

## NOTES ON GEOGRAPHIC DISTRIBUTION

### Aves, Cotingidae, *Doliornis remseni*: Filling distribution gap, habitat, and conservation, Ecuador.

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The Tropical Andes biodiversity hot-spot holds 19 % of restricted-range bird species (BirdLife International and Conservation International 2005). Humid montane forests are rich in endemic species. Nevertheless, anthropogenic deforestation is making this habitat, together with the localized bird species it contains, of special conservation concern. One such threatened species is the Chestnut-bellied Cotinga (*Doliornis remseni*). Within its restricted range it is rare, occurring at high altitude on the eastern cordillera of the Andes in Ecuador and in the Central Andes of Colombia (BirdLife International 2007; Figure 1). This species was only recently described (Robbins et al. 1994), and its biology is very poorly documented. It was listed as Vulnerable (IUCN 2006) because of its limited range (11,000 km<sup>2</sup>), its small, decreasing population (2,500 - 10,000 individuals) and the destruction of its habitat (Renjifo et al. 2002; BirdLife International 2007).

On 23 February 2006 (16:10 h), in the Llanganates National Park (NP), province of Tungurahua, Ecuador (01°05'55" S, 78°18'27" W; 3,390 m; Figure 1), a male Chestnut-bellied Cotinga was observed, first in flight and afterwards perched, ca. 20 m down from the rock bar closing off Yanacocha Lake. The rufous belly, contrasting with blackish-gray head, wing, back, and tail, and jet black crown identified it (Robbins et al. 1994). It remained motionless for ca. 5 min, perched on a dead branch extending above the forest canopy (Figure 2). Perching motionless at the very top of the crown of trees appears to be a common behavior in the species (Renjifo M. 1994, Robbins et al. 1994, G. H. Rosenberg, *in litt.*). A second individual arrived, and both disappeared into the forest canopy.

Although existence of a resident population remains to be documented, this new locality fills an important distributional gap in central Ecuador (Figure 1). The closest locations documented for the species are Cerro Mongus, south-east of Carchí, 180 km to the north (Robbins et al. 1994), and Gualaceo-Limón pass, province of Morona-Santiago, 215 km to the south (ca. 03°00' S, 78°39' W; ca. 3,500 m; G. H. Rosenberg, *in litt.*).



**Figure 1.** Known localities of occurrence and altitudinal range (2,875 - 3,650 m; dark grey area) for the Chestnut-bellied Cotinga. Black dots hold for historical records (Renjifo M. 1994; Robbins et al. 1994; Cresswell et al. 1999b; Ridgely and Greenfield 2001), the red square for the new record from Tungurahua, Ecuador, and white ellipsoids for unpublished records, lacking precise location.

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Three other unpublished records were reported for central Ecuador, all from Important Bird Areas (Figure 1; Freile and Santander 2005; BirdLife International 2007). In July 1991, a single bird was observed for ca. 30 min, in a ravine at the entrance road of the Cotopaxi NP (ca. 00°39' S, 78°31' W, IBA EC055; M. Honick and J. C. Matheus, *in litt.*). However, no suitable habitat seems to be present in this part of Cotopaxi NP, and the area is dominated by plantations of exotic conifers (J. F. Freile, *in litt.*). Even accepting a correct identification, existence of a viable resident population in the Cotopaxi NP remains to be confirmed (Freile and Santander 2005, contra BirdLife International 2007). The species also occurs at Sangay NP (IBA EC061) and at Cayambe-Coca Ecological Reserve (IBA EC049; Freile and Santander 2005), but no information is available for these records. The new records concur with a likely continuous distribution of *D. remseni* on the eastern slope of the Andes in suitable habitat (Ridgely and Greenfield 2001). The distributional gap indicated for central Ecuador in BirdLife International (2007) is not warranted.

Habitat at the Llanganates locality (Figure 2) was dense, continuous, moist, montane forest, comprising trees 5 - 10 m tall, heavily covered with epiphytes, mosses and lichens, and interspaced with thick bushes. This corresponds to the species' known habitat (Renjifo M. 1994; Robbins et al. 1994). The landscape, dominated by steep, moist montane forest with large landslides (Figure 2), is strikingly similar to the type locality (Robbins et al. 1994; Figure 2). This similarity suggests very specific habitat requirements. A difference from former habitat descriptions is that the Llanganates' record was located 0.5 km away from the treeline (but 100 m from a landslide, and 200 m from a lake) whereas all other records were at the treeline, or in isolated patches of elfin forest (Renjifo M. 1994; Robbins et al. 1994; Rasmussen et al. 1996; Cresswell et al. 1999b; G. H. Rosenberg, *in litt.*). Thus, the species may also use the core of the montane forest, at least near landslide openings.



**Figure 2.** Habitat of Chestnut-bellied Cotinga at Llanganates National Park, province of Tungurahua, Ecuador. An arrow indicates the branch where the bird perched (23 February 2006).

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Two other scarce, bird species of elfin forest were recorded at Yanacocha lake (24 February 2006). Three Masked Mountain-tanagers (*Buthraupis wetmorei*, listed as Vulnerable, IUCN 2006) and two Black-backed Bush-tanagers (*Urothraupis stolzmanni*, Least Concern) were seen in a mixed species flock at an elevation of 3,350 m, 150 m south of the cotingas site, plus two Masked Mountain-tanagers in a mixed species flock (3,450 m), 350 m east of the cotingas site. These two species have been recorded at, or close to, all the known localities of Chestnut-bellied Cotinga except Cotopaxi NP (Cresswell et al. 1999a; Ridgely and Greenfield 2001; Freile and Santander 2005; Arbeláez-Cortés and Baena-Tovar 2006; BirdLife International 2007; P. Coopmans, *in litt.*), and they seem to be commoner or more easily detected than the Chestnut-bellied Cotinga (cf. colorful and inter-specific flocking; Ridgely and Greenfield 2001). Their occurrence could thus be used as an indicator of the potential presence of *Doliornis remseni*, which is rather inconspicuous because of its low densities (3 ind.km<sup>-2</sup>, Renjifo et al. 2002), cryptic plumage, silent habits and lethargic behavior. In addition, methods specifically designed to monitor species with low detectability should be implemented to secure robust population size (Rosenstock et al. 2002) and distribution (MacKenzie et al. 2002) estimates.

The location of the present record brings to eight the number of officially protected localities where the species occurs (BirdLife International 2007) and adds the species to the IBA EC056 (Freile and Santander 2005). On the whole, the major threat to the species is the high rate of destruction of its habitat, mainly due to burning to increase grass production for cattle grazing, a form of land-use known to be responsible for 78 % of habitat loss in Colombia (Renjifo et al. 2002; BirdLife International 2007; but see Cresswell et al. 1999a, suggesting that the species is possibly adapted to habitat fragmentation). This same threat applies to the Llanganates NP (Freile and Santander 2005). There was a burned patch of elfin forest 3.5 km east of the cotingas site, and several recent *Paramo* burns were seen – even though the area was without any permanent settlement, and human activity appeared limited to one active trail plus extensive cattle grazing.

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