



Bird conservation in the Paraguayan Atlantic Forest

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Introduction

The Fifth Neotropical Ornithological Congress took place in Paraguay (one of South America's best-hidden surprises) in August this year. H. von Ihering's words of 90 years ago still hold true: "the ornithological exploration of the Republic of Paraguay has been achieved with greater difficulties than that of any other South American country". Today, with globally important populations of many Atlantic Forest endemics and great potential for future discoveries, Paraguay is still urgently in need of further detailed ornithological survey work.

The Atlantic Forest of south-east Brazil, north-east Argentina and eastern Paraguay is one of the highest global conservation priorities⁶. Only 6% of forest remains in the region with as little as 2% of this unique forest-type in a virgin state¹¹. The biological importance of the Atlantic Forest is well known. The region has long been defined as a centre of avian endemism, with at least 214 endemic species⁹, marked by an asterisk (*) in the following text. ICBP⁶ identified eight Endemic Bird Areas (EBAs) within the Atlantic Forest region, of which six receive a "critical" rating for biological endemism and/or degree of threat. Moreover, the Atlantic Forest holds some 46 species under threat of global extinction³.

Only 15% of the Paraguayan Atlantic Forest remains, and the threats to these forest remnants are numerous⁸. The main cause of forest loss has been indiscriminate clearance for agriculture, both for cattle-ranching and arable-farming. Landowners clear forest to prevent the settling of campesinos in "unused" forest areas. Flooding for hydro-electric dams, especially along the Río Paraná, has also destroyed large areas of forest. The export of wood from Paraguay was prohibited in 1972, but illegal export still occurs, especially in the north-east of the country. These problems are compounded by the fact that Paraguay also has the highest per capita fuel wood consumption of any South American country.

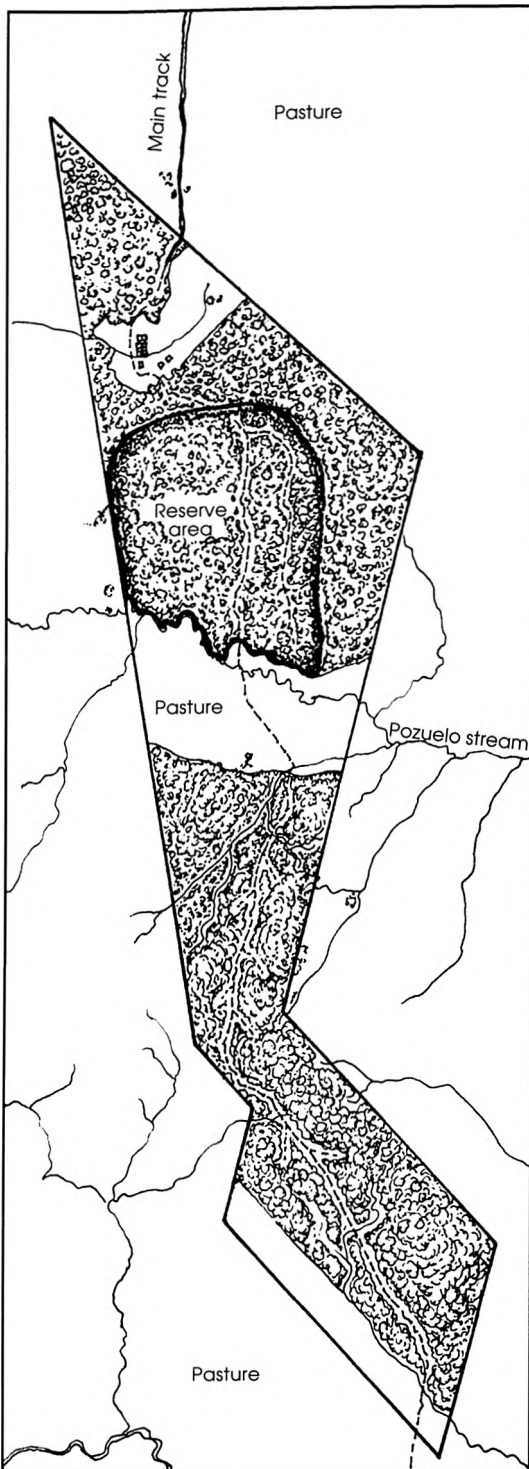
Ornithological importance of the Paraguayan Atlantic Forests

The forests of eastern Paraguay hold 11 globally threatened and 22 near-threatened species, of which 10 and 18 respectively are endemic to the Atlantic Forest^{1,3}. In total, 72 endemic Atlantic Forest species are known from Paraguay². This includes taxa representative of three Endemic Bird Areas⁶, namely: B52, the South-east Brazilian lowlands; B53 the South-east Brazilian mountains; and B54, the South-east Brazilian *Araucaria* forest.

Despite its high rate of deforestation, Paraguay provides one of the best opportunities for the conservation of birds endemic to the western arc of the Atlantic Forest. With extensive deforestation in neighbouring Brazil, the Paraguayan forests now hold globally important populations of these endemics. In the austral winter of 1992, Project CANOPY '92, an expedition from the University of Cambridge, spent 11 weeks conducting ornithological and mammalogical surveys in remnant tracts of Paraguayan Atlantic Forest. In total, we recorded 356 species of birds, including 67 Atlantic Forest endemics.

With 97% of the land area in private ownership, the most practical way to preserve the remaining tracts of the Paraguayan Atlantic Forest is the Private Nature Reserve scheme of the Fundación Moisés Bertoni para la Conservación de la Naturaleza (FMB). Under this scheme land-owners designate part of their ranches as protected areas, for which the FMB provides management guidelines. Project CANOPY '92 visited four of these Private Nature Reserves, all of which have now been legally gazetted as reserves. The reserve at Estancia Itabó stands out as the flagship for the scheme, and as a key site for bird conservation in Paraguay.

Estancia Itabó holds the widest variety of Atlantic Forest endemics of any ornithologically studied site in Paraguay, eclipsing even the 63,000 ha of the Reserva Natural del



Estancia Itabó Private Nature Reserve Area 1 : 200,00
Source: FMB 1990

Bosque Mbaracayú (see article in this issue). Itabó thus offers some of the most rewarding birding in Paraguay. In particular, the site holds important populations of threatened species only rarely encountered elsewhere, and the large area of pristine forest at the site hints at further potential for exciting discoveries.

The Private Nature Reserve at Estancia Itabó

Itabó lies 26 km east of Troncal 4, near Puente Kyha at 24°27'S 54°38'W. Access is by the Asunción–Salta de Guirá bus, stopping at Troncal 4, and then catching a colectivo (which run daily, except during rain) to the estancia. Permission to visit the site can be arranged by the FMB (Av. Rodríguez de Francia 770, CC 714, Asunción, Paraguay), who can also arrange private transport (jeep or aeroplane) to the site. The ranch covers 11,000 ha (8,000 ha of forest and 3,000 ha of grassland). Accommodation facilities are available at the estancia headquarters, and ecotourism is encouraged. Food can be bought in nearby villages, or at the estancia.

High-quality forest at Itabó, embracing some 3,000 ha, has been declared a Private Nature Reserve, and, due to the presence of so many threatened bird species, the reserve has been identified as a Key Area for conservation in the Neotropics¹⁰. The forest at Itabó



Palmito *Euterpe edulis* at Itabó (Project Canopy '92)

has many extensive stands of giant bamboo, palmito palms *Euterpe edulis* (see below) and tree-ferns. Many streams dissect the forest and several larger rivers flow through the estancia. Birding the forest is easy, with an extensive network of trails branching off a principal access track that runs the length of the ranch. Informative signs around the reserve perform an excellent educational role.

This ranch sets a superb example of sustainable rainforest use. The economic basis of Itabó is the forest itself, in the form of the palmito palm. The tip of the palm is harvested, and sold as delicious palm hearts. The production of palmito is optimal in dense primary forest, and so the forest on the estancia is disturbed as little as possible. With a steady market in Argentina, a growing home market, and the increasing American and European demand for this delicacy, the future of the palmito industry appears healthy.

In total, 231 species of bird have been recorded at Estancia Itabó, although the best time to visit is undoubtedly during the austral winter and early austral spring. At this season, parrots are numerous and easily observed, for example, in August 1992, the threatened **Vinaceous Amazon*** *Amazona vinacea* was often observed feeding on palmito fruits, but fieldwork in December 1994 revealed the species to be less common in the austral summer. This presumably indicates that seasonal movements occur, perhaps in response to the fruiting of the palmitos. A single threatened **Red-spectacled Amazon*** *Amazona pretrei* was recorded in 1992, providing the first confirmed record for Paraguay. A single record of **Blue-winged Macaw** *Ara maracana* in 1992, together with records of up to eight individual birds in December 1994, are important given the species' rarity in Paraguay and its recent elevation to threatened status³. The near-threatened **Pileated Parrot*** *Pionopsitta pileata* is very common, with good numbers of a further seven species of parrot present.

In addition to parrots, in August 1992 large mixed flocks of toucans were recorded feeding on palmito fruits, with **Spot-billed Toucanet** *Selenidera maculirostris*, **Red-breasted Toucan** *Ramphastos dicolorus* and **Chestnut-eared Aracari** *Pteroglossus castanotis* being abundant, and the near-threatened **Saffron Toucanet*** *Bailloni*



Spot-billed Toucanet (Project Canopy '92)



Red-breasted Toucan (Project Canopy '92)

bailloni common. The widespread but increasingly rare **Red-ruffed Fruitcrow** *Pyroderus scutatus*, which seems to be more frequent here than at any other site in Paraguay, often joined these flocks. Palmito fruits are therefore likely to be a very important food source for many frugivorous species at Itabó. Although flocks of toucans were not recorded in December 1994, the above four species were still seen regularly, with Itabó being the best site in Paraguay to see the uncommon **Spot-billed Toucanet**.

Five other threatened species have been recorded at Itabó. During Project CANOPY



R.J.'94

Black-fronted Piping-guan (R Johnson)

'92, **Black-fronted Piping-guan*** *Pipile jacutinga* was recorded on three occasions, involving a total of four individuals. The palmito fruits are thought to comprise a large component of the species' diet¹. The impressive **Helmeted Woodpecker*** *Dryocopus galeatus* was observed regularly, with a minimum of five birds seen in 1992 and at least one pair breeding in 1994. The scarce **São Paulo Tyrannulet*** *Phylloscartes paulistis* was found on two occasions, and a single male **Saffron-cowled Blackbird** *Xanthopsar flavus* was recorded in pasture at Itabó, both in August 1992. Fieldwork in December 1994 by RPC revealed the presence of the critically



Male Purple-winged Ground-dove (Victor Fasano/BirdLife)

endangered **Purple-winged Ground-dove*** *Claravis godefrida*, presumably attracted by the bamboo stands which were flowering at the time. This record is the first from Paraguay during the twentieth century¹. A second bird, also believed to be this species, was heard

calling from deep in a stand of flowering bamboo.

Of the near-threatened species present, **Solitary Tinamou*** *Tinamus solitarius* is relatively common, with birds frequently calling prior to dawn and dusk. **Yellow-browed Woodpecker*** *Piculus aurulentus* has been recorded just twice, reflecting its rarity in Paraguay. The spectacular **Bare-throated Bellbird*** *Procnias nudicollis* was common in August 1992, with up to 20 males holding territory, but was not recorded in December 1994.



Southern Bristle-tyrant (Cath Jeffs/BirdLife)

The striking **Southern Bristle-tyrant*** *Pogonotriccus eximius*, **Bay-ringed Tyrannulet*** *Leptotriccus sylviolus* and the dainty **Creamy-bellied Gnatcatcher*** *Poliophtila dumicola* are all occasionally seen. Interesting raptors include the near-threatened **Black-and-white Hawk-eagle** *Spizastur melanoleucus* and the **Rufous-thighed Kite** *Harpagus diodon*.

The extensive area of primary forest at Itabó also has great potential for interesting discoveries. The Project recorded the first confirmed Paraguayan records of four species at Itabó¹, namely **Scaled Pigeon** *Columba speciosa*, **Black-banded Owl** *Ciccaba huhula*, **Sooty Swift** *Cypseloides fumigatus* and **Rufous-throated Sapphire** *Hylocharis chrysura*, and Ridgely⁷ found the first confirmed Paraguayan record of **Brazilian Pygmy-owl** *Glaucidium minutissimum* at the site. **Grey-rumped Swift** *Chaetura cinereiventris*, of unconfirmed occurrence in Paraguay prior to 1992, is common at Itabó.

The Future

The Atlantic Forest holds the greatest biodiversity of any Paraguayan habitat type, but

is the habitat facing the greatest pressure. The Fifth Neotropical Ornithological Congress in August this year has raised awareness of the importance of conservation in Paraguay. Conservation initiatives, especially the Private Nature Reserves scheme of the FMB, are expanding rapidly, but remain in need of publicity and financial support. The production of a national gazetteer of proposed and existing protected areas⁵ highlights the urgent need for further conservation of Paraguay's forests. The World Parrot Trust, following their successes in the Caribbean, is in the process of launching an environmental education bus which will tour the region's schools. A follow-up expedition to the country, Project YACUTINGA '95, will carry out further bird survey work in the Paraguayan Atlantic Forest during July to December this year.

Perhaps most importantly, attitudes to conservation are becoming increasingly positive, as the country recovers from its dictatorial past. That natural resources should be used sustainably is the key message communicated by the increasing number of environmental education programmes. Environmental concerns are now on the national political agenda, with an increasing pride in the country's natural heritage. A sign erected by the owners of Estancia Itabó provides the best illustration of this:

"La tala del primer arbol es el comienzo de la civilizacion humana. La tala del ultimo es su fin. Recuirdalo!"

"The cut of the first tree was the beginning of civilisation. The cut of the last tree will be the end. Remember that!"

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Appendix 1: The status of interesting species recorded at Estancia Itabó, department Canindeyú, Paraguay

SPECIES	1	2	3	4	5					
Solitary Tinamou <i>Tinamus solitarius</i>	E	N	U	R						
Black-fronted Piping-guan <i>Pipile jacutinga</i>	E	T	R	x						
Black-and-white Hawk-eagle <i>Spizastur melanoleucus</i>		N	R	x						
Spot-winged Wood-quail <i>Odonotophorus capueira</i>	E		R	R						
Slaty-breasted Wood-rail <i>Eulabeornis saracura</i>	E	R	R							
Scaled Pigeon <i>Columba speciosa</i>			R	R						
Purple-winged Ground-dove <i>Claravis godefrida</i>	E	T		R						
Blue-winged Macaw <i>Ara maracana</i>	T		R	R						
Red-and-green Macaw <i>Ara chloroptera</i>			L	x						
Pileated Parrot <i>Pionopsitta pileata</i>	E	N	V	C						
Vinaceous Parrot <i>Amazona vinacea</i>	E	T	V	U						
Red-spectacled Parrot <i>Amazona pretrei</i>	E	T	R	x	B54					
Tawny-browed Owl <i>Pulsatrix koeniswaldiana</i>	E		R	x	B53					
Black-banded Owl <i>Ciccaba huhula</i>			R	x						
Brazilian Pygmy-owl <i>Glaucidium minutissimum</i>	E		R	x						
Long-tailed Potoo <i>Nyctibius aethereus</i>							R		x	
Great Dusky Swift <i>Aerornis senex</i>							R		x	
Sooty Swift <i>Cypseloides fumigatus</i>							R		x	
Grey-rumped Swift <i>Chaetura cinereiventris</i>							C		U	
Scale-throated Hermit <i>Phaethornis eurynome</i>	E						C		U	
Violet-capped Woodnymph <i>Thalurania glaucopsis</i>	E						U		R	
Plovercrest <i>Stephanoxis lalandi</i>	E						C		x	
Rufous-throated Sapphire <i>Hylocharis chrysura</i>							R		R	
Surucua Trogon <i>Trogon surrucura</i>						E	V		C	
Rufous-capped Motmot <i>Baryphthengus ruficapillus</i>	E						V		C	
Spot-billed Toucanet <i>Selenidera maculirostris</i>							V		C	
Red-breasted Toucan <i>Ramphastos dicolorus</i>						E	V		C	
Saffron Toucanet <i>Baillonius bailloni</i>	E	N		C	R					
Yellow-browed Woodpecker <i>Piculus aurulentus</i>	E	N		R	x					
Yellow-fronted Woodpecker <i>Melanerpes flavifrons</i>	E			V	C					
White-spotted Woodpecker <i>Veniliornis spilogaster</i>	E			C	x					
Ochre-collared Piculet <i>Picumnus temmincki</i>	E			C	U	B52				
Helmeted Woodpecker <i>Dryocopus galeatus</i>	E	T		U	R					
Robust Woodpecker <i>Campephilus robustus</i>	E			U	U					
White-throated Woodcreeper <i>Xiphocolaptes albicollis</i>	E			U	C					
Planalto Woodcreeper <i>Dendrocolaptes platyrostris</i>	E			C	U					
Scaled Woodcreeper <i>Lepidocolaptes squamatus</i>	E			R	x					
Lesser Woodcreeper <i>Lepidocolaptes fuscus</i>	E			U	R					
Thrush-like Woodcreeper <i>Dendrocincla turdina</i>	E			U	U					
White-eyed Foliage-gleaner <i>Automolus leucoptthalmus</i>	E			R	U					
Olive Spinetail <i>Cranioleuca obsoleta</i>	E			R	x					

Rufous-capped Spinetail <i>Synallaxis ruficapilla</i>	E		V	U	
Grey-bellied Spinetail <i>S. cinerascens</i>	E		V	C	
Black-capped Foliage-gleaner <i>Philydor atricapillus</i>	E		U	x	
Ochre-breasted Foliage-gleaner <i>P. lichtensteinii</i>	E		V	C	
Tufted Antshrike <i>Mackenziaena severa</i>	E		C	C	
Spot-backed Antshrike <i>Hypodaleus guttatus</i>	E		R	R	
White-shouldered Fire-eye <i>Pyriglena leucoptera</i>	E		R	C	
Bertoni's Antbird <i>Drymophila rubricollis</i>	E		R	x	B53
Streak-capped Antwren <i>Terenura maculata</i>	E		R	R	
Rufous Gnatcatcher <i>Conopophaga lineata</i>	E		U	U	
Red-ruffed Fruitcrow <i>Pyroderus scutatus</i>			C	x	
Bare-throated Bellbird <i>Procnias nudicollis</i>	E	N	V	x	
Blue (Swallow-tailed) Manakin <i>Chiroxiphia caudata</i>	E		U	R	
Greenish Schiffornis <i>Schiffornis virescens</i>	E		U	C	
Drab-breasted Bamboo-tyrant <i>Hemitriccus diops</i>	E		C	C	
Southern Bristle-tyrant <i>Pogonotriccus eximius</i>	E	N	U	x	
Bay-ringed Tyrannulet <i>Leptotriccus sylviolus</i>	E	N	U	x	
São Paulo Tyrannulet <i>Phylloscartes paulistis</i>	E	T	R	x	
Grey-hooded Flycatcher <i>Pipromorpha rufiventris</i>	E		R	R	
Creamy-bellied Gnatcatcher <i>Poliopitila dumicola</i>	E	N	R	x	B52
Rufous-crowned Greenlet <i>Hylophilus poicilotis</i>	E		R	x	
Chestnut-bellied Euphonia <i>Euphonia pectoralis</i>	E		C	C	
Green-headed Tanager <i>Tangara seledon</i>	E		C	U	
Ruby-crowned Tanager <i>Tachyphonus coronatus</i>	E		C	x	
Chestnut-headed Tanager <i>Pyrrhocoma ruficeps</i>	E		R	x	

Indigo Grosbeak <i>Cyanoloxia glaucocaeerulea</i>	E		R	x
Uniform Finch <i>Haplospiza unicolor</i>	E		R	x
Saffron-cowled Blackbird <i>Xanthopsar flavus</i>		T	R	x

Key

1. Atlantic Forest endemics are indicated by an E.
 2. Status according to Collar *et al.*³: T = Threatened; N = Near-threatened.
 3. Status at Estancia Itabó in the austral winter (based on 367 field hours)^{1,7}.
 4. Status at Estancia Itabó in the austral summer (based on 92 field hours: RPC, EZE).
- Indices of abundance: V = very common; C = common; U = uncommon; R = rare; x = not recorded; L = locally reported.
5. EBAs for restricted-range species according to ICBP⁶: B52 = South-east Brazilian lowlands to foothills; B53 = South-east Brazilian mountains; B54 = South-east Brazilian *Araucaria* forest.