

# Threatened birds of the Darién highlands, Panama: a reassessment

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## Summary

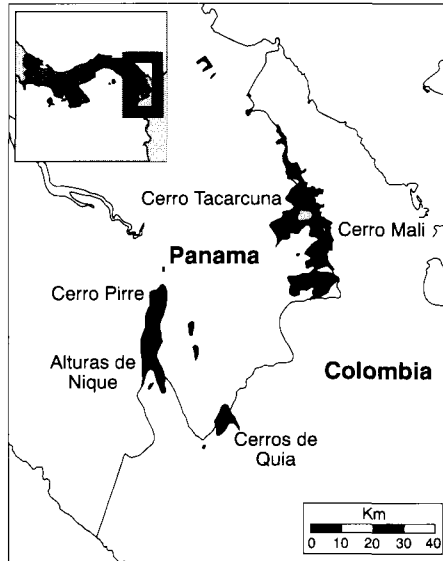
The montane forests of the Darién highlands in eastern Panama and adjacent Colombia embrace the entire ranges of 11 species of bird. By calculating the area which each of these species occupies, a reassessment of their status (using the new IUCN criteria) shows that four should be added to the globally threatened list, on the basis of their ranges being less than 100 km<sup>2</sup>. Although the area which these birds occupy is protected within national parks, a number of threats appear to be compromising their long-term survival, and thus the Darién region urgently requires further conservation attention.

## Introduction

The higher peaks of the serranías in eastern Panama and adjacent north-westernmost Colombia support a large and generally pristine area of tropical montane forest. Both the flora and fauna of these relatively isolated ranges contain numerous endemic species and represent unusual assemblages with both South and Central American affinities (Dinerstein *et al.* 1995). This high degree of endemism is reflected in the presence of 11 bird species confined solely to these montane forests.

With the publication of new criteria for determining threat status (IUCN 1994), a new criterion was introduced which allowed for the inclusion of species as Vulnerable if they occurred in an area of less than 100 km<sup>2</sup>. Although Collar *et al.* (1994) added some New World species to the threatened list using this criterion (e.g. Yellow-green Finch *Pselliophorus luteoviridis* from Panama), a complete reassessment was not undertaken owing to the recent full review and selection of species carried out for the Americas Red Data Book (Collar *et al.* 1992). The most recent analysis of globally threatened birds listed 11 Panamanian species as Vulnerable (Collar *et al.* 1994), including two from the lowlands of Darién. However, none of the species confined to the highlands of this region was considered threatened, although six were listed as Near-threatened.

During work on documenting Endemic Bird Areas (Stattersfield *et al.* in prep.), it became apparent that a number of species confined to the Darién highlands would possibly qualify as globally threatened under the new “very small range” criterion. The species confined to the Darién highlands, and thus warranting an objective reassessment of their status, are: Tacarcuna Wood-quail *Odontophorus dialeucos*, Russet-crowned Quail-dove *Geotrygon goldmani*, Violet-capped Hummingbird *Goldmania violiceps*, Rufous-cheeked Hummingbird



Map of the Darién highlands (above 900 m)

*Goethalsia bella*, Beautiful Treerunner *Margarornis bellulus*, Tacarcuna Tapaculo *Scytalopus panamensis*, Varied Solitaire *Myadestes coloratus*, Tacarcuna Bush-tanager *C. tacarcunae*, Pirre Bush-tanager *C. inornatus*, Green-naped Tanager *Tangara fusca* and Pirre Warbler *Basileuterus ignotus*.

## Methods and results

To assess which of these species would qualify as threatened, the use of a geographic information system was employed to calculate the areas of the various Darién upland areas from contours published as part of the Digital Chart of the World, and also on the (1994) Instituto Geográfico Nacional "Tommy Guardia" map of the region. The highlands involved (see Map), and their various areas of extent are: the Tacarcuna ridge, comprising Cerro Tacarcuna and Cerro Mali, and totalling c.140 km<sup>2</sup> above c.1,200 m (and up to 1,875 m); the Pirre ridge, comprising Cerro Pirre and the Alturas de Nique, and covering 44 km<sup>2</sup> above 1,200 m (and up to c.1,700 m); and the Cerros de Quía, just 22 km<sup>2</sup> in extent above 1,000 m. It should be noted that these area calculations differ from the various inconsistent figures used in Alvarez-Cordero *et al.* (1994).

As the species being assessed have unique altitudinal distributions, the area calculations for the highlands were modified to compensate for the upper and lower limits of these distributions, thus producing a more accurate estimate of the area occupied by each species within each highland zone. Four species, Tacarcuna Wood-quail, Beautiful Tree-runner, Tacarcuna Tapaculo and Pirre Warbler, were found to occupy areas of c.100 km<sup>2</sup> or less, and thus qualify as globally threatened. Details of these four additions to the threatened species list are given below.

Tacarcuna Wood-quail *Odontophorus dialeucos*

This terrestrial forest species is currently known only from Cerro Mali and Cerro Tacarcuna at the southern end of the Serranía del Darién, in Panama and adjacent Colombia. It was discovered as recently as 1963, and has subsequently been found fairly common on the slopes of the Tacarcuna ridge between 1,200 and 1,450 m (Wetmore 1965), although Ridgely and Gwynne (1989) report that it occurs above 1,050 m. This wood-quail is a little-known resident of humid, subtropical forest-floor undergrowth (although one individual, when flushed, flew to a perch 5 m above the ground), occurring in pairs or small groups of 6–8 individuals (Wetmore 1965, Hilty and Brown 1989, Ridgely and Gwynne 1989).

Beautiful Treerunner *Margarornis bellulus*

This species is confined to the highland cloud-forests of the Tacarcuna ridge (both Cerro Tacarcuna and Cerro Mali), Cerro Pirre and Cerro Quía in Panama, although birds have been recorded virtually on the Colombian border on both Cerro Quía and Cerro Tacarcuna and surely occur on their Colombian slopes as well (Wetmore 1972, Ridgely and Gwynne 1989, Ridgely and Tudor 1994). It is not known if the species occurs on the Alturas de Nique. It is apparently rare, occurring in small numbers from 1,350 to 1,600 m (Wetmore 1972, Robbins *et al.* 1985), with an individual found at 900 m on the isolated Cerro Quía (Ridgely and Gwynne 1989). On Cerro Pirre, individual birds have been observed with mixed-species flocks of insectivores, and seen creeping along branches and up vines, probing epiphytic mosses and small bromeliads (Robbins *et al.* 1985).

Vaurie (1980) treated *bellulus* as a subspecies of Pearled Treerunner *M. squamiger*, and others have also questioned its specific status (e.g. Ridgely and Tudor 1994).

Tacarcuna Tapaculo *Scytalopus panamensis*

The Tacarcuna Tapaculo is confined to the undergrowth of montane forest and forest borders on the slopes of Cerro Tacarcuna and the adjacent Cerro Mali, in both Panama and Colombia (Wetmore 1972, Ridgely and Tudor 1994). The species occurs between 1,100 and 1,460 m where it has been found to be common (at least by voice), and usually in pairs, low down or on the forest floor (Wetmore 1972, Ridgely and Gwynne 1989, Ridgely and Tudor 1994).

Pirre Warbler *Basileuterus ignotus*

The Pirre Warbler is known from both Cerro Pirre and Cerro Tacarcuna, Panama, with recent records from the Colombian slopes of the latter mountain (Hilty and Brown 1986). It inhabits low to middle levels (2–10 m) of humid montane elfin forest, primarily above 1,350 m (to 1,650 m), but apparently also as low as 1,200 m (Ridgely and Gwynne 1989, Ridgely and Tudor 1989). Although Ridgely and Gwynne (1989) described it as uncommon, Robbins *et al.*

(1985) found it to be fairly common above 1,400 m on Cerro Pirre, with birds seen or heard daily in fairly small numbers, foraging in pairs and groups of up to four individuals, typically apart from other species, but occasionally in association with Pirre Bush-tanager *Chlorospingus inornatus* and other birds.

## Discussion

Whilst the area of occupancy for each species was calculated conservatively, the Darién highlands are ornithologically poorly known. Thus it remains unclear to what extent the four species are distributed throughout the Tacarcuna ridge: most records come from a relatively small area around and between Cerro Tacarcuna and Cerro Mali. Similarly, it is unrecorded whether the Beautiful Treerunner and Pirre Warbler, both known from Cerro Pirre, have been found on the contiguous Alturas de Nique. There is an obvious need for targeted survey work to illuminate the situation.

The Tacarcuna ridge, Pirre ridge and Cerros de Quía have recently been highlighted as important for the conservation of two threatened species occurring on their lower slopes and surrounding foothills, namely Chocó Tinamou *Crypturellus kerriae* and Speckled Antshrike *Xenornis setifrons* (Wege and Long 1995), but the addition to the Red List of four species from the highland forests emphasizes the importance of the entire ecosystem in this region for biodiversity conservation.

The ranges of all four "new" threatened highland endemics fall within the boundaries of the Darién National Park, which embraces almost 5,800 km<sup>2</sup> of lowland and highland forest along the border with Colombia (IUCN 1992). This park has also been designated a Biosphere Reserve and World Heritage Site (IUCN 1992). In neighbouring Colombia, the (720 km<sup>2</sup>) Los Katíos National Park is contiguous with the Darién National Park and nominally protects the Colombian portion of the Tacarcuna ridge.

However, in spite of this formal protection, threats to this area include habitat fragmentation, overhunting for subsistence and trade, human interference (mining and recent ecotourism), and habitat loss resulting from clearance for agriculture and cocaine plantations (and possibly from biocides used to control the cocaine plantations) (Alvarez-Cordero *et al.* 1994, Dinerstein *et al.* 1995). The proposed Pan-American highway link through Darién could have long-term, profoundly detrimental effects on all forest in this area (W. Adsett *in litt.* 1993). The importance of this area for biodiversity conservation, including at least six threatened bird species and 31 with restricted ranges, cannot be emphasized enough, and warrants the development of active conservation management schemes to control these threats.

## References

- Alvarez-Cordero, E., de Samudio, J., Márquez Reyes, C. and Ellis, S. eds. (1994) Conservation assessment and management plan (CAMP) workshop for bird and mammal species endemic to Panama. Panama City, Panama 28–30 November 1994. Participants' first draft.

- Collar, N. J., Gonzaga, L. P., Krabbe, N., Madroño Nieto, A., Naranjo, L. G., Parker, T. A. and Wege, D. C. (1992) *Threatened birds of the Americas: the ICBP/IUCN Red Data Book*. Cambridge, U.K.: International Council for Bird Preservation.
- Collar N. J., Crosby, M. J. and Stattersfield, A. J. (1994) *Birds to watch 2: the world list of threatened birds*. Cambridge, U.K.: BirdLife International (BirdLife Conserv. Ser. No.4).
- Dinerstein, E., Olson, D. M., Graham, D. J., Webster, A. L., Primm, S. A., Bookbinder, M. P. and Ledec, G. (1995) *A conservation assessment of the terrestrial ecoregions of Latin America and the Caribbean*. Washington, D.C.: World Bank and World Wildlife Fund.
- Hilty, S. L. and Brown, W. L. (1986) *A guide to the birds of Colombia*. Princeton, New Jersey: Princeton University Press.
- IUCN (1992) *Protected areas of the world: a review of national systems, Vol. 4. Nearctic and Neotropical*. Gland, Switzerland and Cambridge, U.K.: International Union for Conservation of Nature and Natural Resources.
- IUCN (1994) *IUCN Red List Categories, as approved by the 40th meeting of the IUCN Council Gland, Switzerland*. [Gland, Switzerland]: IUCN The World Conservation Union.
- Ridgely, R. S. and Gwynne, J. A. (1989) *A guide to the birds of Panama with Costa Rica, Nicaragua, and Honduras*. Second edition. Princeton: Princeton University Press.
- Ridgely, R. S. and Tudor, G. (1989) *The birds of South America, 1*. Austin: University of Texas Press.
- Ridgely, R. S. and Tudor, G. (1994) *The birds of South America, 2*. Austin: University of Texas Press.
- Robbins, M. B., Parker, T. A. and Allen, S. E. (1985) The avifauna of Cerro Pirre, Darién, eastern Panama. Pp.198–232 in P. A. Buckley, M. S. Foster, E. S. Morton, R. S. Ridgely and F. G. Buckley, eds. *Neotropical ornithology*. Washington, D.C.: American Ornithologists' Union (Orn. Monogr. 36).
- Stattersfield, A. J., Crosby, M. J., Long, A. J. and Wege, D. C. (in prep.) *A global directory of Endemic Bird Areas*. Cambridge, U.K.: BirdLife International (BirdLife Conserv. Ser.).
- Vaurie, C. (1980) Taxonomy and geographical distribution of the Furnariidae (Aves, Passeriformes). *Bull. Amer. Mus. Nat. Hist.* 166 (1).
- Wege, D. C. and Long, A. J. (1995) *Key Areas for threatened birds in the Neotropics*. Cambridge, U.K.: BirdLife International (BirdLife Conserv. Ser. 5).
- Wetmore, A. (1965) *Birds of the Republic of Panamá*. Washington, D.C.: Smithsonian Institution Press (Smithson. Misc. Coll. 150, Part 1).
- Wetmore, A. (1972) *Birds of the Republic of Panamá*. Washington, D.C.: Smithsonian Institution Press (Smithson. Misc. Coll. 150, Part 3).

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