

# New Record of the Rufous–Vented Ground–Cuckoo (*Neomorphus geoffroyi dulcis*) in the Atlantic Forest, Brazil

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**ABSTRACT:** Birds from the Neomorphinae subfamily are little known and rarely recorded in Brazil. We present a new record of the threatened taxon *Neomorphus geoffroyi dulcis* at Rio Doce State Park (RDSP) in Minas Gerais State, Brazil. This subspecies is thought to be rare in the Atlantic Forest with very few records over the last years. The present record may serve as background information to boost more research on this critically endangered subspecies and its habitat and for future management programs in conservation areas of the Atlantic Forest in Brazil

**KEY-WORDS:** Atlantic Forest, Rufous–vented Ground–Cuckoo, Rio Doce State Park, Minas Gerais, Brazil.

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The avian order Cuculiformes is comprised by one family divided into four subfamilies with a total of 19 species in Brazil (CBRO 2014). The subfamily Neomorphinae includes four inconspicuous species belonging to the genus *Neomorphus* and are characterized by a very shy behavior, which may contribute to the lack of records in the country. *Neomorphus* are forest-dwelling birds with high demands regarding the quality of forests they inhabit (Sick 1997). As terrestrial birds they follow army ants (Hymenoptera: Formicidae) and herds of peccaries (Mammalia: Tayassuidae) that forage the layer of leaf litter dislodging invertebrates, small lizards, snakes and amphibians, which may also serve as prey to the ground cuckoo (Sick 1997, Silveira 2008). The vocalization of these birds consists of a low monosyllabic decreasing peep at intervals of 3 to 4 seconds during several minutes. When distressed, they utter a loud snap by beating the upper maxilla towards the lower mandible (Sick 1997).

The Rufous-vented ground-cuckoo *Neomorphus geoffroyi* is one of the largest species of the order Cuculiformes (up to 51 cm), with a broad distribution throughout South and Central America. In Brazil, there are three recognized subspecies of *N. geoffroyi* occurring in the Amazon, *Caatinga*, and Atlantic forest biomes (Payne 1997, Sick 1997, Raposo *et al.* 2009, Roos *et al.* 2012), as follows: *N. geoffroyi geoffroyi*, *N. geoffroyi amazonicus*, and

*N. geoffroyi dulcis*. The latter subspecies has been recorded in remnant forests of southeastern Brazil, mostly from the Minas Gerais State to the north of Espírito Santo State (Pinto 1962, 1964) but is probably extinct from the Rio de Janeiro State (Silveira 2008).

Very few records of *N. geoffroyi* have been reported lately and most of them are anecdotal (Roos *et al.* 2012). The most recent records reported were from the *Caatinga* biome, extending the known species' distribution to the northwest (Roos *et al.* 2012). Likewise, for the Atlantic Forest, recent records are also anecdotal, particularly for the mid Rio Doce region in Minas Gerais State (Machado *et al.* 2008, Roos *et al.* 2012). Until recently, the occurrence of *N. g. dulcis* at the Rio Doce State Park (RDSP) was considered uncertain and improbable (Knox & Walters 1994). However, in 2005 three birds were observed following army ants within a patch of regenerating forest (A. L. Ribeiro *pers. comm.*). In 2006, one record was obtained through a camera trap set to record mammals at RDSP (L. M. Scoss *pers. comm.*).

Although not considered globally threatened of extinction because of its wide distribution (BirdLife International 2014), several subspecies of *N. geoffroyi* have distinct characteristics that may warrant a species level status in the near future (Raposo *et al.* 2009). In this context, the taxon *N. g. dulcis* has been classified as

critically endangered at a national level in Brazil (MMA 2003, Machado *et al.* 2008), after even being previously classified as extinct due to the absence of confirmed records (Knox & Walters 1994). Therefore, new records are vital to confirm the continued presence of *N. g. dulcis* in its former distribution and for helping develop effective conservation strategies for this taxon.

We report here one opportunistic observation of *N. geoffroyi dulcis* at RDSP. The observation occurred on the 26 March 2014, along the Porto Capim trail (19°46'20"S, 42°37'40.30"W). The site of the record is located at 270 m and is characterized by a regrowth forest with a dense understory mostly composed of bamboos (*Chusquea* sp., Poaceae), being previously burnt during the 1960s. The canopy was approximately 20 m high and partially opened. The vegetation at the RDSP consists of submontane semideciduous forest (Veloso *et al.* 1991). The relief comprises smooth hills and lowlands with elevations varying between 230 and 515m, with a local semi-humid tropical climate (Aw, Köppen classification). Annual average rainfall is approximately 1480 mm and annual average temperature 21.9° C with a dry period between May and September (Queiroz *et al.* 1980).

At around 3:00 pm one individual was sighted and photographed while perched on a branch close to the trail at approximately 1 m high. As soon as the bird realized the presence of the observers, it changed branches several times without getting away from the original position, allowing a very good sight by the observers (Figure 1). During the entire time of observation, the bird performed repeated vertical movements with its head and tail. In some of these movements, the bird intensively lowered its body, touching the chest to the branch and quickly raising itself, stretching the legs and getting away from the branch at the same time the tail and head were up in a 45° angle. At each 13 seconds interval, the bird snapped the mandibles several times when the head and tail were up. Although the sound made by this bird is described as very high and distinct, reminding a snap of mandibles of wild pigs (Sick 1997), only weak snaps were heard, often confounded with the sound of dry branches breaking because of the movements of the bird and the observers. The bird kept its position for 3 min when it jumped to the layer of leaf litter and disappeared into the interior of the forest. Few minutes after, many army ants (*Eciton* sp.) were recorded moving towards the same direction



**FIGURE 1.** *Neomorphus geoffroyi dulcis* at the Rio Doce State Park (RDSP) photographed on 26 March 2014 along the Porto Capim trail (19°46'20"S, 42°37'40.30"W), Rio Doce valley, state of Minas Gerais. Photos by FDT.

that the bird followed. However, we did not verify any interaction between the bird and the ants. Despite of that, we speculate the bird may have been foraging on the ants due to the presence of both at the same location.

Our record confirms the continuing presence of this threatened taxon at the RDSP and the Rio Doce valley. Moreover this record reassures the importance of RDSP as a priority area for the conservation of avifauna in Brazil (Drummond *et al.* 2005). Due to its extensive area composed by large tracts of more preserved vegetation than the site of our record, we speculate it is probable that a resident population with several individuals of *N. g. dulcis* may exist at RDSP.

The present record of *Neomorphus geoffroyi dulcis* may serve as background information to boost more research on this critically endangered subspecies and its habitat and for future management programs in conservation areas of the Atlantic Forest in Brazil.

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