
ON THE WIDE OCCURRENCE OF THE HELLMAYR'S PIPIT *Anthus hellmayri* IN THE ESPINHAÇO RANGE, SOUTHEASTERN BRAZIL, WITH COMMENTS ON ITS NATURAL HISTORY

Leonardo Esteves Lopes and Marcelo Ferreira de Vasconcelos

SUMMARY

The Hellmayr's Pipit *Anthus hellmayri* (Motacillidae) is a poorly known grassland species found in Andes from southern Peru to southern Argentina, with a distinctive subspecies (*A. h. brasilianus*) found in southeastern Brazil to eastern Argentina. Here we report the wide occurrence of *A. h. brasilianus* along the Espinhaço Range, an orographic system ~1000km

long composed by table-mountains and plateaus located in the states of Minas Gerais and Bahia, eastern Brazil. Records obtained during 16 years of field-work in the Espinhaço Range, extend the range of this species 400km northward. The Hellmayr's Pipit is a resident species in the area, with a breeding season extending from September to April (rainy season).

ACERCA DE LA AMPLIA OCURRENCIA DE LA CACHIRLA PÁLIDA *Anthus hellmayri* EN LA SIERRA DEL ESPINAZO, SURESTE DE BRASIL, CON COMENTARIOS SOBRE SU HISTORIA NATURAL

Leonardo Esteves Lopes y Marcelo Ferreira de Vasconcelos

RESUMEN

La cachirra pálida *Anthus hellmayri* (Motacillidae) es una especie campestre poco conocida encontrada en Los Andes, desde el sur de Perú al sur de Argentina. Una subespecie bien distinguible (*A. h. brasilianus*) se encuentra en el sureste de Brasil y el este de Argentina. El presente estudio reporta la amplia ocurrencia de *A. h. brasilianus* a lo largo de la Sierra del Espinazo, un sistema orográfico compuesto por mesetas y

serranías de unos 1000km de extensión, localizado en los estados de Minas Gerais y Bahía, al este de Brasil. Los registros obtenidos a lo largo de 16 años en la Sierra del Espinazo extienden la distribución de esta especie cerca de 400km al norte. Se trata de una especie residente en el área, con estación reproductiva de setiembre a abril (periodo de lluvias).

Introduction

The Hellmayr's Pipit *Anthus hellmayri* (Motacillidae) is a poorly known species (Tyler, 2004), uncommon to fairly common but local in grasslands, especially on dry and often rocky hillsides (Ridgely and Tudor, 1989, 2009). Three subspecies are known (Dickinson, 2003): *A. h. hellmayri*, found in the Andes of southern Peru to Bolivia and northwestern Argentina; *A. h. dabbenei*, in the Andes of west-

ern Argentina and adjacent to Chile; and *A. h. brasilianus*, from southeastern Brazil to Uruguay and northern Argentina. Morphological differences between subspecies are subtle (Hellmayr, 1935; Ridgely and Tudor, 1989), but there are molecular evidences showing that the taxon *brasilianus* represents a distinct species (Voelker, 1999) of unknown conservation status (Tyler, 2004). Noteworthy range extensions for the taxon *brasilianus* are

presented herein, extending its range (Dunning, 1987; Ridgely and Tudor, 1989, 2009; Souza, 2004; Tyler, 2004; Sigrist, 2006; Perlo, 2009) more than 400km northward. The natural history and local status of this species is also commented.

Materials and Methods

Records presented were obtained during 16 years of fieldwork in the Espinhaço Range, especially in the Bra-

zilian state of Minas Gerais and, more recently, in Bahia (Vasconcelos *et al.*, 2008a). A wide literature review was also carried out, and specimens housed in the ornithological collection of the Zoology Department of the Universidade Federal de Minas Gerais (DZUFMG), Belo Horizonte, Brazil, were checked.

The Espinhaço Range is an orographic system ~1000km long composed of table-mountains and plateaus located in

KEY WORDS / Breeding Season / Campos Rupestres / Espinhaço Range / Motacillidae / Range Extension /

Received: 06/01/2011. Accepted: 08/23/2011.

Leonardo Esteves Lopes. Biologist and Ph.D. in Ecology, Universidade Federal de Minas Gerais (UFMG), Brazil. Professor, Universidade Federal de Viçosa (UFV), Brazil. Ad-

dress: Laboratório de Zoologia, Campus Florestal, UFV. Rodovia LMG-818, km 6, 35690-000, Florestal, MG, Brazil. e-mail: leo.cerrado@gmail.com

Marcelo Ferreira de Vasconcelos. Biologist and Ph.D. in Ecology, UFMG, Brazil. Professor, Pontifícia Universidade Católica de Minas Gerais, Brazil.

SOBRE A LARGA OCORRÊNCIA DO CAMINHEIRO-DE-BARRIGA-ACANELADA *Anthus hellmayri* NA SERRA DO ESPINHAÇO, SUDESTE DO BRAZIL, COM COMENTÁRIOS SOBRE SUA HISTÓRIA NATURAL

Leonardo Esteves Lopes e Marcelo Ferreira de Vasconcelos

RESUMO

O caminheiro-de-barriga-acanelada *Anthus hellmayri* (Mocicillidae) é uma espécie campestre pouco conhecida encontrada ao longo dos Andes desde o sul do Peru até o sul da Argentina. Uma subespécie bem marcada (*A. h. brasilianus*) é encontrada no sudeste do Brasil e leste da Argentina. O presente estudo comunica a larga ocorrência de *A. h. brasilianus* ao longo da Cadeia do Espinhaço, um sistema orográfico compos-

to por chapadas e serras com cerca de 1000km de extensão, localizado nos estados de Minas Gerais e Bahia, leste do Brasil. Os registros obtidos ao longo de 16 anos de trabalho na Serra do Espinhaço estendem a distribuição desta espécie por cerca de 400 km ao norte. O caminheiro-de-barriga-acanelada é uma espécie residente na área, com estação reprodutiva estendendo de setembro a abril (período chuvoso).

the states of Minas Gerais and Bahia, eastern Brazil (Derby, 1906). It is an important area of plants and birds endemism (Giulietti *et al.*, 1997; Stattersfield *et al.*, 1998; Vasconcelos, 2008). In this region, altitudes range 700-2000m, comprising different vegetation types depending on elevation and slope. Generally, eastern slopes receive moisture from the Atlantic Ocean and are covered by the Atlantic Forest, while western slopes are covered by *Cerrado* (a savanna-like vegetation) or *Caatinga* (mainly low and dry shrub forests; Giulietti *et al.*, 1997). Mountaintops are covered by the *campos rupestres*, a vegetation type growing over rock outcrops with rupestrian herbs and shrubs, rich in endemic plant species (Giulietti *et al.*, 1997).

Results and Discussion

Published records of Hellmayr's Pipits for the Espinhaço Range are restricted to its southern portion, specifically to the Serra do Cipó (centered at 19°17'S, 43°36'W, 1100-1450masl; Willis and Oniki, 1991; Melo-Júnior *et al.*, 2001; Ribon *et al.*, 2007) and Serra do Caraça (20°05'S, 43°28'W, 1650masl; Vasconcelos, 2001). At the DZUFMG there are four specimens collected in Serra do Cipó (February and April 1975, January 2009; DZUFMG 2667, 2668, 2670 and 6181). In this locality this species is abundant where there is an appropriate habitat (pers. obs.), with 18

birds recorded in an area of 88.5ha (mean territory size of 4.9ha; Ribon *et al.*, 2007).

Unpublished records extend the range of this species to the central part of the Espinhaço Range (Figure 1), in central Minas Gerais state, in a region known as the Diamantina plateau. We suspect that this region represents the northern limit for *A. h. brasilianus*, because detailed surveys conducted in areas further north failed to find this species (Parrini *et al.*, 1999; Vasconcelos and D'Angelo Neto, 2007; Vasconcelos and Rodrigues, 2010). The localities where records were obtained, followed by its respective municipality, are as follows, ordered from south to north: Batateiro, Congonhas (11/25/2005; 20°28'S, 43°56'W, 1270masl; pers. obs.); Serra de Belo Vale, Belo Vale (02/21/1975; 20°26'S, 43°56'W, 1500masl; DZUMG 2669); Pico do Itacolomi, Ouro Preto (02/22/1998, 06/17/2008; 20°25'S, 43°28'W, 1450masl.); Serra da Moeda, Itabirito (11/02/2009; 20°17'S, 43°56'W, 1490masl; DZUFMG

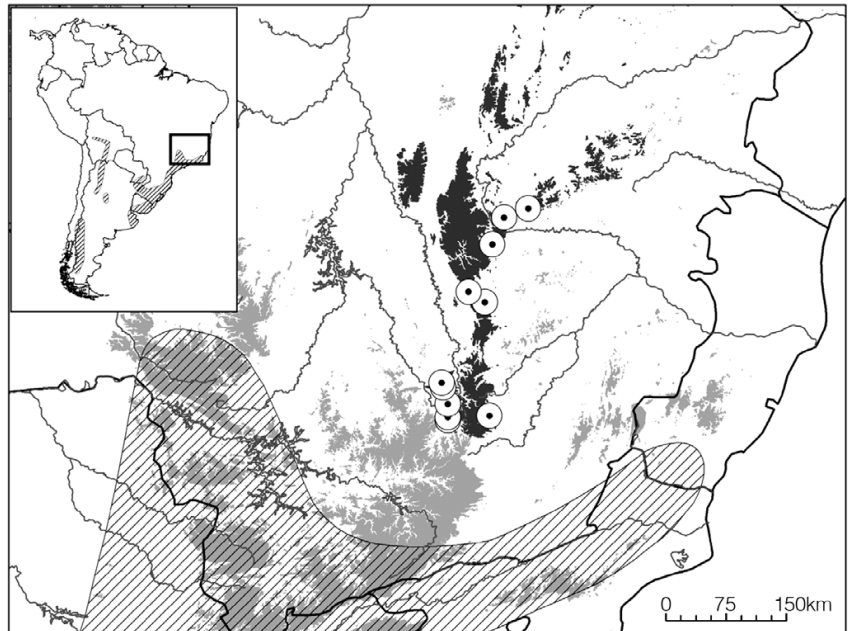


Figure 1. Records of the Hellmayr's Pipit *Anthus hellmayri* in the Espinhaço Range, southeastern Brazil (circles). Hatched area represents the known range of this species (Ridgely and Tudor, 2009). Gray tones indicate areas above 1000masl, with dark gray representing the Espinhaço Range and light gray indicating other mountainous areas.

6524); Retiro das Pedras, Nova Lima (12/2001, 08/2005; 20°06'S, 43°59'W, 1350masl; pers. obs.); Serra do Rola Moça State Park, Nova Lima (08/2005; 20°03'S, 44°00'W, 1400masl; pers. obs.); Campo Redondo, Conceição do Mato Dentro (09/16/2006; 19°09'S, 43°31'W, 1200masl; DZUFMG 5195 and 5196); Brumas do Espinhaço, Santana do Riacho (02/02/2004; 19°02'S, 43°42'W, 1350masl; DZUFMG 4095); Três Barras, Serro (04/25/2004; 18°30'S, 43°26'W, 1200masl; pers. obs.); Rio Preto State Park, São Gonçalo do Rio Preto (05/16/2004; 18°12'S, 43°18'W, 1600masl;

DZUFMG 4175); and Serra do Ambrósio, Rio Vermelho (10/02/2006; 18°06'S, 43°02'W, 1300masl; pers. obs.).

The Hellmayr's Pipit can be found over a wide elevational range, from sea level to about 3700masl in the Andes (Ridgely and Tudor, 1989, 2009). Nevertheless, in southeastern Brazil, the subspecies *A. h. brasilianus* is not found on lowlands, being restricted to mountainous areas, generally above 1000masl. This distributional pattern has also been described for other recently encountered birds in the Espinhaço Range, such as

the Marsh Tapaculo *Scytalopus iraiensis* and the Lesser Grass-Finch *Emberizoides ypiranganus*, which southward are found at lower elevations (Vasconcelos *et al.*, 2006, 2008b; Costa *et al.*, 2008)

Hellmayr's Pipits can be found year round in the Espinhaço Range, with a breeding season extending from September to April (the rainy season). A nest with two eggs was found on the end of October 2005 in Serra do Cipó (Ribon *et al.*, 2007). An adult bird was observed carrying food for its young on 12/09/2001 in Retiro das Pedras (pers. obs.). A juvenile female with an unossified skull was collected on 01/15/2009 (DZUFMG 6181), and an adult bird was observed feeding a full grown young on 04/22/2000, on the Serra do Caraça (Vasconcelos, 2001). Gonadal data also support this breeding period. Two males collected in September (DZUFMG 5195 and 5196, testes= 7×5 and 9×4mm, respectively), one in November (DZUFMG 6524, 8×4mm), and another in February (DZUFMG 4095, 7×4mm) had enlarged testes. The first three mentioned males were performing aerial displays, and were highly vocal. Testes of a male collected in May (dry season) were small (DZUFMG 4175, 2×1mm). This period is in accordance with that found in the state of Rio Grande do Sul, southern Brazil, where nesting records are from November, and breeding condition birds were collected from August 30 to January 26 (Belton, 1994). The data summarized herein is the only available for this subspecies (Tyler, 2004).

The unnoticed occurrence of the Hellmayr's Pipit along the Espinhaço Range by modern field guides and handbooks can be attributed to: 1) the systematic overlooking of previously published papers (Willis and Oniki, 1991; Melo-Júnior *et al.*, 2001; Vasconcelos, 2001); 2) the difficulty of identification of South American *Anthus* to species level, as

all of them are very similar to each other, a problem complicated by the large variation on plumage pattern and coloration depending on molt stage (Ridgely and Tudor, 1989; Sick, 1997); 3) the secretive-ness of the members of this genus when not singing (Ridgely and Tudor, 1989); and 4) the poor knowledge of the avifauna of the Espinhaço Range. This last hypothesis can be corroborated by the recent descriptions of three species endemic to it: the Cipó Canastero *Asthenes luizae* (Vielliard, 1990), the Diamantina Tapaculo *Scytalopus diamantinensis* (Bornschein *et al.*, 2007) and the Sincorá Antwren *Formicivora grantsau* (Gonzaga *et al.*, 2007).

ACKNOWLEDGEMENTS

The authors are grateful to Marcos Rodrigues who allowed us to study specimens housed under his care. MFV thanks CAPES for a doctoral fellowship and the Brehm Foundation for financial support during part of this study. We also thank IBAMA and IEF-MG for providing collection permits.

REFERENCES

Belton W (1994) *Aves do Rio Grande do Sul, distribuição e biologia*. Unisinos. São Leopoldo, Brazil. 584 pp.

Bornschein MR, Maurício GN, Belmonte-Lopes R, Mata H, Bonatto SL (2007) Diamantina Tapaculo, a new *Scytalopus* endemic to the Chapada Diamantina, northeastern Brazil (Passeriformes: Rhinocryptidae). *Rev. Bras. Ornitol.* 15: 151-174.

Costa LM, Freitas GHS, Rodrigues M, Vasconcelos MF (2008) New records of Lesser Grass Finch *Emberizoides ypiranganus* in Minas Gerais, Brazil. *Cotinga* 29: 182-183.

Derby OA (1906) The Serra of Espinhaço, Brazil. *J. Geol.* 14: 374-401.

Dickinson EC (Ed.) (2003) *The Howard and Moore Complete Checklist of the Birds of the World*. 3rd ed. Princeton University Press. Princeton, NJ, USA. 1039 pp.

Dunning JS (1987) *South American Birds: A Photographic Aid to*

Identification. Harrowood. Newtown Square, PA, USA 351 pp.

Giulietti AM, Pirani JR, Harley RM (1997) Espinhaço Range region, eastern Brazil. In Davis SD, Heywood VH, Herrera-MacBryde O, Villa-Lobos J, Hamilton AC (Eds.) *Centres of Plant Diversity: A Guide and Strategy for their Conservation*. Information Press. Oxford, UK. Vol. 3. pp. 397-404.

Gonzaga LP, Carvalhães AMP, Buzzeiti, D (2007) A new species of *Formicivora* antwren from the Chapada Diamantina, eastern Brazil (Aves: Passeriformes: Thamnophilidae). *Zootaxa* 1473: 25-44.

Hellmayr CE (1935) Catalogue of Birds of the Americas and the Adjacent Islands in Field Museum of Natural History. Part VIII. *Fieldiana Zool.* 13: 541 pp.

Melo-Júnior TA, Vasconcelos MF, Fernandes GW, Marini MÁ (2001) Bird species distribution and conservation in Serra do Cipó, Minas Gerais, Brazil. *Bird Cons. Int.* 11: 189-204.

Parrini R, Raposo MA, Pacheco JF, Carvalhães AMP, Melo-Júnior TA, Fonseca PSM, Minns JC (1999) Birds of the Chapada Diamantina, Bahia, Brazil. *Cotinga* 11: 86-95.

Perlo B van (2009) *A Field Guide to the Birds of Brazil*. Oxford University Press. New York, USA. 465 pp.

Ribon R, Coelho FM, Pizetta GT, Almeida LB, Oliveira A, Resck RP, Valadares CF, Corral L, Amboni M, Souza RA, Carvalho LF (2007) Padrão de vocalizações, territorialidade e densidade de *Anthus hellmayri* (Motacillidae-Passeriformes) no Parque Nacional da Serra do Cipó, Brasil. In Delitti W (Ed.) *Anais do VIII Congresso de Ecologia do Brasil*. Sociedade de Ecologia do Brasil. Caxambu, Brazil. <http://seb-ecologia.org.br/viiiiceb/pdf/1816.pdf>

Ridgely RS, Tudor G (1989) *The Birds of South America*. Vol. 1. The oscine passerines. University of Texas Press. Austin, TX, USA. 516 pp.

Ridgely RS, Tudor G (2009) *Field Guide to the Songbirds of South America: The Passerines*. University of Texas Press. Austin, TX, USA. 750 pp.

Sick H (1997) *Ornitologia Brasileira*. Nova Fronteira. Rio de Janeiro, Brazil. 862 pp.

Sigrist T (2006) *Aves do Brasil, uma Visão Artística*. Ed. Sigrist. São Paulo, Brazil. 672 pp.

Souza D (2004) *Todas as Aves do Brasil, Guia de Campo para Identificação*. DALL. Feira de Santana, Brazil. 350 pp.

Stattersfield AJ, Crosby MJ, Long AJ, Wege DC (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife International. Cambridge, UK. 846 pp.

Tyler SJ (2004) Family Motacillidae (pipits and wagtails). In del Hoyo J, Elliott A, Christie D (Eds.) *Handbook of the Birds of the World. Vol. 9. Cotingas to pipits and wagtails*. Lynx. Barcelona, Spain. pp. 686-786.

Vasconcelos MF (2001) Adições à avifauna da Serra do Caraça, Minas Gerais. *Atual. Ornitol.* 104: 3-4.

Vasconcelos MF (2008) Mountain-top endemism in eastern Brazil: why some bird species from campos rupestres of the Espinhaço Range are not endemic to the Cerrado region? *Rev. Bras. Ornitol.* 16: 348-362.

Vasconcelos MF, D'Angelo-Neto S (2007) Padrões de distribuição e conservação da avifauna na região central da Cadeia do Espinhaço e áreas adjacentes, Minas Gerais, Brasil. *Cotinga* 28: 27-44.

Vasconcelos MF, Rodrigues M (2010) Patterns of geographic distribution and conservation of the open-habitat avifauna of southeastern Brazilian mountaintops (campos rupestres and campos de altitude). *Pap. Avulsos Zool.* 50: 1-29.

Vasconcelos MF, D'Angelo Neto S, Kirwan GM, Bornschein MR, Diniz MG, Silva JF (2006) Important ornithological records from Minas Gerais state, Brazil. *Bull. Br. Ornithol. Club* 126: 212-238.

Vasconcelos MF, Lopes LE, Machado CG, Rodrigues M (2008a) As aves dos campos rupestres da Cadeia do Espinhaço: diversidade, endemismo e conservação. *Megadiversidade* 4: 197-217.

Vasconcelos MF, Maurício GN, Kirwan GM, Silveira LF (2008b) Range extension for Marsh Tapaculo *Scytalopus iraiensis* to the highlands of Minas Gerais, Brazil, with an overview of the species' distribution. *Bull. Br. Ornithol. Club* 128: 101-106.

Vielliard J (1990) Uma nova espécie de *Asthenes* da Serra do Cipó, Minas Gerais, Brazil. *Ararajuba* 1: 121-122.

Voelker G (1999) Molecular evolutionary relationships in the avian genus *Anthus* (Pipits: Motacillidae). *Mol. Phyl. Evol.* 11: 84-94.

Willis EO, Oniki Y (1991) Avifaunal transects across the open zones of northern Minas Gerais, Brazil. *Ararajuba* 2: 41-58.