

Endemic Brazilian tapaculos, with a brief résumé of their current taxonomy

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Tapaculos represent a New World grouping that is traditionally accorded family status (Rhinocryptidae)¹⁰. However, more recent research using phylogenetic analyses suggests that tapaculos might be better merged into the Formicariidae and given tribe status as the Rhinocryptini, because they are closer to the antthrushes than either is to the antpittas^{8,17,18}, which latter group has recently been afforded family status (Grallariidae). Until recently the peculiar and morphologically attractive crescentchests (Fig. 1) were considered tapaculos, although this placement was sometimes considered controversial^{5,7,8}. However, with genetic confirmation to the contrary⁶ the crescentchests (*Melanopareia*) have now formally been removed to their own family Melanopareidae.

The loudsongs of *Scytalopus* tapaculos are distinctive, extremely long series' of relatively loud harsh nasal *chuck* notes repeated continuously, often for up to one minute. Some species even sing with their eyes partially closed, e.g. Brasília Tapaculo *S. novacapitalis* (AW pers. obs.; Fig. 2). Tapaculo song types once heard are fairly easy to remember and are commonly heard throughout many regions of the Neotropics, especially the Andes. However, observing tapaculos is nigh on impossible without playback of their songs, combined with a lot of patience and some luck! These small dull-coloured skulkers generally inhabit the dense understorey of moist forests and certainly rank alongside antpittas or tinamous in the difficult-to-see 'stakes'. Most Neotropical birders will recall the struggle to gain a fleeting glimpse of one of these avian 'mice' as they run or hop across the forest floor through dense vegetation; tail cocked, disappearing under, behind or even tunneling through rank vegetation before reappearing, as if by magic, minutes later far from where they were last seen. Quickly one understands exactly how they gained their comical name *tapaculo*, which seems to have been derived from Spanish for 'cover your behind' and

accurately describes their frustrating behaviour. Furthermore, with their short rounded almost vestigial wings, they are extremely reluctant flyers.

The South American hotspot for these small mostly dull suboscine Passeriformes is the Andes, where Krabbe & Schulenberg⁹ recently revolutionised our understanding of species limits in *Scytalopus*. In a monumental publication, using principally vocal and some genetic data, these authors increased the number of known species from 11 to 37. Most of these were 'upgrades' from subspecies status, but they also included three brand new species. Given that tapaculos are extremely poor fliers, 'agoraphobic', highly sedentary and principally forest-based, many populations have become isolated in remnants of habitat. In the wake of Krabbe & Schulenberg's revision, renewed interest in eastern Brazil *Scytalopus* has culminated in several exciting new discoveries including the description of cryptic taxa and a much greater understanding of their complex taxonomy.

Field ornithologists in Brazil have known for more than two decades that several species of tapaculo were (and in some cases still are) awaiting formal description (AW pers. obs.). However, none of us could ever have honestly imagined exactly how complicated things are. First and foremost was the incredible discovery of a new endemic, the Wetland Tapaculo *Scytalopus iraiensis*³ from heavily populated south-east Brazil in the metropolitan region of the capital of Paraná state, Curitiba! Even more surprisingly, it inhabits marshes along rivers (atypical for any tapaculo). This new species was and still is classified as Endangered¹ although its known range has recently been significantly increased to the north, with its discovery at several sites in the state of Minas Gerais²⁰. These southern marshes, known as 'brejos' in Brazil, had already become an ornithological 'gold mine' as the discovery followed 'hot on the heels' of that of the endemic Paraná (or Marsh) Antwren

Stymphalornis acutirostris described just three years before². Initially 'christened the Tall-grass Wetland Tapaculo *Scytalopus iraiensis*, the bird's English name is now simply Wetland (or Marsh) Tapaculo following the South American Checklist Committee (SACC). Its habit of walking either on the ground or clambering in the impenetrable tall marsh grasses and sedges make this species an excellent candidate for one of the most difficult Brazilian birds to see! Needless to say there were almost no good field photographs of this incredible skulker until now (Fig. 3).

Research in Rio Grande do Sul, within the Atlantic Forest of south-east Brazil, subsequently unveiled a rather more cryptic new species, Planalto Tapaculo *Scytalopus pachecoi*¹² (Fig. 4) named for the great modern-day Brazilian ornithologist Fernando Pacheco. Its populations were formerly included in Mouse-coloured Tapaculo *S. speluncae*, (Fig. 5) although the two differ in voice and are locally sympatric¹². Planalto Tapaculo is locally fairly common and occurs in stands of *Araucaria*, where it prefers moist steep mossy banks. As well as Brazil, its range crosses the border into the adjacent Misiones province of north-east Argentina¹². However, the continued controversy^{14,16} surrounding exactly which taxon the 180-year-old (and somewhat damaged) type specimen of *speluncae* represents is central to unraveling the fierce debate over species limits in south-east Brazilian *Scytalopus*. If Raposo *et al.*¹⁶ are correct in their assertions, then the recently described Rock Tapaculo *S. petrophilus* (see below) must automatically be considered a synonym of *speluncae*, and populations long treated as the latter species in the Serra do Mar of south-east Brazil must be referred to as the recently described *S. notorius*. For now, in this article we follow SACC nomenclature, but this debate is still far from ended.

As long ago as 1996, Ricardo Parrini informed AW that the disjunct *Scytalopus* found in north-eastern Brazil at the Chapada Diamantina, central Bahia, probably represented a new taxon¹⁵. Recent research, including vocal and genetic analysis, by Bornschein *et al.*⁴ resulted in the formal description of the Diamantina Tapaculo *S. diamantinensis* (Fig. 6). This poorly known species occupies remnants of Atlantic Forest in damp thickets near streams, and represents yet another range-restricted Bahian endemic, which is presently known only from the eastern slopes of the Serra do Sincorá (in the northern Espinhaço range). The species' conservation status is currently considered Vulnerable¹, although Bornschein *et al.*⁴ have suggested that further

research is required to fully assess its conservation status accurately.

Meanwhile, research into the phylogeny of Brazilian tapaculos led Mata *et al.*¹¹ to the discovery that *Scytalopus* is paraphyletic, with White-breasted Tapaculo *S. indigoticus* and Bahia Tapaculo *S. psychopompus* being more closely related to *Merulaxis* (the two bristlefronts, which are also endemic to eastern Brazil; Fig. 7). As a result, Maurício *et al.*¹³ erected a new genus, *Eleoscytalopus*, for these two Brazilian endemics. Note that the loudsongs of both *Eleoscytalopus* are totally different from *Scytalopus* being loud, frog-like, trills that are steadily repeated (AW pers. obs.). Vocal variation within the southern range of the monotypic *S. indigoticus* merits further investigation (AW pers. obs.). Bahia Tapaculo (Fig. 8) is extremely poorly known, and is currently considered Critically Endangered¹, it being restricted to the few extant lowland Atlantic Forest remnants in southern coastal Bahia. Described as recently as the late 1980s¹⁹, the species was only recently rediscovered following several years without records, initially at Ituberá in a fine reserve belonging to the Michelin tyre company. It inhabits the understorey of mature lowland forest, in rank thickets always adjacent to small streams and with a dense cover of terrestrial bromeliads and low vine tangles (AW pers. obs.). Once the species' loudsong was finally recognised, playback has subsequently permitted its discovery at other sites in Bahia, around Ilhéus, Maraú, Taperoá and Valença.

Finally, in this whirlwind tour of south-east Brazilian *Scytalopus*, we come to the enigmatic tapaculo known from Caraça monastery (in the southern Espinhaço range of southern Minas Gerais). 'Affectionately' referred to by birders as tapaculo sp. nov. for almost two decades, it was finally described as the Rock Tapaculo *S. petrophilus*²¹ (Fig. 9). Found at elevations of 2,100–2,900 m, at higher levels it is found only in rocky terrain with low scrub (*campos rupestres*) but lower down it inhabits tall pockets of lush Atlantic Forest in steep rocky valleys with streams and mossy rocks, often in association with bamboo (AW pers. obs.).

Stay tuned for more news on the ongoing saga of Brazilian tapaculos with still-continuing taxonomic research (in both the field and laboratory) attempting to tie-up the remaining loose ends on a number of taxa. Considerable confusion still surrounds the use of the scientific name of the Mouse-coloured Tapaculo *Scytalopus speluncae*, while several other populations are currently under scrutiny with even more splits and new taxa almost certain to be forthcoming!



1



2



5



3



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Clockwise from top left

Figure 1. Collared Crescentchest *Melanopareia torquata*, Emas National Park, Goiás, Brazil, 4 November 2009 (Andrew Whittaker / Birding Brazil Tours)

Figure 2. Brasília Tapaculo *Scytalopus novacapitalis*, Serra da Canastra National Park, Minas Gerais, Brazil, 7 November 2010, singing with eyes closed (Andrew Whittaker / Birding Brazil Tours).

Figure 3. Wetland Tapaculo *Scytalopus iraiensis*, São José dos Pinhais, Paraná, Brazil, 6 October 2011 (Andrew Whittaker / Birding Brazil Tours)

Figure 4. Planalto Tapaculo *Scytalopus pachecoi*, Urupema, Santa Catarina, Brazil, 15 January 2012 (Ricardo Gentil)

Figure 5. Mouse-coloured Tapaculo *Scytalopus speluncae* (southern form), São Francisco de Paula, Rio Grande do Sul, 8 October 2011 (Andrew Whittaker / Birding Brazil Tours); Maurício¹² noted that *S. speluncae* (sensu SACC) might be subdivided into northern and southern populations, which roughly separate in São Paulo state.



Clockwise from top

Figure 6. Diamantina Tapaculo *Scytalopus diamantinensis*, Mucugê, Bahia, Brazil, 6 September 2011 (Sidnei S. Dos Santos)

Figure 7. Male Slaty Bristlefront *Merulaxis ater*, Ubatuba, São Paulo, Brazil, 17 March 2011 (Andrew Whittaker / Birding Brazil Tours)

Figure 8. Bahia Tapaculo *Scytalopus psychopompus*, Ituberá, Bahia, Brazil, 3 December 2011 (Andrew Whittaker / Birding Brazil Tours)

Figure 9. Rock Tapaculo *Scytalopus petrophilus*, Caraça, Minas Gerais, Brazil, 10 November 2010 (Andrew Whittaker / Birding Brazil Tours)

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REFERENCES

1. BirdLife International (2000) *Threatened birds of the world*. Barcelona: Lynx Edicions & Cambridge, UK: BirdLife International.
2. Bornschein, M. R., Reinert B. L. & Teixeira, D. M. (1995) Um novo Formicariidae do sul do Brasil (Aves, Passeriformes). Publicação Técnico-Centífica do Instituto Iguçu de Pesquisa e Preservação Ambiental no. 1. Rio de Janeiro: Instituto Iguçu de Pesquisa e Preservação Ambiental.
3. Bornschein, M. R., Reinert, B. L. & Pichorim, M. (1998) Descrição ecologia e conservação de um novo *Scytalopus* (Rhinocryptidae) do Sul do Brasil, com comentários sobre a morfologia da família. *Ararajuba* 6: 3–36.
4. Bornschein, M. R., Maurício, G. N., Belmonte-Lopes, R., Mata, H. & Bonatto, S. L. (2007) Diamantina Tapaculo, a new *Scytalopus* endemic to the Chapada Diamantina, northeastern Brazil (Passeriformes: Rhinocryptidae). *Rev. Bras. Orn.* 15: 151–174.
5. Chesser, R. T. (2004) Molecular systematics of New World suboscine birds. *Mol. Phyl. & Evol.* 32: 11–24.
6. Ericson, P. G. P., Olson, S. L., Irestedt, M., Alvarenga, H. & Fjeldsá, J. (2010) Circumscription of a monophyletic family of tapaculos (Aves: Rhinocryptidae): *Psilorhamphus* in and *Melanopareia* out. *J. Orn.* 151: 337–345.
7. Feduccia, A. & Olson, S. L. (1982) Morphological similarities between the Menurae and the Rhinocryptidae, relict passerine birds of the Southern Hemisphere. *Smithsonian Contrib. Zool.* 366: 1–22.
8. Irestedt, M., Fjeldsá, J., Johansson, U. S. & Ericson, P. G. P. (2002) Systematic relationships and biogeography of the tracheophone suboscines (Aves: Passeriformes). *Mol. Phyl. & Evol.* 23: 499–512.
9. Krabbe, N. & Schulenberg, T. S. (1997) Species limits and natural history of *Scytalopus* tapaculos (Rhinocryptidae), with descriptions of the Ecuadorian taxa, including three new species. In: Remsen, J. V. (ed) *Studies in Neotropical ornithology honoring Ted Parker. Orn. Monogr.* 48.
10. Krabbe, N. K. & Schulenberg, T. S. (2003) Family Rhinocryptidae (tapaculos). In: del Hoyo, J., Elliott, A. & Christie, D. A. (eds.) *Handbook of the birds of the world*, 8. Barcelona: Lynx Edicions.
11. Mata, H., Fontana, C. S., Maurício, G. N., Bornschein, M. R., Vasconcelos, M. F. & Bonatto, S. L. (2009) Molecular phylogeny and biogeography of the eastern tapaculos (Aves: Rhinocryptidae: *Scytalopus*, *Eleoscytalopus*): cryptic diversification in Brazilian Atlantic Forest. *Mol. Phyl. & Evol.* 53: 450–462.
12. Maurício, G. N. (2005) Taxonomy of southern populations in the *Scytalopus speluncae* group, with description of a new species and remarks on the systematics and biogeography of the complex (Passeriformes: Rhinocryptidae). *Ararajuba* 13: 7–28.
13. Maurício, G. N., Mata, H., Bornschein, M. R., Cadena, C. D., Alvarenga, H. & Bonatto, S. L. (2008) Hidden generic diversity in Neotropical birds: molecular and anatomical data support a new genus for the “*Scytalopus*” *indigoticus* species-group (Aves: Rhinocryptidae). *Mol. Phyl. & Evol.* 49: 125–135.
14. Maurício, G. N., Bornschein, M. R., Vasconcelos, M. F., Whitney, B. M., Pacheco, J. F. & Silveira, L. F. (2010) Taxonomy of “Mouse-colored Tapaculos”. On the application of the name *Malacorhynchus speluncae* Ménétris, 1835 (Aves: Passeriformes: Rhinocryptidae). *Zootaxa* 2518: 32–48.
15. Parrini, R., Raposo, M. A., Pacheco, J. F., Carvalhaes, A. M. P., Melo Jr., T. A., Fonseca, P. S. M. & Minns, J. C. (1999) Birds of the Chapada Diamantina, Bahia, Brazil. *Cotinga* 11: 86–95.
16. Raposo, M. A., Stopiglia, R., Loskot, V. & Kirwan, G. M. (2006) The correct use of the name *Scytalopus speluncae* (Ménétriés, 1835), and the description of a new species of Brazilian tapaculo (Aves: Passeriformes: Rhinocryptidae). *Zootaxa* 1271: 37–56.
17. Rice, N. H. (2005) Phylogenetic relationships of antpitta genera (Passeriformes: Formicariidae). *Auk* 122: 673–683.
18. Rice, N. H. (2005) Further evidence for paraphyly of the Formicariidae (Passeriformes). *Condor* 107: 910–915.
19. Teixeira, D. M. & Carnevali, N. (1989) Nova espécie de *Scytalopus* Gould, 1837, do nordeste do Brasil (Passeriformes, Rhinocryptidae). *Bol. Mus. Nac. Zool. (N. Ser.)* 331: 1–11.
20. Vasconcelos, M. F., Maurício, G. N., Kirwan, G. M. & Silveira, L. F. (2008) Range extension for Marsh Tapaculo *Scytalopus iraiensis* to the highlands of Minas Gerais, Brazil, with an overview of the species’ distribution. *Bull. Brit. Orn. Club* 128: 101–106.
21. Whitney, B. M., Vasconcelos, M. F., Silveira, L. F. & Pacheco, J. F. (2010) *Scytalopus petrophilus* (Rock Tapaculo): a new species from Minas Gerais, Brazil. *Rev. Bras. Orn.* 18: 73–88.

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