

## Birds of Mata Estrela private reserve, Rio Grande do Norte, Brazil

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As aves das florestas costeiras do Rio Grande do Norte são muito pouco conhecidas. Estas florestas, mais secas que formações mais meridionais, estão no extremo norte do bioma Mata Atlântica e são de considerável interesse biogeográfico. Mata Estrela, uma reserva privada com cerca de 2.000 ha no extremo sul do litoral potiguar, é considerada a maior área remanescente de floresta no estado. Um breve levantamento realizado na área em fevereiro de 2003 mostrou a presença de 72 espécies de aves, incluindo extensões de distribuição para *Xiphorhynchus guttatus*, *Conopophaga melanops*, *Myrmotherula luctuosa* e outras espécies. Uma visita anterior em 2001 mostrou outras 12 espécies na área e florestas próximas, incluindo *Herpsilochmus pectoralis*. A presença de *Tangara fastuosa* no Rio Grande do Norte não foi confirmada por este trabalho. A avifauna local é comparativamente depauperada, tendo sido detectada a segregação de pares de espécies cogenéricas (*Hemitriccus* spp., *Conopophaga* spp. e *Thryothorus* spp.) entre áreas florestadas e a restinga próxima.

With the exception of those naturalists active during the 17th century Dutch occupation of north-east Brazil, and the brief stays of William Swainson and William Forbes in Pernambuco and Paraíba in the 19th century, the coastal forests north of the rio São Francisco received serious ornithological attention only in the early 20th century, and it was not until after 1930 that systematic collecting demonstrated these forests to harbour several endemic taxa and to be a centre of endemism (the Pernambuco centre)<sup>2,3,5</sup>. Remarkably, several new bird species were described from the region only in the 1980s<sup>5</sup>.

Far from being a remote and unpopulated region, north-east Brazil was the first part of the country to witness the successful establishment of large-scale sugarcane plantations, and the 500 years of intensive land occupation have reduced the forested area of the Pernambuco centre to less than 4% of its original extent<sup>2,4</sup>.

Due to the widespread loss of habitat and late interest in the biota of the Atlantic Forest of north-east Brazil, several areas remain blank spots in our ornithological knowledge. The coastal forest of the small state of Rio Grande do Norte is one such area, as it was never visited by naturalists and museum expeditions of the past, and very little information is available on its birds. Indeed, there is only one published work on the fauna, including birds, of the Parque das Dunas, a mostly sand dune and restinga reserve near Natal<sup>1</sup>, the state capital, and a very popular tourist destination.

Here, I report brief observations made at Mata Estrela, a private reserve at Baía Formosa (06 22'S 35 00'W), on the southern border of the state, and in other forest fragments in the same area. My aims are to provide a preliminary account of bird species present there and to stimulate further work on the avifauna of Rio Grande do Norte. Baía Formosa first appeared in the ornithological literature as a

locality for Pectoral Antwren *Herpsilochmus pectoralis*, which was reported to be common there<sup>7</sup>. It has also been suggested that the threatened Seven-coloured Tanager *Tangara fastuosa* occurs at Mata Estrela<sup>6</sup>. The presence of these species makes Baía Formosa a potential Important Bird Area.

Baía Formosa is just 80 km south of Natal and is fast becoming a popular tourist destination as areas closer to the capital swiftly become spoiled and overcrowded. The town has several accommodation options, and the forest and dunes are within walking distance. Mata Estrela reserve runs parallel to the ocean and includes an area of sand dunes covered by scrub and forest restinga (81.64 ha), lagoons on dune depressions (69.7 ha) and semideciduous forest (1,888 ha). The reserve constitutes the remnant of a larger area cleared for state-subsidised sugarcane plantations, and was decreed as a Reserva Particular do Patrimônio Natural (RPPN) in March 2000.

The 'Atlantic' forests of Rio Grande do Norte are very different from those further south in Alagoas and Pernambuco, being lower, drier and lacking the 'Amazonian' character of the latter. The soils are very sandy and there is very little surface water, except for ponds and marshes in dune valleys. These forests can be considered transitional between humid Atlantic forest and drier cerrado and *caatinga*. Scattered cerrado patches (locally known as *tabuleiros*) still remain in eastern Rio Grande do Norte and adjacent Paraíba, and some that I visited only 5–10 km south of Baía Formosa along the road to João Pessoa held species such as Spotted Nothura *Nothura maculosa*, Red-winged Tinamou *Rhynchotus rufescens*, Rusty-backed Antwren *Formicivora rufa*, Wedge-tailed Grass-finch *Emberizoides herbicola*, Grassland Sparrow *Ammodramus humeralis*, Pearly-vented Tody-tyrant *Hemitriccus margaritaceiventer* and Capped

**Table 1.** Birds recorded at the Mata Estrela reserve, Rio Grande do Norte, north-east Brazil in February 2003. F = forest, D = dune scrub, W = ponds, lagoons, M = gardens, urban areas, sugarcane plantations; Common (C): recorded daily in some numbers (>10 individuals) in appropriate habitat; Fairly Common (F): a few individuals (1–9) recorded daily in appropriate habitat; Uncommon (U): few individuals recorded in 2–4 days; R: lone individual or small group recorded only once. Evidence: S = sight record, V = vocalisation tape-recorded, P = photographed.

English name	Scientific name	Habitat	Abundance	Evidence
Small-billed Tinamou	<i>Crypturellus parvirostris</i>	D	F	V
Black Vulture	<i>Coragyps atratus</i>	M	C	S
Turkey Vulture	<i>Cathartes aura</i>	M	F	S
Lesser Yellow-headed Vulture	<i>Cathartes burrovianus</i>	M	C	S
Roadside Hawk	<i>Rupornis magnirostris</i>	F, D	F	S, V
Short-tailed Hawk	<i>Buteo brachyurus</i>	M	R	S
Laughing Falcon	<i>Herpetotheres cachinnans</i>	F	F	V
Barred Forest-falcon	<i>Micrastur ruficollis</i>	F	U	V
Grey-necked Wood-rail	<i>Aramides cajanea</i>	F	F	V
Collared Plover	<i>Charadrius collaris</i>	W	R	S
Semipalmated Plover	<i>Charadrius semipalmatus</i>	W	R	S
Spotted Sandpiper	<i>Actitis macularia</i>	W	R	S
Pale-vented Pigeon	<i>Columba cayennensis</i>	F	R	S
Ruddy Ground-dove	<i>Columbina talpacoti</i>	M	C	S
White-tipped Dove	<i>Leptotila verreauxi</i>	F	C	S, V
Orange-winged Parrot	<i>Amazona amazonica</i>	F	F	S, V
Pearly-breasted Cuckoo	<i>Coccyzus euleri</i>	F	R	S
Squirrel Cuckoo	<i>Piaya cayana</i>	F	F	S, V
Smooth-billed Ani	<i>Crotophaga ani</i>	M, D	C	S
Guira Cuckoo	<i>Guira guira</i>	M	C	S
Common Potoo	<i>Nyctibius griseus</i>	M	R	V
Reddish Hermit	<i>Phaethornis ruber</i>	F	U	S, P
Swallow-tailed Hummingbird	<i>Eupetomena macroura</i>	F	R	S
Glittering-bellied Emerald	<i>Chlorostilbon aureoventris</i>	F	R	S, P
Blue-crowned Trogon	<i>Trogon curucui</i>	F	F	V
Blue-crowned Motmot	<i>Momotus momota</i>	F	F	V
Green-barred Woodpecker	<i>Colaptes melanochloros</i>	F	U	S
Blond-crested Woodpecker	<i>Celeus flavescens</i>	F	R	S, V
Little Woodpecker	<i>Veniliornis passerinus</i>	F	R	S
Great Antshrike	<i>Taraba major</i>	D	U	V
Planalto Slaty-antshrike	<i>Thamnophilus pelzelni</i>	F	C	S, V, P
White-fringed Antwren	<i>Formicivora grisea</i>	F, D	C	S, V, P
Grey-flanked Antwren	<i>Myrmotherula luctuosa</i>	F	C	S, V, P
Black-capped Antwren	<i>Herpsilochmus atricapillus</i>	F	C	S, V
Rufous-winged Antwren	<i>Herpsilochmus rufimarginatus</i>	F	C	S, V
Plain Antwren	<i>Dysithamnus mentalis</i>	F	C	S, V, P
Black-cheeked Gnatcatcher	<i>Conopophaga melanops</i>	F	F	S, V
Rufous (Ceará) Gnatcatcher	<i>Conopophaga (lineata) cearae</i>	D	F	S
Sooty-fronted Spinetail	<i>Synalaxis frontalis</i>	D	F	V
Plain Xenops	<i>Xenops minutus</i>	F	F	S, V
Buff-throated Woodcreeper	<i>Xiphorhynchus guttatus</i>	F	F	S
Southern Beardless-tyrannulet	<i>Camptostoma obsoletum</i>	F	U	V
Yellow-bellied Elaenia	<i>Elaenia flavogaster</i>	F, D	C	V
Pearly-vented Tody-tyrant	<i>Hemitriccus margaritaceiventer</i>	D	F	S, V
White-eyed Tody-tyrant	<i>Hemitriccus zosterops</i>	F	C	S, V
Yellow-breasted Flycatcher	<i>Tolmomyias flaviventris</i>	F	C	S, V
Black-tailed Flycatcher	<i>Myiobius atricaudus</i>	F	U	S, P
White-throated Spadebill	<i>Platyrinchus mystaceus</i>	F	F	S, P
Tropical Kingbird	<i>Tyrannus melancholicus</i>	F, D, M	C	S
Blue-backed Manakin	<i>Chiroxiphia pareola</i>	F	C	S, V, P
Pale-bellied Tyrant-manakin	<i>Neopelma pallescens</i>	F, D	F	S, V, P
Grey-breasted Martin	<i>Progne chalybea</i>	M	C	S
Barn Swallow	<i>Hirundo rustica</i>	M	C	S
Southern Rough-winged Swallow	<i>Stelgidopteryx ruficollis</i>	M	C	S
Moustached Wren	<i>Thryothorus genibarbis</i>	F	U	V
Long-billed Wren	<i>Thryothorus longirostris</i>	D	R	S, V
House Wren	<i>Troglodytes musculus</i>	M, D	C	S, V
Tropical Gnatcatcher	<i>Poliophtila plumbea</i>	D	F	S
Pale-breasted Thrush	<i>Turdus leucomelas</i>	F	F	S, V
Rufous-browed Peppershrike	<i>Cyclarhis gujanensis</i>	F, D	F	S, V

Red-eyed Vireo	<i>Vireo olivaceus</i>	F	C	S, V
Rufous-crowned Greenlet	<i>Hylophilus amaurocephalus</i>	F	U	S
Flavescent Warbler	<i>Basileuterus flaveolus</i>	F	C	S, V
Bananaquit	<i>Coereba flaveola</i>	F	C	S, V
White-lined Tanager	<i>Tachyphonus rufus</i>	F, D	R	S
Palm Tanager	<i>Thraupis palmarum</i>	M	C	S
Purple-throated Euphonia	<i>Euphonia chlorotica</i>	F, D	F	S, V
Burnished-buff Tanager	<i>Tangara cayana</i>	F, D	R	S
Blue Dacnis	<i>Dacnis cayana</i>	F	U	S, P
Red-legged Honeycreeper	<i>Cyanerpes cyaneus</i>	F	F	S, P
Yellow-bellied Seedeater	<i>Sporophila nigricollis</i>	D	R	S
Pectoral Sparrow	<i>Arremon taciturnus</i>	F	F	S, V

Seedeater *Sporophila bouvreuil*. The biogeography of these cerrado enclaves deserves further attention.

The arboreal component of the semideciduous forests in Rio Grande do Norte reaches a mean height of 10–12 m, and common species include *Apuleia leiocarpa*, *Buchenavia capitata*, *Byrsonima gardneriana*, *B. sericea*, *Coccoloba cordata*, *Tapirira guianensis*, *Pouteria* aff. *littoralis* and *Luehea paniculata*. At clearings in wetter areas, *Cecropia* sp. and *Didymopanax morototoni* are common, while at the edges *Plathymenia foliolosa*, *Anacardium occidentale*, *Hancornia speciosa*, *Campomanesia dichotoma*, *Hirtella racemosa* and *Guettarda platypoda* are very common. The last four species are common in cerrado. A striking characteristic is the relative lack of bromeliads, other epiphytes and large lianas, except some climbing orchids *Vanilla* sp., and shrubs, *Canavalia* sp. and *Norantea* sp. (R. Cielo *in litt.*). The forest of Mata Estrela also contains an abundance of the threatened Brazilwood *Caesalpinia echinata* and some large fig trees *Ficus gomelleira*.

I first visited the Baía Formosa area on 19–21 May 2001 when I briefly explored forests near Goianinha (Usina Estiva), c.40 km north of Baía Formosa on the road to Natal, and Mata Estrela. More detailed field work at Mata Estrela was conducted on 28 February–7 March 2003, with c.30 hours spent in the forest and scrub restinga near the town. Most observations were conducted soon after dawn, with a few late-afternoon observations. Observations were made using 8 x 20 binoculars and vocalizations checked against reference recordings. Playback was used to check some species identifications. Photographs were taken when possible. I mostly worked the principal tracks (Trilha da Gameleira and Trilha do Pau-brasil) through the forest, which start at the main entrance, where a small fee is payable.

Vocal activity was not intense and several species were seen in family groups with young, namely Grey-flanked Antwren *Myrmotherula luctuosa*, Planalto Slaty-antshrike *Thamnophilus pelzelni*, White-fringed Antwren *Formicivora grisea* and Flavescent Warbler *Basileuterus flaveolus*.

I recorded 72 species during my 2003 visit to Baía Formosa. The avifauna appeared obviously

impoverished, with a general lack of the larger species favoured by poachers (such as cracids and tinamous) and the cagebird trade. I observed many Tropical Mockingbirds *Mimus gilvus* in cages in the town, but none in the restingas. An interesting exception is the small population (6–8 individuals) of Orange-winged Parrot that persists in the reserve. These were the only psittacids I observed.

I found no evidence of *Tangara fastuosa* occurring in the area, the only recorded congeneric being the open-country Burnished-buff Tanager *T. cayana*. The commonest tanager was Red-legged Honeycreeper *Cyanerpes cyaneus*, with flocks with 5–10 birds congregating at fruiting *Clusia* trees in transitional areas between forest and restinga.

The avifauna includes few of the species found in more humid forests further south. Notable exceptions are Grey-flanked Antwren, Rufous-winged Antwren *Herpsilochmus rufimarginatus*, Plain Antwren *Dysithamnus mentalis*, Black-cheeked Gnateater *Conopophaga melanops*, White-eyed Tody-tyrant *Hemitriccus zosterops*, White-throated Spadebill *Platyrinchus mystaceus* and Blue-backed Manakin *Chiroxiphia pareola*. Most are common in Mata Estrela, and their discovery represents range extensions. Many of the commonest species are more typical of drier forests at the transition between Atlantic Forest or even cerrado and *caatinga*. Among these are: Planalto Slaty-antshrike, White-fringed Antwren, Black-capped Antwren *Herpsilochmus atricapillus* and Pale-bellied Tyrant-manakin *Neopelma pallescens*.

One interesting feature observed during my 2003 visit were canopy-foraging mixed-species flocks consisting of pairs and family groups of Grey-flanked Antwren, White-fringed Antwren, Rufous-winged Antwren, Black-capped Antwren, Planalto Slaty-antshrike and Plain Antwren, with the occasional Blue-backed Manakin and White-eyed Tody-tyrant following them. This unlikely mix demonstrates the transitional character of the forests.

Interestingly, I failed to find *Herpsilochmus pectoralis* in 2003, although a pair near the warden post was among the first species to be noted in 2001, and I also observed the species in forest patches further north during the latter year. It has been



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Figure 1. Reddish Hermit *Phaethornis ruber* (Arthur Grosset)

Figure 2. Planalto Slaty-antshrike *Thamnophilus pelzelni* (Arthur Grosset)

Figure 3. Laughing Falcon *Herpotheres cassinans* (Arthur Grosset)

Figure 4. Pale-bellied Tyrant-manakin *Neopelma pallescens* (Arthur Grosset)

Figure 5. Burnished-buff Tanager *Tangara cayana* (Bo L. Christiansen)

Figure 6. Swallow-tailed Hummingbird *Eupetomena macroura* (Bo L. Christiansen)

suggested that the species prefers taller restinga, a habitat I did not visit. Other species found at Mata Estrela in 2001 but not in 2003 were Flame-crested Tanager *Tachyphonus cristatus* and an *Accipiter* (probably *erythronemius*).

Other species recorded in northern forest fragments and edges not found at Mata Estrela were Picui Ground-dove *Columbina picui*, Rufous-tailed Jacamar *Galbula ruficauda*, Rufous-breasted Hermit *Glaucis hirsuta*, Versicoloured Emerald *Amazilia versicolor* (the local taxon has a bluish chest very like Sapphire-spangled Emerald *A. lactea*), Barred Antshrike *Thamnophilus doliatus*, Straight-billed Woodcreeper *Dendroplex picus*, White-crested Tyrannulet *Serpophaga subcristata*, Stripe-necked Tody-tyrant *Hemitriccus striaticollis* and Red-headed Manakin *Pipra rubrocapilla*. Most, if not all, of these probably occur at Mata Estrela and were not located due to their patchy distributions or a lack of fortune or vocal activity.

My brief exploration of the scrubby *restingas* covering the sand dunes adjoining the forest suggested some species-pairs segregate by habitat. Forest taxa such as Black-cheeked Gnatcatcher, White-eyed Tody-tyrant and Moustached Wren, were replaced in the dunes by Rufous (Ceará) Gnatcatcher *Conopophaga (lineata) cearae* (in denser thickets in narrow dune depressions), Pearly-vented Tody-tyrant and Long-billed Wren *Thryothorus longirostris* (the distinctive form *bahiae*). Some of those species using the scrubby *restingas* also occur in xeric *caatinga* (Barred Antshrike, Pearly-vented Tody-tyrant, Tropical Gnatcatcher *Polioptila plumbea* and Long-billed Wren), which is unsurprising given their structural similarities, but nonetheless worthy of note.

These results are clearly preliminary and much work is needed on the avifauna of Rio Grande do Norte, from thorough inventories of different localities to a study of their biogeography and taxonomic status of some populations. I hope this paper will prove to be an incentive towards further research.

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## References

1. Freire, A.V. (1997) *Fauna potiguar*. Natal: Ed. Universidade Federal do Rio Grande do Norte.
2. Núcleo de Biodiversidade da Universidade Federal de Pernambuco (2000) Análise de prioridades para a conservação das ecorregiões florestais costeiras de Pernambuco e florestas do interior de Pernambuco. Report to WWF Brasil.
3. Pacheco, J. F. (2000) A ornitologia descobre o sertão: um balanço do conhecimento da avifauna da caatinga dos primórdios ao anos 1950. In: Straube, F. C., Argel-de-Oliveira, M. M. & Cândido Junior, J. F. (eds.) *Ornitologia brasileira no século XX*. Curitiba: Sociedade Brasileira de Ornitologia.
4. Silva, J. M. C. & Tabarelli, M. (2000) Tree species impoverishment and the future flora of the Atlantic forest of northeast Brazil. *Nature* 404: 72–74.
5. Silveira, L. F., Olmos, F. & Long, A. J. (2003) Birds in Atlantic Forest fragments in north-east Brazil. *Cotinga* 20: 32–46.
6. Silveira, L. F., Olmos, F., Roda, S. A. & Long, A. J. (2003) Notes on the Seven-coloured Tanager *Tangara fastuosa* in north-east Brazil. *Cotinga* 20: 82–88.
7. Teixeira, D. M., Otoch, R., Luigi, G., Raposo, M. A. & Almeida, A. C. C. (1993) Notes on some birds from northeastern Brazil (5). *Bull. Brit. Orn. Club* 113: 48–52.

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