

### Hybridisation between *Lanio cucullatus* and *L. pileatus* in central Brazil

*Lanio* (*Coryphospingus*) *cucullatus* and *L. pileatus* were recently reclassified as Thraupidae (tanagers), and still lack revised English names, but here we avoid referring to them as finches (Emberizidae)<sup>3,4</sup>. With 11 species in Brazil, *Lanio* species occupy biomes such as the Amazon and Atlantic forests, Cerrado and Caatinga<sup>1,6,7,9,10</sup>. Some occur in forests, in the canopy and subcanopy (e.g. White-winged Shrike-Tanager *L. versicolor* and Flame-crested Tanager *L. cristatus*) and others in open and semi-open habitats, e.g. *L. cucullatus* and *L. pileatus*<sup>6,7,9,10</sup>. *L. cucullatus* and *L. pileatus* are endemic to South America and considered common or locally abundant in scrubby agricultural areas, forest edges, roadsides and open woodland<sup>2,5,6,7,9</sup>. They are broadly allopatric<sup>5,9</sup>, with *L. cucullatus* generally replacing *L. pileatus* in central and western Brazil. Nevertheless, there are

narrow contact zones in central Brazil, in western Minas Gerais, Goiás and Mato Grosso states<sup>5,6,9</sup> (Fig. 1).

Marcondes-Machado<sup>5</sup> listed western Minas Gerais as a region where hybrids between these species had been observed in the wild, whilst Sick<sup>8,9</sup> confirmed the existence of captive hybrids from the Distrito Federal and Minas Gerais, the latter possibly from the north-west of the state. Thraupidae hybrids are common in captivity, e.g. among *Tangara*, but inter-generic hybrids have also been recorded (Red-legged Honeycreeper *Cyanerpes cyaneus* × Masked Tanager *Tangara nigrocineta*, Brazilian Tanager *Ramphocelus bresilius* × Ruby-crowned Tanager *Tachyphonus coronatus*)<sup>9</sup>, although data on wild hybrids are scarce<sup>6,9</sup>.

Here, we present four cases of hybridisation between these tanagers, in north-west Minas Gerais and the Distrito Federal, both in central Brazil and the Cerrado biome<sup>1</sup>. Three refer to

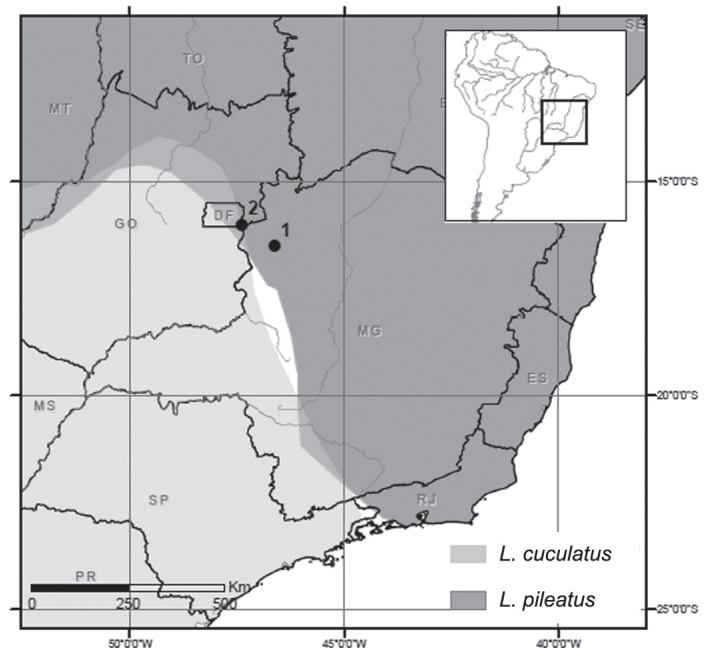


Figure 1. Ranges of *Lanio cucullatus* and *L. pileatus* in eastern and central Brazil: (1) Paracatu, Minas Gerais, where the hybrid was mist-netted; (2) locality in the Distrito Federal, where hybrid individuals were observed; (3) Universidade de Brasília (Distrito Federal) campus, where the hybrid was collected in 1966 (MNRJ 47985). Distribution map adapted from Ridgely & Tudor<sup>6</sup>.



Figure 2. Underparts of the mist-netted hybrid (*Lanio cucullatus* × *L. pileatus*) captured in Paracatu municipality, Minas Gerais, Brazil (Carlos E. Benfica)



Figure 3. The reddish rump of the mist-netted hybrid (*Lanio cucullatus* × *L. pileatus*) captured in Paracatu municipality, Minas Gerais, Brazil (Carlos E. Benfica)

birds observed in the field and the other to a museum specimen. All were diagnosed using plumage characters, considering each species' singular patterns.

During a study conducted in Paracatu municipality (16°51'S 46°58'W), Minas Gerais, a hybrid was mist-netted on 13 June 2008. The habitat where this individual was trapped is cerrado *sensu stricto* (with trees of 2–7 m) surrounded by riparian forests and agricultural fields. The bird's plumage possessed characters of both species, it being predominantly grey, but the belly and rump were notably reddish (Figs. 2–3). Two similar hybrids were observed on 6 October 2004 and 15 October 2007 in the Distrito Federal (16°00'S 47°22'W), c.60 km north-west of Paracatu. Adults of both species were recorded in the surveyed areas, but never side by side, even in areas where they occupied the same habitat.

After examining several museum collections and a total of 640 specimens (Museu de Zoologia Universidade de São Paulo, São Paulo; Museu Nacional Universidade Federal do Rio de Janeiro, Rio de Janeiro; Museu Paraense Emílio Goeldi, Belém; Museu de Zoologia Universidade Federal de Minas Gerais, and



Figure 4. Dorsal view of hybrid *Lanio cucullatus* × *L. pileatus* collected at the Universidade de Brasília (Distrito Federal) campus (MNRJ 47985) (Piero Ruschi)



Figure 5. Ventral view of hybrid *Lanio cucullatus* × *L. pileatus* collected at the Universidade de Brasília (Distrito Federal) campus (MNRJ 47985) (Piero Ruschi)

Museu de Ciências Naturais Pontifícia Universidade Católica de Minas Gerais, both in Belo Horizonte), we found just one hybrid (MN47985) (Figs. 4–5) with plumage similar to those we observed in the field. The hybrid male was collected on the Universidade de Brasília (Distrito Federal) campus (c.15°45'S 47°52'W) on 9 December 1966, and sustains the hypothesis of a hybrid zone, rather than these taxa representing a single polymorphic species. Polymorphic specimens occur throughout a species' range, e.g., in White-tailed Hawk *Geranoaetus albicaudatus* and Crested Eagle *Morphnus guianensis*, respectively<sup>4,9</sup>, although they can be uncommon in some regions. The Brasília specimen was collected 150 km from the trapped bird and 70 km from our sight records of hybrids.

Our findings confirm the occurrence of both species in

north-west Minas Gerais and the Distrito Federal, and that the area is a contact zone for these tanagers<sup>5,6,9</sup>. This zone may sustain fertile hybrids<sup>5</sup>, but more studies are required to confirm this and to find any additional areas where hybrids occur.

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