric characters (length of wing, tail, and exposed culmen). Morphometric analysis included only descriptive statistics of the species as a whole.

Sound-recordings of the *Scytalopus speluncae* species-group were obtained from private collections (Vitor Torga and Ricardo Parrini), and were used only to complement descriptions of the taxa. The vocalizations (n=3) from São João del Rei (Vitor Torga) were recorded in the same place that we collected the new specimens, and were used to attract them. For the acoustic analysis, the programs Avisoft and SoundRuler (version 0.9.4.) were used. Recordings of all vocalizations are stored at the Museu Nacional (see Appendix 2).

Results

Restriction of *Scytalopus speluncae* Ménétriés, 1835

Type locality. Despite Vielliard's (1990) assertion of absence, this species is apparently very common at the type locality of São João del Rei. Two topotypes were collected in two degraded woodlots that agree quite well with Ménétriés's description of the area in which the type was collected ("courant à terre et voltigeant sur les petits buissons, à l'entrée d'une grotte calcaire près de St. João del Rey, Minas Gerais").

Ménétriés's diary notes are also in perfect accordance with those of the leader Langsdorff (Mikulinskii 1995), who places the expedition at Barbacena, Minas Gerais,

from 1–4 June, when, on 5 June, it was decided to proceed to São João do Rei. On 6 June he remarked that “We have passed by Fazenda Barroso near the brook Ribeyran , .. reached the River Ribeyran-du-kayeyra [?] which falls into the River Mortis [Rio das Mortes]...., and then reached the fazenda of Lorenzo Pintu” (p.33); on 7 June Langsdorff left “Invernadu” for São João del Rei, noting that "In Barbacena, we have received information about a very remarkable grotto situated in the environs of São João del Rey or possibly beside the River Elvas. . . . I supposed that, as we agreed, I shall meet there my traveling companions at 12; I galloped forward through the Invernadu [valley].... At 10.30 I stopped ... and heard that my companions [including Ménériés] spent the night there and went to the grotto" (p.34). "I arrived there at 12 and found there Ridel, Ménériés and Rugendas. We left the grotto at about 3 p.m. and arrived at the town of São João del Rey at about 5 p.m...." (p. 35). It is obvious from these remarks, which we have translated from the Russian, that Ménériés was collecting very close to São João del Rei and was within two hours ride of this town. The new topotypes were collected in gallery forest of the Rio das Mortes, which river is also referred to by Langsdorff, and is very close to São João del Rei.

Maurício (2005) dismissed São João del Rei as the type locality of *Scytalopus speluncae* because of historical “problems surrounding the origins of Ménériés’ types”, reflecting the conclusions of Pacheco (2004), who showed several of Ménériés’ type localities to be improbable.

In the present instance, however, there would appear to be no grounds for altering Ménériés clear designation, which has been substantiated by the modern collection of specimens agreeing with the holotype near the type-locality.

The holotype of *Scytalopus speluncae*. Ménériés (1835: 527) made no mention of the rufous and black stripes on the tips of the rump and flank feathers in the original description of *S. speluncae*, nor were they illustrated (pl. 13, fig. 1). It seems likely that these parts were already damaged either in the collection or preparation so that Ménériés would not have been aware of such features, in 1835, some ten years after the specimen was collected. That vestiges of these characters still remain on the holotype makes their omission from the plate and type description less important.

The holotype of *S. speluncae* is an adult male, as indicated by the plain upper wing coverts, which lack black markings (Figs. 2–3). Unfortunately, the belly feathers are severely damaged, and almost all of the vent and thigh feathers are in such poor condition that it is almost impossible to discern their original color, except that of the blackish base (ground) color to these tracts (Fig. 4). However, this is not the case with the rump feathers, which are buff with dark bars (Fig. 5). A careful analysis of the holotype by VL further revealed some tiny remnants of buff color on one feather on the left thigh, and on three feathers on the right flank.

The type description is also very important in establishing the original color of the holotype. The author states that the throat and the middle of the breast of his *Scytalopus*

speluncae are whitish (see Introduction), a description that could never be applied to the Blackish Neutral Gray (82–83) *Scytalopus* from the Serra do Mar. The plate that accompanied the type description (Fig. 6) also shows considerable whitish on the ventral surface, despite not showing the buff feathers found on the flanks and rump and, evidently more sparsely, on the thighs of the holotype. In sum, the type description points to a gray-colored bird, with a partially whitish venter, and close examination of the holotype shows that it also has rufous-barred rump feathers, and at least some buff on the thighs and vent. The topotypes are also pale gray with a whitish belly and buff-barred vent, thighs, and rump (Figs. 7–9).



FIGURE 1. Comparison between two specimens of *Scytalopus*. Left: the slate gray Mouse-colored Tapaculo, specimen from Nova Friburgo, in the Serra do Mar range. Right: a specimen belonging to the lighter form from Chapada Diamantina, in the Espinhaço Range.



FIGURES 2–5. Holotype of *Scytalopus speluncae* (ZISP 145251): 2, dorsal view; 3, lateral view; 4, ventral view; 5, uropygium showing buff-barred black feathers.

Maurício (2005) stated, based on the original plate, that Ménériés (1835) must have described an “unbarred, adult bird”. He also considered that Chrostowski (1921), who was

one of the few persons prior to ourselves to have directly analysed the holotype, had erred in describing the presence of rufous fringes to the rump feathers, as this supposedly could not be corroborated by either the original description or by the photographs of the holotype then available (which are of very poor quality; pers. obs. all authors). Now, however, we can state with assurance that Chrostowski was correct in his assertion regarding the holotype's features.



FIGURE 6. The original plate of *Scytalopus speluncae* (Ménétriés 1835, pl. 13, fig. 1).

It is evident that current application of the name *Scytalopus speluncae* to the dark gray specimens from the Serra do Mar is erroneous and the name must be used instead for the populations of the Espinhaço range. Surprisingly, we have been unable to locate any other applicable name for the well-known Serra do Mar species. Therefore we propose a name to this species here and redescribe *S. speluncae*, which name hereafter we use solely for the Espinhaço population.

Characterization of species

Scytalopus notorius new species

Diagnosis: Male easily diagnosed from all other Brazilian *Scytalopus* by its homogeneous Blackish Neutral Gray (82) coloration, being slightly darker on the upperparts. It is further distinguishable from the paler species, *Scytalopus speluncae*, *S. pachecoi*, and *S. novacapitalis* by the gray feathers of the flanks, thighs, vent and upper tail coverts, which are quite unlike the buff-fringed blackish feathers of those three species. *S. notorius* differs from *S. iraiensis* by its gray versus blackish upperparts and in lacking any contrast between the dorsal and ventral areas. Males and females of *Scytalopus iraiensis* further differ from *S. notorius* in having blackish flanks, thighs, and vent, and broader tail feathers, as well as in behavioral differences (Figs. 7–10).

Description of the holotype: Adult male (MNRJ 36652) (Figs. 7–9), collected at

Nova Friburgo, Rio de Janeiro, in September 1989. Bill black; forehead, crown, occiput, nape, mantle, rump, upper tail coverts, wing coverts and dorsal surface of rectrices Blackish Neutral Gray (82); lores, auriculars, chin, throat, upper breast, abdomen, flanks, crural feathers, crissum, primary and secondary under wing coverts, under tail coverts, and ventral surface of rectrices Dark (83) to Blackish Neutral Gray (82). Tarsus and digits pale brown (label data). Exposed culmen, 11.7 mm; tail, 41.0 mm; wing (chord), 50.2 mm; body mass, 16.0 g.

Description of the paratypes (Fig. 10): Adult female (MNRJ 36653), collected at Nova Friburgo, Rio de Janeiro, in September 1989. Maxilla black and mandible brown (label data); forehead Blackish Neutral Gray (82); crown, occiput, nape and mantle Blackish Neutral Gray, shaded Brownish Olive (29); rump, upper tail coverts and dorsal surface of rectrices Brownish Olive, fringed black; upper secondary coverts Brownish Olive with transverse subterminal black patch and an Army Brown (219B) apical area; primaries and secondaries Homogeneous Sepia (119); lores, auriculars, throat and upper breast Dark Neutral Gray (83); feathers of the flanks, crural feathers, crissum and under tail coverts brown with transverse black patches; tarsus and digits yellowish brown (label data). Exposed culmen, 11.7 mm; tail, 40.5 mm; wing (chord), 51.1 mm; body mass, 15.8 g.

Subadult female (MNRJ 36655): collected at Nova Friburgo, Rio de Janeiro, in September 1989. Maxilla black and mandible brown (label data); forehead Blackish Neutral Gray; crown, occiput, nape, mantle and dorsal surface of rectrices Blackish Neutral Gray shaded Brownish Olive; upper tail coverts and rump brown with two transverse black patches; lesser secondary coverts Brownish Olive with a transverse subterminal black patch and an Army Brown apical area; primaries and secondaries Sepia with different degrees of black at their tips and, sometimes, tiny white notches; lores, auriculars, throat and upper breast Dark Neutral Gray; flanks, crural feathers, crissum and under tail coverts brown with transverse black patches; tarsus and digits yellowish brown (label data). Exposed culmen, 11.9 mm; tail, 40.0 mm; wing (chord), 52.9 mm; body mass, 15.0 g.

Young female (MNRJ 36656): collected at Nova Friburgo, Rio de Janeiro, in September 1989. Maxilla black and mandible brown (label data); forehead Blackish Neutral Gray shaded Brownish Olive; crown, occiput, nape, mantle and dorsal surface of rectrices Brownish Olive; rump and upper tail coverts brown with two transverse black patches; lesser secondary coverts Brownish Olive, similar to adult female, with a transverse subterminal black patch and an Army Brown apical area; primaries and secondaries Sepia; lores, auriculars, throat and upper breast Medium Neutral Gray (84); abdomen, flanks, crural feathers, crissum and under tail coverts Buff (124) with transverse black patches; tarsus and digits brown (label data). Exposed culmen, 12.2 mm; tail, 41.0 mm; wing (chord), 48.8 mm; body mass, 14.5 g.



FIGURES 7–9. From left to right in each figure (all males): paratype of *Scytalopus iraiensis*; holotype of *S. notorius*, new species; topotype of *S. speluncae*; and holotype of *S. novacapitalis*; 7, ventral view; 8, lateral view; 9, dorsal view.

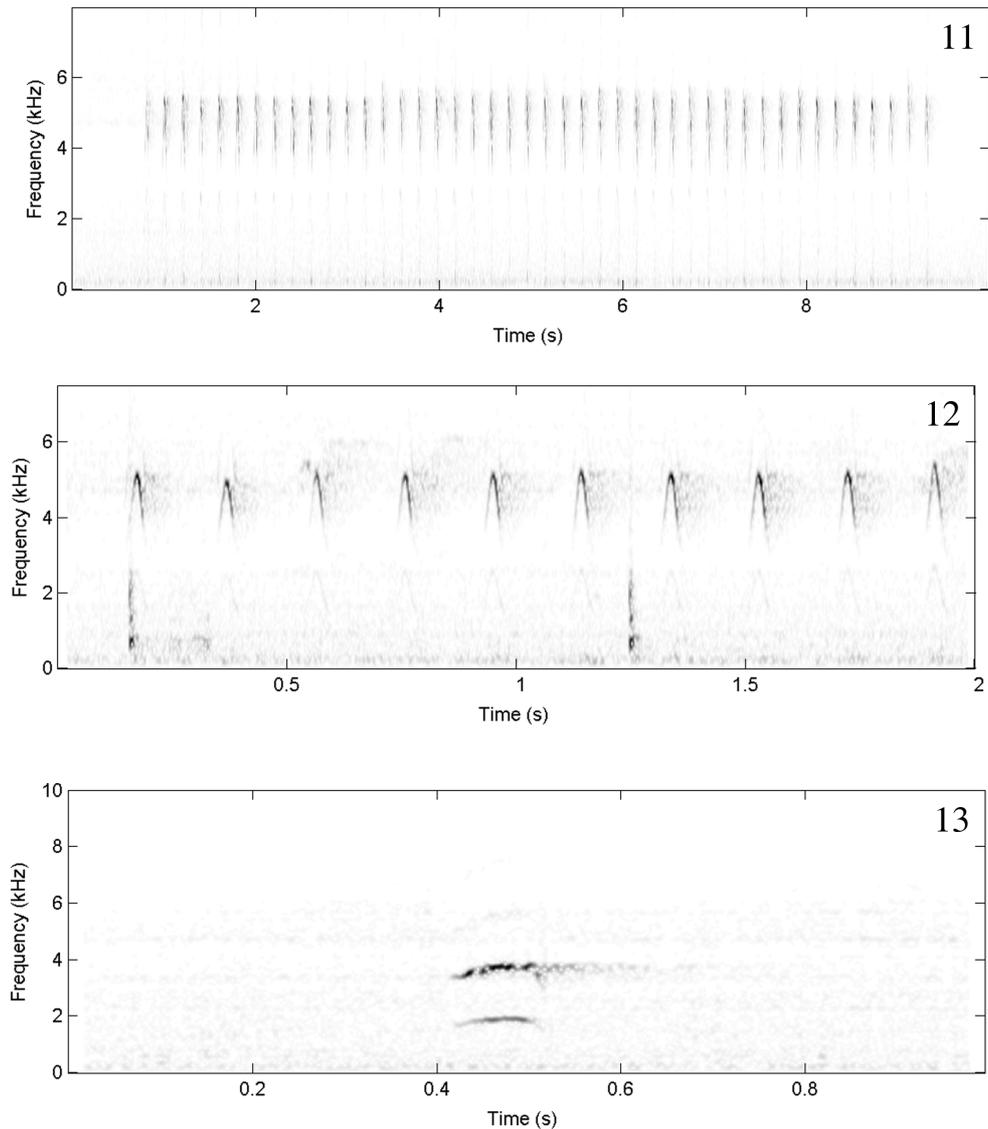


FIGURE 10. Lateral view of females: holotype of *Scytalopus iraiensis*; topotype of *S. speluncae*; paratype of *S. notorius*.

Morphometry: See Table 1.

Vocalizations: The song phrases are of very variable duration and consist of regular repetition of the same notes (Fig. 11), whereas the mean duration of the intervals between the different notes is 0.15 seconds. Thus a bird sings approximately five notes per second. Each note lasts for a mean of 0.05 seconds, and first ascends before descending (Fig. 12), although the overall frequency varies only between 2.6 and 2.8 kHz, and the dominant frequency between just 5.3 and 5.4 kHz. The alarm-call consists of a single monosyllabic note with a mean of 0.1 seconds duration, at 1.8 kHz, with the dominant frequency 3.7 kHz (Fig. 13).

Type locality: Nova Friburgo, Rio de Janeiro, Brazil. The holotype and paratypes were collected at Três Picos (22°20'10.02"S, 42°42'44.31"W), a locality now included within the Parque Estadual dos Três Picos. The specimen labels do not record the altitude where the specimens were taken, but the collector (G. Luigi, *in litt.*) has informed us that they were taken between 1200 and 1700 m.

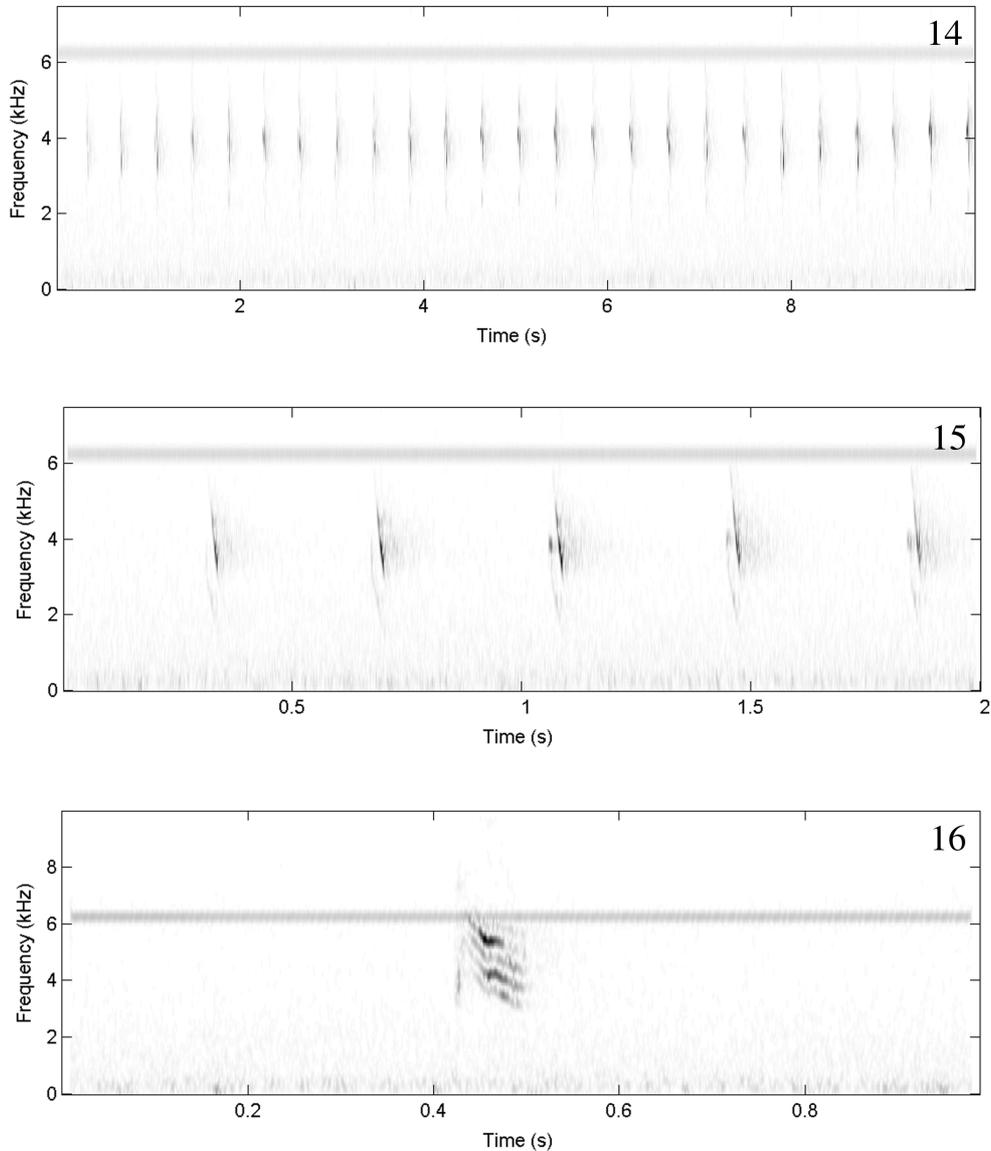


FIGURES 11–13. Spectrograms of the vocalizations of *Scytalopus notorius*, new species (Teresópolis at Serra do Mar, Ricardo Parrini). 11, complete song; 12, ten elements of the same song of *Scytalopus speluncae* in a different scale; 13, call.

Geographic range: *Scytalopus notorius* ranges from central-west Espírito Santo, on the border with Minas Gerais (in the Serra do Caparaó) through Rio de Janeiro south to Rio Grande do Sul. Maurício (2005) considered that this form (treated by him as *S. speluncae*) might be best regarded as consisting of two different species, one occurring from São Paulo northwards, and the other from São Paulo southwards, a conclusion that appears highly plausible, but for which much additional evidence needs to be garnered.

Etymology: From Medieval Latin *nōtōrius*, well-known, from Latin *nōtus*, known,

reflecting the fact that the new species represents a long-known population that has been inappropriately identified as *S. speluncae* for over 100 years.



FIGURES 14–16. Spectrograms of the vocalizations of *Scytalopus speluncae* (São João del Rei, Vitor Torga). 14, complete song; 15, five elements of the same song of *Scytalopus speluncae* in a different scale; 16, call.

Scytalopus speluncae Ménétriés, 1835

Diagnosis: Adult male easily diagnosed from *Scytalopus notorius* by its paler ventral gray color (84 to 85, rather than 83), Pale Neutral Gray (86) to whitish abdomen (belly), rather

than Dark Neutral Gray (83) of *S. notorius*, and by the buff-fringed black feathers of the flanks, thighs, vent and upper tail coverts. It differs from *S. iraiensis* by its Dark Neutral Gray color (83), unlike the blackish upperparts of the latter species, which is only known from wetland habitats, and again by the buff-fringed black feathers of the flanks, thighs, vent and upper tail coverts. Morphological diagnosis in relation to *S. novacapitalis* and *S. pachecoi* is very difficult. The two topotypes of *S. speluncae* are paler than most specimens of *S. pachecoi* and slightly darker than the holotype and paratypes of *S. novacapitalis*. All three species have buff-fringed black feathers in flanks, thighs, vent and upper tail coverts, but *S. novacapitalis* has more whitish on the abdomen, and *S. pachecoi*, in general, has a pale gray abdomen.

Description of the holotype (Figs. 2–5): Adult specimen (ZISP 145251) with auriculars, throat and upper breast close to Medium Neutral Gray (84) but with a pale brown tint. Upperparts close to Dark Grayish Brown (20) or Vandyke Brown (121). It should be mentioned that the holotype is almost 180 years old, and thus the original color of the upper and under parts may have acquired a somewhat brownish tone (foxing). Most of the feathers of the abdomen, flanks, crural feathers and under tail coverts are damaged and have lost their structure and color, but there are still small remnants of Clay Color (123B) on one feather of the left thigh, and on three feathers on the right flank (ilia); upper tail coverts Clay Color fringed black.

Description of the topotypes: Adult male (MNRJ 44019, Figs. 7–10); collected at São João del Rei, Minas Gerais, at the right bank of Rio das Mortes (21°04'16.8"S, 44°20'19.4"W) in September 2005. Mandible blackish with gray tomia; crown, occiput, nape, greater primary coverts, and mantle Dark Neutral Gray (83); rump, upper secondary coverts, and dorsal surface of rectrices Dark Brownish Olive (129); upper tail coverts Buff to Clay Color (124–123B) with transverse black marks; lores Light Neutral Gray (85) with small black spots at the tips of the feathers; auriculars, throat, upper breast, secondary and under primary coverts Light Neutral Gray (85); wrist coverts (tetrices proptagi ventrales) and abdomen whitish, bordered distally with Pale Neutral Gray (86); abdomen, flanks, crural feathers and under tail coverts Clay Color with transverse black marks, tarsus and digits Olive-Yellow (52). Exposed culmen, 10.0 mm; tail, 40.0 mm; wing (chord), 48.9 mm; mass, 16.5g.

Adult female (MNRJ 44018, Fig. 2); collected at São João del Rei, Minas Gerais, in September 2005. Mandible blackish with gray tomia; forehead Dark Neutral Gray; occiput, nape and mantle; upper secondary coverts and greater primary coverts Dark Brownish Olive with varying degrees of black at their distal end; dorsal surface of rectrices Dark Brownish Olive; rump and upper tail coverts Clay Color with transverse black marks; lores Light Neutral Gray with small black marks at the tips of the feathers; auriculars, throat, upper breast light neutral gray; secondary under coverts, primary under coverts and wrist coverts (tetrices proptagi ventrales) Buff (124) with narrow black marks; abdomen whitish, distally bordered Pale Neutral Gray; flanks, crural feathers,

crissum and under tail coverts Clay Color with transverse black marks; tarsus and digits Olive-Yellow (52). Exposed culmen, 10.7 mm; tail, 40.0 mm; wing (chord), 44.3 mm; mass, 13.5 g.

Geographic variation: The four specimens analyzed by us from the northern end of the Espinhaço Range, in the Chapada Diamantina (Fig. 1), are somewhat different from the topotypes. These specimens lack the whitish ventral area and could be confused with *S. pachecoi* (Maurício 2005) from Misiones (Argentina), or Rio Grande do Sul and Santa Catarina (Brazil). The upperparts of these specimens are Dark Neutral Gray (83) and the underparts Medium Neutral Gray (84), with buff-marked black feathers on the thighs, flanks, and crissum.

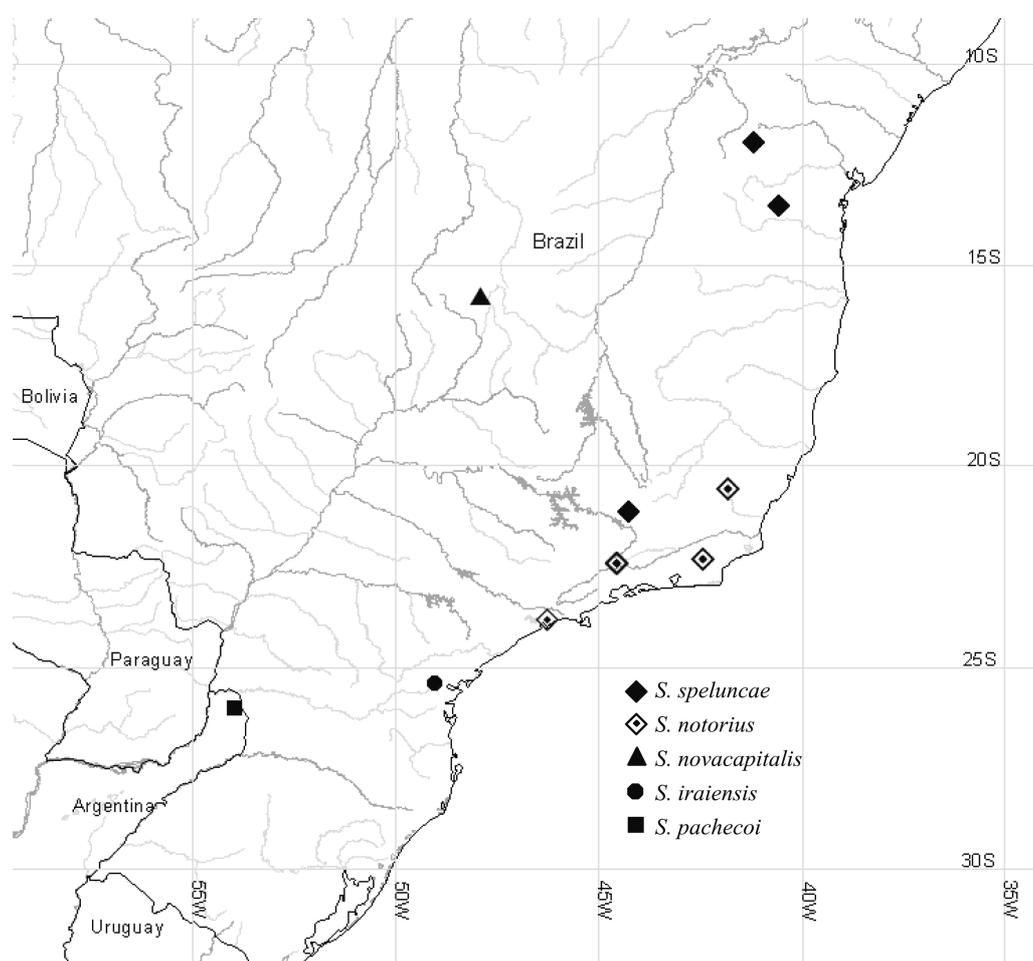


FIGURE 17. Map showing the distribution of the *Scytalopus speluncae* species-group (based on the specimens examined in this study).

Morphometry: See Table 1.

Vocalizations: The song phrases are variable in their duration and, like those of *S. notorius*, consist of regular repetitions of the same notes (Fig. 14). However, the mean

time between notes is 0.38 seconds. Thus the bird typically sings just 2.5 notes per second. Each note is very brief, lasting on average just 0.03 seconds, and descending in overall frequency (Fig. 15), whereas the fundamental frequency varies between 1.8 and 2.0 kHz, and the dominant frequency between 3.5 and 4.1 kHz. Like *S. notorius*, the alarm-call consists of a single monosyllabic note which lasts a mean of 0.07 seconds, with a fundamental frequency of 3.5 kHz and a dominant frequency of 5.7 kHz (Fig. 16). The song of *S. speluncae* is easily distinguished from that of *S. notorius* by its pace, which is approximately half that of *S. notorius* (2.5 notes per second vs. 5.0 notes per second), whilst the modulation describes an ascent, then descent in *S. notorius* but solely descends in *S. speluncae*. On the other hand, the song of *S. speluncae* is indistinguishable from that of *S. pachecoi* by pace, as *S. pachecoi* delivers 2.7 notes per second (Maurício 2005:13) and *S. speluncae* 2.5 notes per second, and both descend in frequency. The call of *S. speluncae* is also identical to the call described by Maurício (2005) for *S. pachecoi*. In relation to *S. novacapitalis* (based on Vielliard 1990 and Maurício 2005) both *S. notorius* and *S. speluncae* possess distinctive characters, as the song of *S. novacapitalis* consists on average of just 1.1 notes per second, which is considerably fewer than either *S. notorius* or *S. speluncae*, whereas the duration of each note lasts on average 0.1 seconds, as opposed to either *S. speluncae* or *S. notorius*, which never exceeded 0.05 seconds in any sample analyzed.

Type locality: São João del Rei, Minas Gerais, is the type locality by original designation.

TABLE 1. Mensural data for the *Scytalopus speluncae* species group. Mean, standard deviation (SD), minimum value (min), maximum value (max), number of specimens examined (*n*), male (m) and female (f).

		Bill length (mm)			Wing length (mm)			Tail length (mm)		
		mean±SD	min-max	<i>n</i>	mean±SD	min-max	<i>n</i>	mean±SD	min-max	<i>n</i>
<i>S. notorius</i>	m	11.29±0.52	10.50–12.10	10	49.32±2.58	44.00–54.00	10	44.00±2.12	41.00–47.50	9
	f	11.56±0.58	10.85–12.20	5	49.53±2.42	47.15–52.90	5	41.51±1.57	40.05–44.00	5
<i>S. speluncae</i>	m	12.00±0.95	10.95–12.80	3	51.50±3.70	48.05–55.40	3	44.00±4.58	40.00–49.00	3
	f	11.33±0.81	10.75–11.90	2	48.33±3.56	44.35–51.20	3	40.00±2.00	38.00–42.00	3
<i>S. novacapitalis</i>	m	-	-	0	50.65	50.65	1	42.50	42.50	1
	f	-	-	0	-	-	0	-	-	0
<i>S. iraiensis</i>	m	10.80	10.80	1	50.20	50.20	1	39.50	39.50	1
	f	10.90	10.90	1	46.15	46.15	1	39.00	39.00	1
<i>S. pachecoi</i>	m	11.65±0.99	10.95–12.35	2	50.03±0.25	49.85–50.20	2	40.75±1.77	39.50–42.00	2
	f	11.25±0.74	10.40–11.75	3	44.33±0.34	43.95–44.60	3	37.67±2.08	36.00–40.00	3

Geographic range: Known thus far only from the opposite ends of the Espinhaço

range at São João del Rei, Minas Gerais, in the south, and Chapada Diamantina, Bahia, in the north (Fig. 17).

Acknowledgments

We are grateful to the Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro (FAPERJ) for their support of M. A. Raposo (proc. Instalação E-26/170.871/2003 and Primeiros Projetos E-26/170.642/2004) and Renata Stopiglia (Bolsa Nota 10, E-26/150.404/2005). Ulisses Caramaschi and Dante Martins Teixeira were very helpful with nomenclatural issues. Vitor Torga was the first to rediscover *S. speluncae* in São João del Rei and, along with Ricardo Parrini, supplied vocal material of relevant taxa. Claydson P. de Assis and Liliane Seixas assisted our fieldwork. The Instituto Brasileiro de Meio Ambiente e dos Recursos Naturais Renováveis (IBAMA) has provided collecting permits to Marcos A. Raposo. The manuscript benefited very much from comments of Storrs Olson (Associate Editor), Niels Krabbe, Herculano Alvarenga and two anonymous referees.

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Appendix 1. Specimens examined.

Scytalopus notorius new species: **BRAZIL: Rio de Janeiro:** Casa Queimada, Serra do Caparaó, M, MNRJ 14202. Serra do Caparaó, M, MNRJ 26267, 26281, 27035, 27036. Fazenda Toledo, Três Picos, Nova Friburgo, M, MNRJ 36652 (holotype); F, MNRJ 36653, 36655, 36656 (paratypes). Campos de Itatiaia, M, MZUSP 6121. Parque Nacional de Itatiaia, M, MZUSP 34381, 34804, 34806, 36347; F, MZUSP 34805, 34807. **São Paulo:** Alto da Serra, MZUSP 4836.

Scytalopus speluncae: **BRAZIL: Minas Gerais:** São João del Rei, M, ZISP 145251 (holotype); MNRJ 44019; F, MNRJ 44018. **Bahia:** Ibicoara, Chapada Diamantina, M, MNRJ 42741; F, MNRJ 42742. Bonito, Chapada Diamantina, M, MNRJ 43053; F, MNRJ 43054.

Scytalopus novacapitalis: **BRAZIL: Goiás:** Distrito Federal, MNRJ 27905 (paratype); M, MNRJ 27906 (holotype).

Scytalopus iraiensis: **BRAZIL: Paraná:** Quatro Barras, F, MNRJ 43378 (holotype); M, MNRJ 43379 (paratype).

Scytalopus pachecoi: **ARGENTINA: Misiones,** Arroyo Uruguai, M, AMNH 795288, 795289; MACN 33037, 36868, 36870. F, AMNH 771239, 771240, 771242; MACN 33038, 33039, 36869, 33623.

Appendix 2. Recordings examined

Scytalopus notorius new species: **Brazil: Rio de Janeiro**, Itatiaia (2 songs and 2 calls); Parque Estadual do Desengano (1 song); Serra do Caparaó (1 song); Teresópolis (1 song and 1 call).

Scytalopus speluncae: **Brazil: Minas Gerais**, São João do Rei (3 songs and 2 calls); **Bahia**, Lençóis (2 songs and 1 call); Ibicoara (3 songs and 2 calls).