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# Editorial

## Um momento especial da ornitologia no Brasil

Há três décadas atrás, a ornitologia no Brasil era especialidade quase exclusiva dos museus de história natural, onde celebrados ornitólogos tais como Olivério Pinto, Helmut Sick e Fernando Novaes (este último ainda em atividade), cujas carreiras iniciaram nos anos 1930–40, centralizavam e lideravam a atividade. Esta tendência foi revertida a partir da década de 1970 quando as pesquisas de aves passaram a ser também desenvolvidas nas universidades brasileiras e tiveram o foco ampliado para outras áreas do conhecimento ornitológico, incluindo aquelas relacionadas à ecologia e comportamento. É sintomático, pois, que a maioria dos ornitólogos em atividade no Brasil não tenham sido diretamente formados por estes mestres—mesmo que obviamente possam ter sido influenciados por um deles em maior ou menor proporção.

O uso afirmar que a ornitologia no Brasil, atualmente, é realizada mesmo além das universidades e se caracteriza justamente pela diversidade de interesses, campos de atuação e um número crescente de pesquisadores. Este novo quadro tem propiciado o aumento do conhecimento biológico específico alusivo aos táxons e faunístico das diversas regiões do país.

A descrição nos últimos anos de diversos novos táxons e a redescoberta de algumas espécies que haviam sido cogitadas como extintas é uma prova explícita de que há muito o que fazer no Brasil, em termos ornitológicos. Portanto, os motivos de celebração deste crescimento da comunidade ornitológica brasileira são mais que justificáveis.

Se no passado o foco de interesse europeu sobre a ornitologia brasileira era sobretudo acadêmico e catalisado na Alemanha, atualmente é verificável que este foco se faz a partir do Reino Unido e está vinculado às interfaces entre a pesquisa, a conservação e o *birdwatching*. As principais instituições responsáveis por este redirecionamento são justamente o Neotropical Bird Club e a BirdLife International e a importância destas no cenário contemporâneo da ornitologia brasileira é paupável e de grande relevância.

Como membro e consultor de ambas as instituições e de seus programas, eu tenho particular satisfação em apresentar e recomendar este número especial de *Cotinga* dedicado às aves do Brasil.

*José Fernando Pacheco*

## A turning point in Brazilian ornithology

Thirty years ago Brazilian ornithology was exclusively the province of natural history museums, where well-known ornithologists like Olivério Pinto, Helmut Sick and Fernando Novaes (the latter still active), whose careers began in the years 1930–40, centred and led research. This tendency was reversed in the 1970s when ornithological research began to be undertaken in Brazil's universities and its focus was extended to other fields of ornithology, including ecology and behaviour. Indicative of this new trend is that most ornithologists working in Brazil today were not directly influenced by these masters, although obviously they may have been influenced by them to a greater or lesser extent.

Today, ornithology in Brazil is also practised outside the universities and it is noteworthy how the fields of specialisation and activity and the number of researchers have all increased. A particular result of the new situation is increased biological knowledge of the distribution of taxa in the diverse regions of the country.

In recent years the description of new taxa and the rediscovery of a number of species which were thought to be extinct is clear proof that much remains to be done in Brazil in ornithological terms. We can be justifiably satisfied at the growth of the ornithological community in Brazil.

If in the past the focus of interest in Brazilian ornithology was mainly academic and was concentrated in Germany, it is clear today that this focus comes from the United Kingdom and is based on an interaction between research, conservation and birdwatching. The principal institutions responsible for this new approach are the Neotropical Bird Club and BirdLife International. Their significance in the contemporary field of Brazilian ornithology is palpable and extremely relevant.

As member of both institutions and consultant for their programmes, it gives me particular satisfaction to present this special edition of *Cotinga* dedicated to the birds of Brazil and I commend it to your attention.

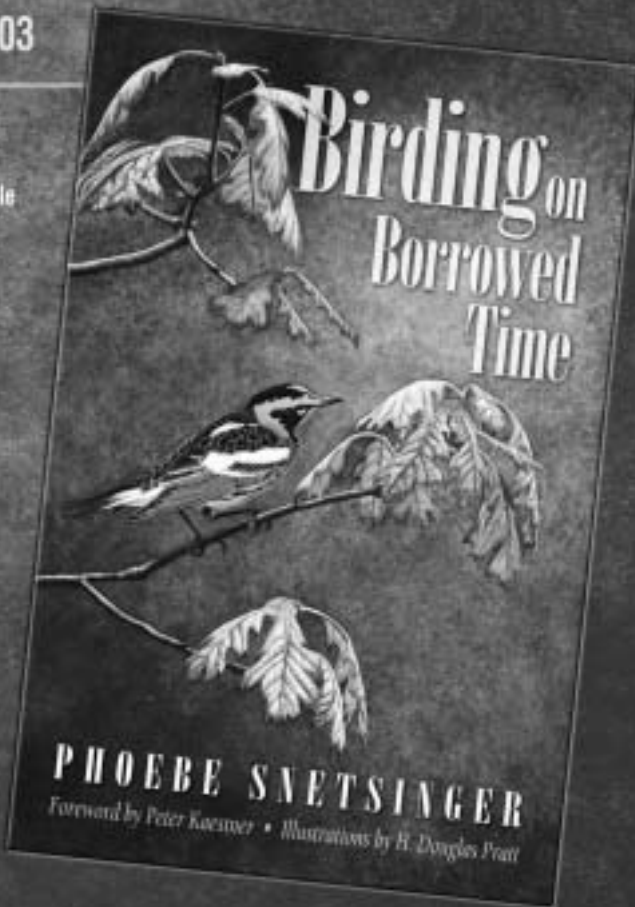
*José Fernando Pacheco*

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# Club News



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## Donations

We would like to acknowledge the following members who have made separate donations since the publication of *Cotinga* 19: Jan Burvenich, Lionel Cartlidge, Kenneth H. Cole, Terence Cooper, Barry Cooper, Shaun P. Coyle, J. M. Dixon, Derek Evans, Keith Fisher, E. Forbes, Richard L. Garrigues, Kenneth Hardy, Ole Lemming, Neil Lukes, Christine Lynn, M. Midgley, S Oldfield, Martyn Overton, Laurie S. Pearl, Philip Rostron, Kathleen Sinclair-Carpenter, Johan H. van Balen and W. M. Wisse.

## Payments in Canadian dollars

Unfortunately, due to increased bank charges, the Club is no longer able to accept any payments in Canadian dollars or US\$ cheques drawn on Canadian banks without US offices. Payment can be made by credit card or US\$ cheques (see above). Alternatively, please add the equivalent of UK£5 to cover the extra costs.

## Promoting the Club

A membership flyer is available and the Club is seeking members to distribute it. Anyone able to help the Club recruit new members in this way should contact the Secretary.

## Sponsored Members

Some Sponsoring Members have nominated a recipient for their sponsorship, but others have not. In this latter case, the Sponsoring Member category permits the Club to enrol members from the region otherwise unable to afford membership. Recipients of Sponsored Membership through the Club are determined by Council, although all Club members are invited to suggest candidates. Members sponsoring specified members are asked to inform the Secretary if they wish to terminate the sponsorship. It would be helpful if Sponsoring Members could inform the recipient if they intend to sponsor them the following year.

## Secure payments over the web

The Club can now offer secure credit payment via our website ([www.neotropicalbirdclub.org](http://www.neotropicalbirdclub.org)). Any member wishing to make credit card payments is advised to use this method.

## Change of address

All members are requested to ensure that they inform the club if they change their address. Due to increasing costs, the Club is unable to supply replacement copies of *Cotinga* if we are not notified of a change of address. In such cases the member will have to purchase the missing issue(s).

## Club merchandise

The Club has the following items for sale:

- T-shirts—available in either grey or bleached cotton (pale cream). M, L and XL, featuring Banded Cotinga (as featured on the cover of *Cotinga* 12) design.
- Field T-shirts—available in dark green or navy blue with Club logo on chest.
- Stickers—either window or surface types.
- Lapel badges.

All items are available from the Sales Officer at the Club address. Please state clearly which colours and sizes are required, and ensure addresses are legible. An order form is included with this issue and more details can be found on the Club website. Please note that we have limited quantities of some items so it would be helpful to include a second choice with the order. Badges and stickers can be sent post free if mailed with copies of *Cotinga* or other merchandise.

## Trinidad & Tobago Checklist

In association with the Trinidad and Tobago Rare Birds Committee, NBC has produced a 36-page, 15-column checklist for Trinidad and Tobago, which includes status codes for each species and details of how to submit records of interest to appropriate bodies. It aims to encourage visiting birdwatchers to keep structured notes that can be easily photocopied and sent to the relevant recording authority following their trip. This list is the first in a series of lists for Neotropical countries that the Club plans to produce in the next few years. The list sells for UK£4.00 or US\$6.00 per copy, plus postage (UK: £1; Europe UK£1.50; Rest of World UK£2/US\$3) and can be obtained from the Sales Officer at the Club

address. Details of a new Venezuela checklist are included with this issue.

### Trip reports

The club now has an archive of trip reports that have generously been provided by members. Many of these can be downloaded from the Club website. Recently the Club was given the rights to the highly regarded trip reports produced by the late Bruce Forrester. The following titles are also available directly from the Club. Members wishing to purchase these or any of the reports listed on the Club website should write to the NBC addresses. Please note that postage is additional, and costs depend on weight and destination.

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NBC wishes to thank the following Corporate Members for 2003: Birdquest, Bird Songs International, Canopy Tower, Lynx Edicions, Sierra Llorona, Subbuteo, Sunbird, Swarovski, WildSounds, and WildWings.

### Help wanted

**Council members**—NBC is run by a small team of volunteers and we are always looking for members to join Council or volunteer their time

in other ways. Meetings take place 3–4 times per annum and generally are held in close proximity to central London. The current Council members possess a wide range of professional backgrounds (being an ornithologist is certainly not a prerequisite!), so if you share a fascination for Neotropical birds and are willing to help the Club, please contact one of its officers, either by e-mail or the UK mailing address.

**Merchandising Officer**—we are seeking someone to administer Club sales; the role will include dealing with mail order enquiries, developing new merchandise, the promotion of new and current stock, and the applicant should preferably be able to attend the AGM and the UK Bird Fair.

**Speakers**—the Club is always looking for speakers for future AGMs; volunteers would be greatly appreciated.

**Legal advisor**—the Club is seeking a volunteer to advise Council on an ad hoc basis on legal matters. Anyone able to offer assistance should contact the Secretary at the Club address.

### E-mail addresses

|            |                                    |
|------------|------------------------------------|
| Secretary  | secretary@neotropicalbirdclub.org  |
| Treasurer  | treasurer@neotropicalbirdclub.org  |
| Chair      | chair@neotropicalbirdclub.org      |
| Membership | membership@neotropicalbirdclub.org |

### Advance notice of the 2004 AGM

The Club AGM will be held on 30 May 2004 at Cley Village Hall, Cley, Norfolk, UK. Details of the meeting will be provided with *Cotinga* 21.

## Advertise with NBC in *Cotinga*

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- Treasurer  
treasurer@neotropicalbirdclub.org
- Chair  
chair@neotropicalbirdclub.org
- Membership  
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Antvireo *Dysithamnus occidentalis* and the Near-Threatened Peruvian Antpitta *Grallaricula peruviana*. The grant will fund the purchase of video equipment to document behaviour at the nests of these poorly known Andean species. Harold and team will seek to locate as many breeding territories for the two species within a 400-ha study area at Yanayacu Biological Station, Ecuador. The team will use estimated breeding densities, nest locations and detailed natural history observations to determine specific habitat requirements and sound conservation practices for their target species.

#### ***Dysithamnus occidentalis* y *Grallaricula peruviana* en Ecuador**

El Consejo a otorgado a Harold Greeney un Premio de Conservación de US\$750 para ayudar a evaluar el uso de hábitat y la ecología reproductiva de *Dysithamnus occidentalis*, considerada Vulnerable, y *Grallaricula peruviana*, Casi-amenazada. El premio financiará la compra de un equipo de video para documentar el comportamiento en los nidos de estas especies andinas poco conocidas. Harold y su equipo esperan localizar cuantos territorios de parejas nidificantes sea posible para estas dos especies, en las 400 ha del área de estudio en la Estación Biológica Yanayacu. El equipo estimará densidad de parejas nidificantes, localización de los nidos, y observaciones de historia natural detalladas para determinar los requerimientos de hábitat específicos y así prácticas de conservación sólidas para estas especies.

#### **Long-wattled Umbrellabird *Cephalopterus penduliger* in Ecuador**

Council has given Diego Mosquera a Conservation Award of US\$1,000 to study the social biology of the Vulnerable Long-wattled Umbrellabird *Cephalopterus penduliger* in the Ecuadorian Chocó, drawing conclusions for its conservation. Based at Bilsa Biological Station, in Esmeraldas Province, Diego will spend one year quantifying and characterising the species' social organisation and mating system, assessing its ecological requirements and considering its potentially critical ecological role in regeneration of altered habitats and maintenance of primary forests.

#### ***Cephalopterus penduliger* en Ecuador**

El Consejo otorgó a Diego Mosquera un Premio de Conservación de US\$1.000 para estudiar la biología social de *Cephalopterus penduliger*, una especie Vulnerable, en el Chocó de Ecuador, y llegar a conclusiones para su conservación. Con base en la Estación Biológica Bilsa en Esmeraldas, Diego pasará un año entero cuantificando y caracterizando la organización social y sistema de apareamiento de esta especie, estimando sus requerimientos ecológicos, y considerando su rol ecológico

potencialmente crítico en la regeneración de los hábitats alterados y manutención del bosque primario.

### **Updates • Novedades • Actualidades**

#### **Horned Lark *Eremophila alpestris peregrina* in Colombia**

In 2002, Iván Darío Valencia of the Universidad Nacional in Bogotá, Colombia, was supported by the NBC Conservation Fund to develop a habitat model for a threatened subspecies of Horned Lark *Eremophila alpestris peregrina*, endemic to the Altiplano Cundiboyacense, in the eastern Andes of Colombia. The remote sensing/GIS model predicted potential habitat areas for the species, which were then surveyed. Thirty-four new populations were found as a result, mostly in the drier altiplano, at 2,185–3,100 m. Horned Larks were found patchily in grasslands, croplands, urban parks and barren areas, in areas with a mosaic of barren ground and short herbaceous vegetation on flat or gently sloping terrain. Four hundred and one individuals were located, from which Iván predicts a Colombian population of less than 1,000. Key threats to the species were identified as: habitat reduction due to urban growth and the expansion of African kikuyu grass *Pennisetum clandestinum*, predation by dogs, seasonality in agricultural habitats, grazing and human movements. Iván considered the national risk status (Endangered) to be correctly evaluated, and recommended conservation measures such as the establishment of reserves with grassland management, modified agricultural practices, population monitoring and environmental education. Iván has followed the project with education work at an urban park in Bogotá, the creation of an Important Bird Area (IBA) at Tominé reservoir, and the production of a documentary video.

#### **La Alondra *Eremophila alpestris peregrina* en el altiplano de Colombia**

En 2002, Iván Darío Valencia, de la Universidad Nacional en Bogotá, Colombia, contó con el apoyo del Fondo de Conservación del CAN para desarrollar un modelo de hábitat de la alondra *Eremophila alpestris peregrina* en el Altiplano Cundiboyacense, Colombia. El modelo, desarrollado con apoyo de Sensores Remotos y Sistemas de Información Geográfica, permitió predecir el hábitat potencial de la especie, y seleccionar áreas a visitar en el campo para verificar la presencia de la misma. Se hallaron 34 nuevas localidades con presencia de la alondra. Estas están situadas en su mayoría en las zonas más secas del Altiplano Cundiboyacense, a 2.185–3.100 m. Se halló a la alondra en pastizales, cultivos, parques urbanos y tierras eriales, en





terrenos con poca pendiente, con un mosaico de vegetación herbácea rala y suelo desnudo. Se censaron 401 individuos, y la población total de la subespecie fue estimada en menos de 1.000. Las amenazas clave sobre la misma son la disminución del hábitat por la expansión del pasto africano Kikuyo *Pennisetum clandestinum* y la urbanización, la fumigación de cultivos, la presencia de perros, la estacionalidad de los hábitats agrícolas, el pastoreo y el tránsito de personas. Iván sugirió entonces mantener a la especie en la categoría de amenaza En Peligro en el nivel nacional. El proyecto recomienda el establecimiento de reservas con manejo de los pastizales, modificación de prácticas agrícolas, cerramientos, monitoreo poblacional y acciones de educación ambiental. Actualmente se están gestionando acciones de cerramiento y educación ambiental en un parque urbano de Bogotá, la creación de un AICA (Área Importante para la Conservación de las Aves) en el embalse de Tominé, y la producción de un video documental.

**Harpy Eagle *Harpia harpyja* in Ecuador**

In 2002, Council made a NBC Conservation Award to a team led by Ruth Muñoz López for its ongoing work on the ‘Biology and conservation of Harpy Eagle *Harpia harpyja* in Ecuador’. Since 2000, Ruth’s team has been pursuing the conservation of this emblematic, globally Near-Threatened raptor. In September 2002, Ruth brought together key stakeholders for a workshop to produce a national conservation strategy for *Harpia*. Her team has been working with indigenous people to monitor two nests of *Harpia*, providing new data on behaviour and diet. Ruth’s educational activities have culminated in devising and running the first-ever ‘Harpy Eagle Festival’, in Puyo city, Pastaza, in May 2003.

**La Harpía *Harpia harpyja* en Ecuador**

En 2002 el Consejo otorgó un Premio de Conservación CAN al equipo liderado por Ruth Muñoz López para apoyar su trabajo sobre la ‘Biología y conservación de la Harpía *Harpia harpyja* en Ecuador’. Desde 2000, el equipo de Ruth viene aspirando a la conservación de este ave rapaz emblemática y globalmente Casi-amenazada. En septiembre de 2002, Ruth juntó a los actores clave en una reunión con el propósito de producir una estrategia nacional de conservación para la Harpía. El equipo de Ruth viene trabajando con tribus indígenas para monitorear dos nidos de Harpía, juntando nuevos datos sobre su comportamiento y dieta. Las actividades educacionales de Ruth han culminado programando y llevando a cabo el primer ‘Festival de la Harpía’, en Puyo, Pastaza, en mayo de 2003.

**Tumaco Seedeater *Sporophila insulata* in Colombia/Ecuador**

In 2002, NBC and the Royal Society for the Protection of Birds (RSPB, BirdLife partner in the UK) Small Projects Fund gave a joint Conservation Award to Juan Carlos de las Casas Serrano, of the Universidad Nacional de Colombia, to evaluate the validity of Tumaco Seedeater *Sporophila insulata* using genetic and morphological methods. Following field work last year (reported in *Cotinga* 19: 9–10), Juan Carlos was able to sequence 922 base-pairs of the cytochrome-*b* gene, and 1,100 bp of the control region from individuals of *S. insulata*, *S. telasco*, as well as intermediate specimens and *S. minuta*. It is believed that this information (especially the CR sequences) will answer questions concerning the taxonomic status of *S. insulata*, and will reject the hybrid-origin hypothesis of Ridgely & Tudor (1989).

**El Capuchino *Sporophila insulata* en Colombia y Ecuador**

En 2002, el CAN y la RSPB, a través de sus Fondos para Proyectos Pequeños otorgaron un Premio de Conservación conjunto a Juan Carlos de las Casas Serrano, de la Universidad Nacional de Colombia para evaluar la validez de la forma de Capuchino *Sporophila insulata*, usando métodos genéticos y morfológicos. Luego de los trabajos de campo del año pasado (ver reporte en *Cotinga* 19: 9–10), Juan Carlos pudo secuenciar 922 pares de bases del gen



Figure 1. Harpy Eagle Festival poster by Thomas Gusti.

cytochromo-*b*, y 1.100 pb de la Región Control, de individuos de *S. insulata*, *S. telasco*, así como especímenes intermedios y *S. minuta*. Se cree que esta información (en particular las secuencias de la RC) están respondiendo las preguntas sobre el estatus taxonómico de *S. insulata*, y rechazan la hipótesis de origen híbrido de Ridgely y Tudor (1989).

#### Alder Amazon *Amazona tucumana* in Argentina

In 2002, NBC made a Conservation Award to Natalia Politi and Luis O. Rivera to assess the population and conservation requirements of the Near-Threatened Alder Amazon *Amazona tucumana* in El Rey National Park, in the Argentine Yungas. In the breeding season, field work produced a relative abundance index of 14.77 individuals per field hour; in the non-breeding season, this fell to 4.52. Three active nests were located at the transition between evergreen mountain forest and alder/*Podocarpus* forest at 1,700 m. Nests were in cavities of *Phoebe porphyria*, *Blepharocalyx gigantea* and *Juglans australis* trees. El Rey is thought to shelter Argentina's healthiest year-round populations of *A. tucumana*, but remains threatened by human activities.

#### Loro Alisero *Amazona tucumana* en Argentina

En 2002 el CAN otorgó un Premio de Conservación a Natalia Politi y Luis O. Rivera para estimar la población y requerimientos de conservación del Loro Alisero *Amazona tucumana*, una especie Casi-amenazada en el P.N. El Rey, en las Yungas de Argentina. En la época reproductiva el trabajo de campo estimó un índice de abundancia relativa de 14,77 individuos por hora de campo; en la época no-reproductiva éste cayó a 4,52. Se localizaron tres nidos activos en la zona de transición entre la selva montana siempreverde y la selva de aliso y *Podocarpus* a 1700 m. Los nidos se hallaron en cavidades de *Phoebe porphyria*, *Blepharocalyx gigantea* y *Juglans australis*. Se estima que El Rey resguarda la población residente más saludable de *A. tucumana*, pero ésta se halla aún en peligro por ciertas actividades humanas.

#### Yellow Cardinal in Uruguay

In 2002, NBC–Wildsounds gave a Conservation Award to Gabriel Rocha Sagraera for his project, 'Conservation of the Yellow Cardinal *Gubernatrix cristata* in Uruguay'. Gabriel has been assessing the status, habitat and distribution of this globally Endangered species at several known sites in Uruguay: an update will appear in a future *Cotinga*. He has also produced an excellent poster to help meet his environmental education objectives (see Fig. 2).



Figure 2. Yellow Cardinal *Gubernatrix cristata* poster produced by Gabriel Rocha Sagraera.

#### Cardenal Amarillo en Uruguay

En 2002, fue otorgado un Premio de Conservación del CAN–Wildsounds a Gabriel Rocha Sagraera por su proyecto, 'Conservación del Cardenal Amarillo *Gubernatrix cristata* en Uruguay'. Gabriel viene estimando el estatus, hábitat y distribución de esta especie globalmente En Peligro en varios sitios conocidos en Uruguay: las novedades aparecerán en *Cotinga* en el futuro. También ha producido un póster excelente para ayudar con sus objetivos sobre educación ambiental (ver Fig. 2).

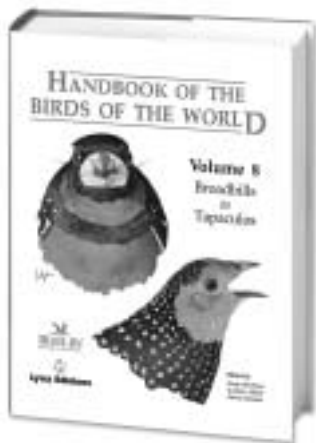
**James Lowen**

*E-mail: awards@neotropicalbirdclub.org*

#### Cotinga 19 corrigenda

On the inside front cover the scientific name of Rufous-browed Hemispingus is *Hemispingus rufosuperciliaris*, not as stated. On pp. 73–74, pertaining to the short note concerning the first record of Greater Scaup *Aythya marila* in the Yucatán, the reference list was incorrectly numbered 5–10, when these should have been 1–6 (the text is correct). On pp. 80 and 81, the sonograms of Selva Cacique *Cacicus koepckeae* and Black-faced Cotinga *Contoiptilon mcilhennyi* were inadvertently reversed.

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# Neotropical News



## West Nile Virus reaches the Neotropics

West Nile Virus is a bird disease that can be transmitted to humans by mosquitoes causing potentially fatal illness (meningitis). Birds that have died from the disease or have recovered from it have recently been found in Mexico and the Dominican Republic. Of greatest immediate conservation concern is the Critically Endangered Ridgway's Hawk *Buteo ridgwayi*, as the virus has been detected in Los Haitises National Park (Dominican Republic), which holds the subpopulation on which the species' survival depends. Other threatened birds in the Dominican Republic are also at risk in the short term, but longer term, the disease has the capacity to threaten any rare Caribbean bird species. Measures taken include the emission of alerts and the establishment of epidemiological surveillance activities.

- Kansas University news release, 13 March 2003 ([www.news.ku.edu](http://www.news.ku.edu))

## CARIBBEAN

### BAHAMAS

#### Good news on wintering Kirtland's Warbler

Between 1840 and 2002, Kirtland's Warbler *Dendroica kirtlandii* was recorded c.200 times on its wintering grounds in the Bahamas. The US Forestry Service-funded Kirtland's Warbler Research and Training Project aims to investigate the species' wintering requirements, and between 1 December 2002 and 12 March 2003 a project team discovered 12 wintering sites on Eleuthera, holding at least 30 birds in total. These are the highest counts anywhere in the Bahamas since the late 1800s. Furthermore, the warbler

densities suggest that several of these sites may hold 6–8 warblers each. The project also has as one of its core aims the training of Bahamians in field and conservation biology.

- Dave Currie *in litt.* February 2003

### CUBA

#### Five Ramsar sites declared

Cuba has designated five important wetlands as Ramsar sites. The areas include the Delta del Cauto, the country's largest delta, and the río Máximo-Cagüey wetland. These measures will help to protect important populations of the globally Vulnerable Cuban Parakeet *Aratinga euops* and West Indian Whistling-duck *Dendrocygna arborea*, as well as some relatively pristine mangrove and the Caribbean's largest Greater Flamingo *Phoenicopterus ruber* nesting site.

- Environment News Service press release, 6 January 2003

## MIDDLE AMERICA

### BELIZE

#### Work on Chalillo dam halted

Belize's first-ever environmental lawsuit has seen the Belize Alliance of Conservation NGOs win an injunction against the government, halting all work on Chalillo dam, pending judicial review. The dam was set to flood 1,200 ha of forest in the Maya Mountains, threatening one of the few viable Scarlet Macaw *Ara macao* populations in Middle America and the integrity of the Mesoamerican Biological Corridor (see *Cotinga* 16: 8).

- *BBC Wildlife*, May 2002

#### Three new protected areas

Gra Gra Lagoon has been declared a national park in view of its large stands of mangrove, which filter

water from the Dangriga River before it reaches the sea. Local people promoted the designation in order to maintain opportunities for ecotourism long into the future. Spanish Creek Wildlife Sanctuary has been named to protect the headwaters of Spanish Creek, which is adjacent to the existing Rio Bravo Conservation and Management Area. The aims of this designation are to regulate currently unsustainable fishing and to promote ecotourism. Swallow Caye is one of the few areas in the country that almost permanently harbours manatees. It has been declared a Wildlife Sanctuary in order to reduce the impact of uncontrolled tourism on the animals.

- *Belize Audubon Soc. Newsletter* 34 (3) (December 2002)

## SOUTH AMERICA

### BOLIVIA

#### Threatened species conservation projects

Armonía (BirdLife partner in Bolivia) is currently organising or collaborating on a variety of projects, including several involving threatened species. For Ash-breasted Tit-Tyrant *Anairetes alpinus* a BP-sponsored project is close to completion and efforts are being made to ensure that the work continues through field research in additional areas, through support of a local-community project to halt *Polylepis* forest damage from firewood collection, and community programmes in the Choquetanga Valley and at Pongo. For Blue-throated Macaw *Ara glaucogularis* (Critically Endangered) a project office has recently been established in Trinidad, from which research into as-yet unexplored areas and a conservation education programme will be organised.



Finally, a breeding survey of Red-fronted Macaws *Ara rubrogenys* has been completed and the implementation of practical conservation measures is planned to start in June 2003.

- Armonía project update, April 2003

#### Conservation of the Bolivian Yungas

Fundación Amigos de la Naturaleza (Bolivia) has started a project on conservation planning in the Bolivian Yungas eco-region, comprising the entire Bolivian parts of Endemic Bird Areas 054 and 055. Two-thirds of the country's highly diverse avifauna occurs here. A number of vast national parks exist, but there are large loopholes in their protection and conservation issues to address. The project, 'Vision for the conservation of the biodiversity in the Bio-Corridor Amboró-Madidi', is set to run until January 2004 and will build on previous analyses of patterns of diversity and endemism, using a variety of taxa (including birds), ecosystem functionality as well as socio-economic data. The project is funded by Conservation International, The Nature Conservancy and the World Wide Fund for Nature. For further information, please contact the chief co-ordinator, Natalia Araujo (naraujo@fan-bo.org).

- Stefan Kreft *in litt.* 2003

#### BRAZIL

##### A new site for the Alagoas endemics

The Atlantic Forest of north-east Brazil contains four avian endemics that have received much attention since their discoveries in the 1980s, namely Alagoas Foliage-gleaner *Philydor novaesi*, Orange-bellied Antwren *Terenura sichi*, Alagoas Antwren *Myrtherula snowi* and Alagoas Tyrannulet *Phylloscartes ceciliae*. Their type locality, the Murici Ecological Station, has suffered considerable degradation but remains the key locality for these species, and it was the only site where *P. novaesi* was known and

one of only two localities for *M. snowi*. During visits in February and April 2003 to Reserva Privada do Patrimônio Natural Frei Caneca, Jaqueira municipality, a private protected area of 630 ha in Pernambuco state, we found these four montane endemics. This finding is key from a conservation perspective in that the locality becomes the second known to hold all four species. The importance of this finding cannot be over-emphasised considering the rarity of these species in Murici and elsewhere. In addition, we also recorded a number of threatened and endemic taxa at Frei Caneca, and even an apparently undescribed tyrant-flycatcher. Frei Caneca is already an Important Bird Area as identified by the BirdLife International Brazil Programme.

- Juan Mazar Barnett, Caio J. Carlos and Sônia A. Roda *in litt.* 2003

##### New Ramsar site protects Pantanal

A private reserve (Reserva Particular de Patrimônio Natural), known as Poconé's Pantanal, which was established in 1998 through an agreement between the landowner (Serviço Nacional do Comércio) and the Brazilian government, has been declared as the country's eighth Ramsar site. The reserve protects a significant proportion of Brazil's Pantanal and is an excellent ecological complement to the Pantanal Matogrosense Ramsar site. Populations of Hyacinth Macaw *Anodorhynchus hyacinthinus*, Giant Otter *Pteronura brasiliensis* and Marsh Deer *Blastocerus dichotomus* occur in the area, which also serves as an ecological refuge for fish in the rios Cuiabá and São Lourenço given that sport and commercial fishing is prohibited. Habitats include permanent rivers, seasonal streams, permanent and seasonal floodplain freshwater lakes, shrub-dominated wetlands and seasonally flooded forests. The Serviço Nacional do Comércio is a non-profit organisation and is responsible for implementing a

management plan and undertaking environmental education activities and non-intensive ecotourism at the site. Its activities are supervised by the Brazilian Institute for the Environment and Natural Renewable Resources. The reserve employs 26 professionals, 16 trained rangers and a pilot, and is equipped with five fire-control towers, an aeroplane, six boats and six all-terrain vehicles. A visitor centre is being constructed for the 10,000 tourists that come to the area annually, making a significant contribution to the local economy.

- Environment News Service press release, 29 April 2003

##### Lear's Macaw habitat leased

Cooperation between BioBrasil Foundation, the American Zoo & Aquarium Association and the Wildlife Conservation Society, with funding from Michelin tyre company, has enabled 20,000 ha of caatinga and licuri palm habitat to be leased in north-east Bahia, in an effort to protect the Critically Endangered Lear's Macaw *Anodorhynchus leari*.

- *Wildlife Conserv.* (September/October 2002)

##### Spix's Macaw captive breeding

The only known Spix's Macaw *Cyanopsitta spixii* in the USA has been returned to Brazil to contribute to the captive-breeding programme in Recife. The bird was probably illegally smuggled into the USA at least 25 years ago.

- *Washington Post*, 24 December 2002

##### Brazilian Merganser Action Plan

Brazilian authorities, researchers and national and international NGOs have finalised an Action Plan to save the Critically Endangered Brazilian Merganser *Mergus octosetaceus*. The Brazilian Merganser Recovery Team has also been given 'working group status' by the government.

- *World Birdwatch* 25 (1): 8 (March 2003)





## CHILE

**Additional Black-browed Albatross colony discovered**

A colony containing at least 3,000 Black-browed Albatross *Thalassarche melanophris* has been discovered on an island off Evangelistas on the Pacific side of the Magellan Strait.

- *World Birdwatch* 25 (1): 3 (March 2003)

## COLOMBIA

**Colombia's first IBA**

In November 2002, Ecoparque Los Besotes was designated the first Important Bird Area (IBA) in Colombia. The ecoparque is part of the Sierra Nevada de Santa Marta, in north-east Colombia and, reflecting the mountain range's isolation, is a hotspot for endemism. More than 150 bird

species occur at Los Besotes, including Andean Condor *Vultur gryphus*, Blue-knobbed Curassow *Crax alberti*, Military Macaw *Ara militaris* and White-lored Warbler *Basileuterus conspicillatus*, several of which are globally threatened. The Ecological Foundation-Fundebes, with the support of local environmental and academic institutions, has purchased land at the site, controlled poaching, regulated human access and domestic animals, halted agricultural activities, restored highly degraded areas and supported academic research. Work continues on Colombia's IBA programme, which is coordinated by the Alexander von Humboldt Biological Resources Research Institute and BirdLife International, with 15 further sites having been nominated for

such status to date.

- *World Birdwatch* 25 (1): 3 (March 2003)

## PERU

**Released White-winged Guans raise a chick**

White-winged Guan *Penelope albipennis* is a Critically Endangered Tumbesian endemic. One pair, from the six individuals released in Chaparrí Private Conservation Area, in September 2001, has successfully raised its first chick. This achievement, little over a year since the release, is highly encouraging for Fundación Cracidae Peru's breeding programme, which has been operating for over 25 years, with the aim of reintroducing the species to areas in which it has been extirpated.

- *World Birdwatch* 25 (1): 5 (March 2003)

## Taxonomic Round-up

**Olive-backed Foliage-gleaner is more than one species**

Recent analysis, by Kevin Zimmer, of biometric and plumage characters and, especially, vocalisations and behaviour of the different populations of Olive-backed Foliage-gleaner *Automolus infuscatus* has revealed that at least two biological 'species' are involved, one (*A. [i.] paraensis*, the Pará Foliage-gleaner) restricted to Brazil in south-east Amazonia, south of the Amazon and east of the rio Madeira, and the other, a group, which occupies much of the rest of the Amazonian and Guianan lowlands. Application of the Phylogenetic Species Concept could result in the recognition of two species within the latter group, one in the Guianas (the subspecies *badius* and *cervicalis*) and the other in south-west

Amazonia (the current subspecies *infuscatus* and *purusianus*).

- Zimmer, K. J. (2002) Species limits in Olive-backed Foliage-gleaners (*Automolus*: Furnariidae). *Wilson Bull.* 114: 20–37.

**Developments in *Xiphorhynchus* woodcreeper taxonomy**

Alexandre Aleixo has recently reconstructed a phylogeny of all known *Xiphorhynchus* species and many subspecies in order to evaluate species limits in this taxonomically challenging genus and investigate the possible role played by the Amazonian *várzea-terra-firme* ecotone in its diversification. All estimates supported the monophyly of all extant *Xiphorhynchus* species to the exclusion of the sibling species-pair, Straight-billed *X.*

*picus* and Zimmer's Woodcreepers *X. kienerii*. Confirming previous molecular and anatomical studies, strong support was available to include Lesser Woodcreeper *Lepidocolaptes fuscus* within *Xiphorhynchus*. Levels of divergence among some forms of Buff-throated *X. guttatus*, Ocellated *X. ocellatus* and Spix's Woodcreepers *X. spixii* reached or exceeded those found between undisputed biological species of *Xiphorhynchus*, indicating that the following taxa be recognised as species: Lafresnaye's *X. guttatoides*, Tschudi's *X. chunchotambo* and Elegant Woodcreepers *X. elegans*. All *Xiphorhynchus* restricted to *terra-firme* forest in lowland Amazonia formed a well-supported monophyletic group, whereas those restricted to *várzea* were either



basal to a clade containing species occurring in a wide variety of habitats or belonged to a distinct lineage likely to be regarded as a separate genus, i.e. *X. kienerii*. Phylogeny estimates suggest that the *várzea-terra-firme* habitat specialisation evolved early in the evolutionary history of *Xiphorhynchus* and that subsequent differentiation has occurred mostly within *terra-firme*.

- Aleixo, A. (2000) Molecular systematics and the role of the “várzea”-“terra-firme” ecotone in the diversification of *Xiphorhynchus* woodcreepers (Aves: Dendrocolaptidae). *Auk* 119: 621–639.

#### ***Pyrrhura* taxonomy revisited**

We previously reported on the results of fresh research into the taxonomy of the *Pyrrhura picta* and *P. leucotis* groups of parakeets by Leo Joseph (*Cotinga* 16: 12). Fortunately, Joseph has continued his ongoing work in attempting to elucidate species limits within these complexes, and in a recent paper has turned his detailed attention on those forms traditionally considered part of the *P. picta* species group. His research suggests that an additional five species-level taxa are involved: *P. lucianii* (for which the name, Deville’s Parakeet, is proposed) from the region of Tefé and the rio Purús (Brazil); *P. roseifrons* (Red-crowned Parakeet) which comprises two disjunct populations in western Amazonia, one in Peru and south-west Brazil and the other in Peru and Bolivia; *P. amazonum* (Hellmayr’s Parakeet) in eastern Amazonian Brazil, from Pará south to northern Mato Grosso; *P. snethlageae* (Madeira Parakeet, a previously unnamed taxon) from the rio Madeira drainage of Brazil and Bolivia; and *P. peruviana* (Wavy-breasted Parakeet, also a previously unnamed form) which is known from two disjunct regions of central Amazonian Peru, between which *P. roseifrons* occurs.

- Joseph, L. (2002) Geographical variation, taxonomy and

distribution of some Amazonian *Pyrrhura* parakeets. *Orn. Neotrop.* 13: 337–363.

#### **A new species of *Pionopsitta* parrot**

Renato Gaban-Lima and colleagues have described a remarkable new species of parrot, *Pionopsitta aurantiocephala* from the lower rio Madeira and upper rio Tapajós drainage of eastern Amazonian Brazil (see Plate 13, p. 62). The new species has an intensely orange-coloured head and, in the middle rio Tapajós at least, occurs sympatrically with Vulturine Parrot *P. vulturina*. Ironically, several specimens were already available in Brazilian museums and Helmut Sick, who had observed the form in life, had assumed that it represented immatures of *P. vulturina*.

- Gaban-Lima, R., Raposo, M. A. & Höfling, E. (2002) Description of a new species of *Pionopsitta* (Aves: Psittacidae) endemic to Brazil. *Auk* 119: 815–819.

#### ***Caprimulgus candicans* is an *Eleothreptus***

Research by Nigel Cleere suggests that White-winged Nightjar *Caprimulgus candicans* is better placed within the currently monotypic genus, *Eleothreptus*, it being very similar in many respects to Sickle-winged Nightjar *E. anomalus*.

- Cleere, N. (2002) A review of the taxonomy and systematics of the Sickle-winged and White-winged nightjars (Caprimulgidae). *Bull. Brit. Orn. Club* 122: 168–179.

#### **New phylogenetic species of *Xiphocolaptes***

Cardoso da Silva and colleagues have described, under the Phylogenetic Species Concept (PSC), a new form of *Xiphocolaptes* within the highly variable Strong-billed Woodcreeper *X.*

*promeropirhynchus* group. This species is currently considered to comprise 23 subspecies. The new form, *X. carajaensis*, the Carajás Woodcreeper, occurs between the rios Xingu and Tocantins/Araguaia

and is named after the type-locality, the Serra das Carajás, where it appears to be rather rare. The authors do not tackle the issue of how many species may be recognised within *promeropirhynchus* under the PSC but do discuss the reasons for the lack of a large woodcreeper within the Belém centre of endemism, and suggest that the area occupied by *X. carajaensis* also deserves recognition as an area of endemism among birds.

- Cardoso da Silva, J. M., Novaes, F. C. & Oren, D. C. (2002) Differentiation of *Xiphocolaptes* (Dendrocolaptidae) across the river Xingu, Brazilian Amazonia: recognition of a new phylogenetic species and biogeographic implications. *Bull. Brit. Orn. Club* 122: 185–194.

#### **Species status for *Notharchus swainsoni* proposed**

*Notharchus swainsoni* of south-east Brazil, Paraguay and north-east Argentina has almost always been considered a subspecies of White-necked Puffbird *N. macrorhynchus* of Mexico to Amazonia, since initially proposed as such by Hellmayr (in 1915), with the recent notable exception of *Handbook of the birds of the world* (Volume 7). *N. swainsoni* differs from *N. macrorhynchus* in plumage, its much smaller size and proportions, with the head and bill proportionally much smaller. A recent study has also demonstrated its osteology to be significantly different as well, principally the breadth and shape of the temporal fossae, the opening between the palatines and in the thickness and height of the maxillary process of the nasals. Thus, species status for *N. swainsoni* is again proposed. The English name usually applied to this taxon is Buff-bellied Puffbird.

- Alvarenga, H. M. F., Höfling, E. & Silveira, L. F. (2002) *Notharchus swainsoni* (Gray, 1846) (Bucconidae) é uma espécie válida. *Ararajuba* 10: 73–77.

**Song variation in Bright-rumped Attila**

A review of vocalisations across the range of Bright-rumped Attila *Attila spadiceus* has revealed significant differences in dawn songs of Central American and South American forms, but that day songs from the two regions are similar. The authors of the study suggest that these regional variations may have taxonomic implications and that two species may be involved, with Central American attilas being grouped under the name *Attila flammulatus* (Flammulated Attila). Nonetheless, a more detailed review of vocalisations from South America appears warranted and could be usefully combined with analysis of other characters in order to reach a definite taxonomy for this widespread species.

- Leger, D. W. & Mountjoy, D. J. (2003) Geographic variation in song of the Bright-rumped Attila (Tyrannidae: *Attila spadiceus*): implications for species status. *Auk* 120: 69–74.

***Cranioleuca pyrrhophia* and *C. obsoleta* are species, for now**

While Olive Spinetail *Cranioleuca obsoleta* (principally in southern Brazil) and Stripe-crowned Spinetail *C. pyrrhophia* have traditionally been regarded as species, the presence of intermediate individuals has been known since the mid-1980s. Santiago Claramunt has recently examined this issue, through a study of both plumage characters

and morphometrics. The results suggest that two species are involved, despite strong evidence pointing toward phenotypic intermediacy, and thus hybridisation, within Uruguayan and Mesopotamian Argentine birds. Nevertheless, these same individuals show no evidence of intermediacy in mensural data, and there is a definite step in plumage variation between the two taxa. Claramunt suggests that an unrecognised form may exist in Uruguay, hybridising extensively with *pyrrhophia* and, to a much lesser extent, with *obsoleta*, but recommends that the traditional arrangement is preserved until further research can be conducted.

- Claramunt, S. (2002) Variación geográfica en *Cranioleuca pyrrhophia* y el límite con *Cranioleuca obsoleta* (Furnariidae). *Orn. Neotrop.* 13: 255–266.

**Mexican Sheartail: two threatened forms but are they species?**

Two populations of Mexican Sheartail *Doricha* (or *Calothorax*) *eliza* are known, one in central Veracruz and the other in the northern Yucatán Peninsula. A recent review of these recommends that the former be considered Critically Endangered and the latter be designated Near Threatened. Morphological differences between the two disjunct populations are minor and appear unworthy of taxonomic recognition, but ecological differences are much stronger and

ontogenetic and behavioural differences may also exist.

- Ortiz-Pulido, R., Peterson, A. T., Robbins, M. B., Díaz, R., Navarro-Sigüena, A. G. & Escalona-Segura, G. (2002) The Mexican Sheartail (*Doricha eliza*): morphology, behavior, distribution, and endangered status. *Wilson Bull.* 114: 153–160.

**What are the Spot-winged Falconet's relationships?**

Argentine workers researching the relationships of the Spot-winged Falconet *Spizapteryx circumcinctus* have noted some ecological similarities to the Afrotropical Pygmy Falcon *Polihierax semitorquatus*, although differences in the two species' morphology suggest that they are not closely related. In recent years, it has been suggested that *Spizapteryx* is a close relative of caracaras; however, the Argentine team refute this hypothesis, suggesting that it is probably closer to some of the Neotropical falcons, particularly those of the genus *Micrastur*.

- Sarasola, J. H., Maceda, J. J., Bechard, M. J. & Lanusse, A. E. (2002) Morphometric measurements of the Spot-winged Falconet in central Argentina. In: Yosef, R., Miller, M. L. & Pepler, D. (eds.) (2002) *Raptors in the new millennium. Proc. World Conf. Birds of Prey & Owls, Raptors 2000*: 220.



## New records for some poorly known birds of the Atlantic Forest in north-east Brazil

Sônia Aline Roda and Caio José Carlos

Cotinga 20 (2003): 17–20

A floresta Atlântica nordestina constitui-se numa importante área de endemismo, sendo, ao mesmo tempo, uma das regiões mais ameaçadas da América do Sul. Neste trabalho, apresentamos uma breve revisão da distribuição e relatamos novos registros para 13 táxons pouco conhecidos na floresta Atlântica nordestina. As informações apresentadas aqui estão baseadas em estudos na literatura, coleções ornitológicas e em várias expedições realizadas nos estados de Pernambuco e Alagoas.

The Atlantic Forest of north-eastern Brazil—Endemic Bird Area 071<sup>25</sup>—includes all forests north of the rio São Francisco in the states of Alagoas, Pernambuco and Paraíba. It occupies an area of c.35,000 km<sup>2</sup> and has been considered an important area of endemism<sup>19</sup>. Despite its biological importance, most of the Atlantic Forest of north-east Brazil has been replaced by agriculture, principally sugarcane, and only c.2% of its original area remains, all in small fragments that suffer from selective logging, poaching, etc.<sup>7,20,27</sup>. The avifauna of the region is rich, with 452 ‘biological’ species<sup>26</sup>, seven of which are restricted to it<sup>25</sup>. Although the area harbours a low number of endemic species relative to the rest of Atlantic forest, it holds the most threatened species of the biome<sup>6,9</sup>.

Here we present a brief review of, and include new data on, the distribution of some poorly known birds in the region, based on literature surveys, studies in the Ornithological Collection of the Universidade Federal de Pernambuco (hereafter UFPE), lists of specimens housed at the American Museum of Natural History, New York (hereafter AMNH) and our field work in Alagoas (AL) and Pernambuco (PE) in recent years. For simplicity, we list the first published reference for each species in the localities cited. All localities and their coordinates (some of which are taken from Paynter & Traylor<sup>15</sup> and Vanzolini<sup>30</sup>) are presented as an appendix.

### Species accounts

#### Grey-headed Kite *Leptodon cayanensis*

Sibley & Monroe<sup>23</sup> treated the White-collared Kite *L. forbesi* as a species restricted to the north-east Brazilian Atlantic Forest. However, Sick<sup>24</sup> considered *L. forbesi* as only a variant of the widespread Grey-headed Kite. We consider birds recorded by us to be *L. cayanensis* not *L. forbesi*. In this region, Grey-headed Kite was previously known from only two localities: São Miguel dos Campos (AL)<sup>29</sup> and Engenho Independência (PE)<sup>21</sup>. We observed the species on six occasions: at Mata do Estado, on 17 October 1999 and 9 November 2001,

at Engenho Triunfo, on 5 August 2001 (both PE); Mata do Pinto, on 10 November 2001, and at Engenho Coimbra (both AL), on 23 July 2000 and 13 November 2001.

#### Black Hawk-eagle *Spizaetus tyrannus*

This species occurs throughout most of Brazil<sup>24</sup>. In the north-eastern Atlantic Forest, it was previously known from the highlands of Murici (AL)<sup>28</sup>. In addition, the UFPE obtained one from Refúgio Ecológico Charles Darwin (PE) in December 1997 (UFPE 1829). On 20 February 2001, we observed one over the forest fragments at Engenho Coimbra (AL).

#### Great-billed Hermit *Phaethornis malaris margarettae*

Given the complicated and uncertain taxonomy of *Phaethornis ochraceiventer camargoi*<sup>10</sup> and *P. margarettae*<sup>11</sup>, we follow Hinkelmann & Schuchmann<sup>12</sup>. This bird has been recorded in the highland forests of Murici (AL)<sup>29</sup>. Hinkelmann<sup>11</sup> mentioned a specimen at the Museu de Zoologia da Universidade de São Paulo (MZUSP) from Água Azul (PE). UFPE has a specimen from Reserva Biológica de Saltinho (UFPE 0859) and two are housed at the Museum of Comparative Zoology, Harvard University (MCZ 28323, 28324) from PE, but without locality, date or collector information. On 1 June 1999, we observed one in the forest at Engenho Água Azul (PE). Two were mist-netted at Engenho Coimbra (AL; UFPE 3242, 3261).

#### Laeta's Antbird *Cercomacra laeta sabinoi*

We follow Bierregaard *et al.*<sup>5</sup>, who elevated *C. tyrannina laeta* to species level (*C. laeta*), and recognised three subspecies of *laeta*, of which *C. l. sabinoi* is considered endemic to the north-east Brazilian Atlantic Forest. It was previously recorded only in PE, at Fazenda São Bento<sup>17</sup>, Estação Ecológica do Tapacurá<sup>8</sup> and Aldeia (where tape-recorded by B. M. Whitney and J. F. Pacheco, on 18 November 1993; J. F. Pacheco pers. comm. 2002). Two were mist-netted at Engenho Água Azul (PE), on 27–28 May 1999 (UFPE 1887, 1894), one at



Engenho Sacramento (PE), on 28 January 2000 (UFPE 2568) and one at Engenho Coimbra (AL), on 16 July 2000 (UFPE 3221).

**Bare-throated Bellbird** *Procnias nudicollis*

This species occurs in eastern Brazil, from PE to Minas Gerais, and Rio Grande do Sul and southern Mato Grosso, as well as in south-east Paraguay and north-east Argentina<sup>23,24</sup>. In the Brazilian north-east, it had been recorded only at Usina São José (PE)<sup>4</sup> and in the highland forests of Serra Branca, Murici (AL)<sup>28</sup>. On 1 October 2000, we heard one at Engenho Coimbra (AL).

**Slender-footed Tyrannulet** *Zimmerius gracilipes*

In the Atlantic Forest of north-east Brazil, this canopy tyrannulet had been previously reported at Estação Ecológica do Tapacurá (PE)<sup>2</sup>, Reserva Biológica de Pedra Talhada and Reserva Biológica de Murici (both AL)<sup>14</sup>, and from Reserva Biológica Guaribas (Paraíba)<sup>1</sup>. There is a specimen from Estação Ecológica do Tapacurá (UFPE 3804). Two were mist-netted at Engenho Coimbra (AL), on 20 July 2000 (UFPE 3252) and 22 July 2000 (UFPE 3277).

**White-lored Tyrannulet** *Ornithion inermis*

This tyrannulet occurs locally in south-east Colombia, south Venezuela, the Guianas, east Ecuador, east Peru, north Bolivia and east Brazil<sup>23</sup>. In the Atlantic Forest of north-east Brazil, it was known only from Fazenda do Prata (AL)<sup>28</sup> and from Reserva Biológica Guaribas (Paraíba)<sup>1</sup>. We heard one singing in forest at Engenho Coimbra (AL), on 18 February 2001.

**White-crested Elaenia** *Elaenia albiceps*

Marini & Cavalcanti<sup>13</sup> reported a single record of this austral migrant for PE, probably from the coast, but did not provide a precise locality. In the same state, we mist-netted one (UFPE 1876) on 25 May 1999 at Engenho Água Azul, and another on 7 July 1999 at Usina Frei Caneca (UFPE 1950).

**Grey-crowned Flycatcher** *Tolmomyias poliocephalus*

Although Ridgely & Tudor<sup>22</sup> included the Atlantic Forest of north-east Brazil within this species' range, its presence in the region is documented solely by a specimen taken by Emil Kaempfer, on 4 August 1927, at Palmares, PE (AMNH 243664). On 29 January 2000 one (UFPE 2576) was mist-netted at Engenho Sacramento (PE).

**Black-crowned Tityra** *Tityra inquisitor*

Sick<sup>24</sup> considered this species to be locally distributed throughout Brazil. However, in the north-eastern Atlantic Forest, it appears to be rather

infrequent and uncommon. On 15 July 2000, a male was collected (UFPE 3218) in a *Mangifera indica* tree outside the forest at Engenho Coimbra (AL).

**Yellow-legged Thrush** *Platycichla flavipes*

This species is local in south-east South America<sup>23</sup>. In the Atlantic Forest of north-east Brazil it was known only from Mamanguape, Paraíba<sup>16</sup>. On 28 January 2000 we observed and tape-recorded several in the interior forest at Engenho Sacramento (PE).

**Chestnut-bellied Euphonia** *Euphonia pectoralis*

Though well known in south-east Brazil<sup>24</sup>, the only previous record for the north-eastern Atlantic Forest is from Murici (AL)<sup>28</sup>. UFPE obtained two at Reserva Biológica de Saltinho, PE (UFPE 830 and 1042) and three were also taken at Engenho Coimbra, AL (UFPE 3231, on 18 July 2000 and 3253 and 3254, on 20 July 2000). At the latter, we observed it in mixed-species flocks with Violaceous Euphonia *E. violacea*, Opal-rumped Tanager *Tangara velia*, Burnished-buff Tanager *T. cayana*, Seven-coloured Tanager *T. fastuosa*, Palm Tanager *Thraupis palmarum* and Swallow Tanager *Tersina viridis*.

**Opal-rumped Tanager** *Tangara velia cyanomelaena*

There are only two previous localities in the Atlantic Forest of north-east Brazil: São Lourenço da Mata<sup>16</sup> and Parque de Dois Irmãos<sup>3</sup> (both PE). UFPE obtained a specimen from Reserva Ecológica de Caetés (UFPE 1824) and two others from Recife (UFPE 2883 and 3884), both in PE. We also observed it in more open forest at Engenho Coimbra (AL) in mixed-species flocks with Violaceous Euphonia *Euphonia violacea*, Chestnut-bellied Euphonia *E. pectoralis*, Burnished-buff Tanager *Tangara cayana*, Seven-coloured Tanager *T. fastuosa*, Palm Tanager *Thraupis palmarum* and Swallow Tanager *Tersina viridis*. Four specimens were taken at this locality (UFPE 3183, on 11 July 2000; 3233, on 18 July 2000; and 3278 and 3282, on 22 July 2000). In PE, we found it in mixed-species flocks with Red-necked Tanager *T. cyanocephala* and *T. fastuosa* at Usina Frei Caneca, on 7–10 July 1999.

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Cotinga 20

## Descrição do jovem de Tibirro-rupestre *Embernagra longicauda*

Marcelo Ferreira de Vasconcelos e Joaquim de Araújo Silva

Cotinga 20 (2003): 21–23

We describe the juvenile plumage of Pale-throated Serra-finch *Embernagra longicauda*, which is endemic to montane south-east Brazil. A juvenile, collected at Serra do Caraça, Minas Gerais, has streaked plumage, in contrast to the unstreaked adult. In addition, the juvenile specimen has greenish-yellow on the chin, throat and lores, all of which are white in adults. We also collected one specimen with intermediate characters between the juvenile and adults. Plumage of juvenile Pale-throated Serra-finch appears very similar to that of juvenile Great Pampa-finch *E. platensis* and also resembles the plumage of grass-finches of the genus *Emberizoides*.



1



O Tibirro-rupestre *Embernagra longicauda* é uma espécie endêmica das montanhas do sudeste do Brasil<sup>9,10,13</sup>, embora tenha sido recentemente encontrada em locais que sofreram a ação de desmatamento, ampliando a sua área de distribuição original<sup>4,12</sup>. Uma vez que a biologia das aves endêmicas das montanhas do sudeste do Brasil é ainda pouco conhecida, com esparsas contribuições<sup>3,5,6,8,11,14,15</sup>, o objetivo desta nota é descrever a plumagem juvenil de *E. longicauda* e o seu desenvolvimento, a partir de exemplares coletados na Serra do Caraça, município de Santa Bárbara, Minas Gerais, Brasil.

No dia 18 de fevereiro de 2001, dois indivíduos de *E. longicauda* foram coletados em ambiente de campo rupestre na região da Prainha (20°06'S 43°29'W), em altitudes variando entre 1.250 e 1.300 m. Estes exemplares foram preparados e depositados na Coleção Ornitológica do Departamento de Zoologia da Universidade Federal de Minas Gerais (DZUFMG) sob os números DZUFMG 3048 e DZUFMG 3049. O espécime DZUFMG 3048 possui plumagem atípica em comparação com a conhecida para adultos desta espécie (Fig. 1). Por outro lado, as características da plumagem de DZUFMG 3049 são intermediárias entre as de DZUFMG 3048 e as de aves adultas (Figs. 2–3). A descrição da plumagem do jovem (DZUFMG 3048) foi realizada com base no catálogo de cores de Villalobos-Domínguez & Villalobos<sup>16</sup> e é dada a seguir:

Mento amarelo-esverdeado (YYL-18-6°). Garganta amarelo-esverdeada (YL-18-6°) com poucas e finas estrias escuras, quase negras (valor de luminosidade 2). Alto peito amarelo-esverdeado (YL-18-6°) com estrias escuras mais largas que as da garganta, mas também com penas não estriadas de coloração creme-acinzentada (O-14 [1°/2°]). Laterais do baixo peito creme-acinzentadas (O [13/14] [1°/2°]) e sem estrias, lembrando penas típicas de adultos. Meio do baixo peito amarelo-esverdeado (YL-18-6°) com poucas estrias finas, e também com

algumas penas não estriadas de coloração creme-acinzentado-clara (O-17-1°). Abdômen de coloração amarelo-esverdeada (YL-18-6°) com a presença de algumas penas esbranquiçadas (valor de luminosidade 20). Flancos creme-acinzentados (O [13/14] [1°/2°]) com estrias escuras (valor de luminosidade 2) de espessura variável. Crisso e infracaudais creme-acinzentados (OOY-15-5°) com poucas estrias escuras (valor de luminosidade 2) e bastante finas. Cauda verde-oliva ([YYL/YL] [4/7] [2°/6°]). Loros com uma faixa amarelo-esverdeada-clara (próximo de YYL-19-9°). Partes superiores da cabeça e todo o dorso (incluindo as coberteiras superiores das asas) cinza-esverdeados (L [14/15] 1°) com estrias escuras (valor de luminosidade entre 0 e 4). Encontros das asas amarelados ([Y/YYL] 19-12°). Coberteiras superiores da cauda verde-acinzentadas (YYO-9-3°) com poucas estrias. Este exemplar é uma fêmea (ovário liso 1 x 1 mm), com crânio não totalmente ossificado (5%), bico amarelo com vértice negro, íris castanho-escura e tarso amarelo-acinzentado.

O exemplar DZUFMG 3049 difere do anterior por possuir caracteres típicos de adultos de *E. longicauda* mesclados com os descritos acima para DZUFMG 3048, sendo que este possui garganta esbranquiçada na porção média; ausência quase completa de estrias nas partes inferiores; ausência completa de estrias no dorso e coberteiras superiores das asas (Figs. 2–3). A cabeça, nuca e pescoço deste espécime ainda conservam o padrão estriado semelhante a DZUFMG 3048 (Fig. 3). Este exemplar macho (testículos 1,5 x 1,5 mm), possui crânio não totalmente ossificado (5%), bico amarelo com vértice negro, íris castanha e tarso amarelo-acinzentado.

O padrão da plumagem juvenil de *E. longicauda* é semelhante ao encontrado em jovens de *E. platensis*, conforme espécimes analisados e depositados no Museu de História Natural de Taubaté (MHNT 4129) e no Museu de História Natural Capão da Imbuia (MHNCI 4095 e MHNCI 5508) (veja também descrições em Ridgely & Tudor<sup>7</sup>



2



3





e Fjeldsá & Krabbe<sup>2</sup>). Este padrão estriado dos jovens de *Embernagra* lembra também o padrão de plumagem encontrado nas espécies de *Emberizoides*, já havendo suspeitas de que estes dois gêneros possuam um parentesco bem próximo<sup>1</sup>.

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Figura 1. Prancha mostrando o padrão da plumagem do jovem (no solo) e do adulto (na canela-de-ema) de Tibirro-rupestre *Embernagra longicauda*. Pintura baseada nos exemplares DZUFMG 3048 e DZUFMG 3050, ver página 21 (Eduardo Parentoni Brettas)

Figura 2. Vista ventral dos exemplares de Tibirro-rupestre *Embernagra longicauda*. Da esquerda para a direita: DZUFMG 3048 (jovem), DZUFMG 3049 (jovem em muda para a plumagem adulta) e DZUFMG 3050 (adulto) (Marcelo Ferreira de Vasconcelos)

Figura 3. Vista dorsal dos exemplares de Tibirro-rupestre *Embernagra longicauda*. Da esquerda para a direita: DZUFMG 3048 (jovem), DZUFMG 3049 (jovem em muda para a plumagem adulta) e DZUFMG 3050 (adulto) (Marcelo Ferreira de Vasconcelos)

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

Fábio Olmos

Cotinga 20 (2003): 26–30

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

**Cotinga 20**

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

**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>Synallaxis 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>Campptostoma 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      |



## Cotinga 20

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

|                          |                                  |      |   |      |
|--------------------------|----------------------------------|------|---|------|
| 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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2



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5



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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 cachinnans* (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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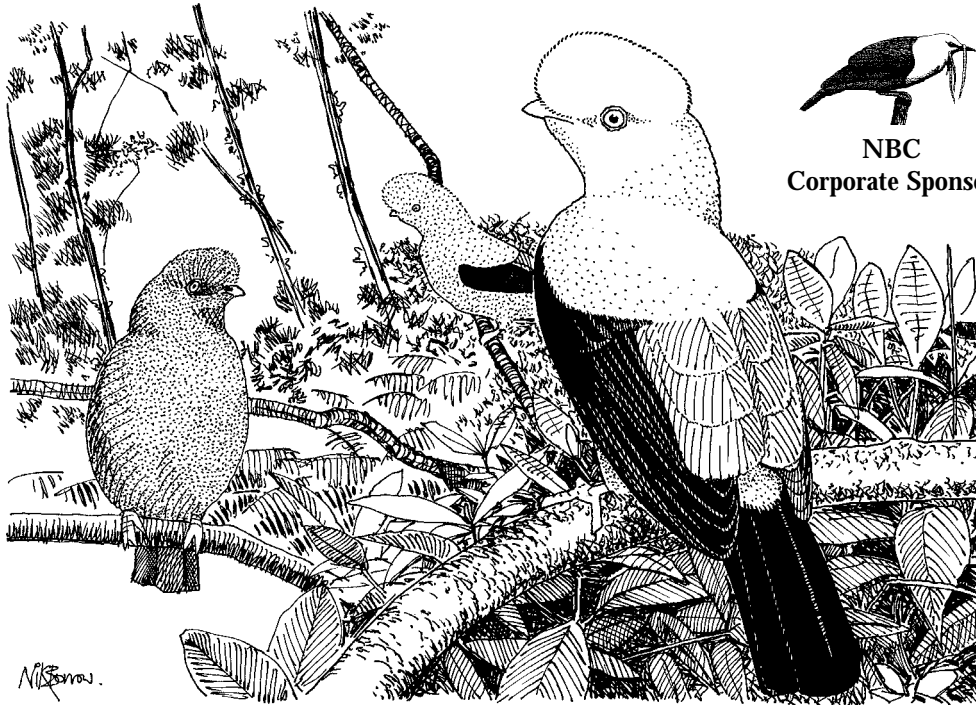
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## Birds in Atlantic Forest fragments in north-east Brazil

Luís Fábio Silveira, Fábio Olmos and Adrian J. Long

Cotinga 20 (2003): 32–46

Durante o mês de outubro de 2001 os autores percorreram 15 fragmentos florestais no Estado de Alagoas, Brasil. O objetivo principal foi localizar novas populações e obter mais dados sobre os táxons endêmicos do ‘Centro Pernambuco’. Foram realizados censos em cada um dos fragmentos, que também foram analisados quanto ao estado geral de conservação. Discute-se a presença de espécies-chave, como grandes frugívoros ou aquelas sensíveis à fragmentação ou às mudanças na estrutura da vegetação. Os dois fragmentos mais importantes, com relação ao número de espécies encontrado e o número de táxons endêmicos, estão localizados na Usina Serra Grande (Mata do Pinto e Mata do Engenho Coimbra), onde foram registrados 16 táxons endêmicos e/ou ameaçados de extinção. Recomenda-se pesquisa taxonômica urgente, que procure evidenciar os táxons endêmicos do ‘Centro Pernambuco’, além de uma efetiva proteção aos fragmentos e às aves que ainda os habitam, uma maior vigilância contra a caça, a retirada de madeira e o desmatamento e um programa de reflorestamento que procure conectar os fragmentos mais próximos entre si.



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In contrast to the Amazon forest, the Brazilian Atlantic Forest stretches along a broad latitudinal band, with little longitudinal variation. This latitudinal gradient, from c.6°S to 32 S, is further diversified by the montane ranges born of intense Cenozoic tectonic activity<sup>51</sup> that occur throughout much of the region. It is little wonder that tropical forest in such setting is an important centre of endemism. Over 90% of known frogs and 70% of reptiles recorded in the Atlantic Forest are endemic<sup>26,40</sup>. Among the breeding avifauna, c.200 recognised species are endemic to the Atlantic Forest region<sup>31</sup>. Endemism levels are probably even greater as several taxa currently regarded as subspecies may prove to be biological (BSC) and/or phylogenetic (PSC) species once detailed taxonomic studies are undertaken. Examples of such from north-east Brazil include *Thamnophilus caerulescens*

*pernambucensis*, *T. aethiops distans* and *Iodopleura pipra leucopygia*<sup>55,61</sup>.

The ‘Serra do Mar’ centre of avian endemism<sup>22</sup> covers the Atlantic Forest from Rio Grande do Norte (c.7 S) to Rio Grande do Sul (c.32 S), with two main divisions: the narrow belt of coastal and montane forests, and the *Araucaria* forests of southern Brazil and nearby Argentina and Paraguay. Despite forming a recognisable entity, the Serra do Mar centre can be further divided into several ‘subcentres’ characterised by assemblages of endemic birds<sup>21,68</sup>.

The forested belt north of the rio São Francisco is one such area, generally referred to as the ‘Pernambuco centre’<sup>12,57</sup>. It includes both the coastal forests and complex transitional area between them and drier habitats inland. The Pernambuco centre is considered an area of interchange between biota



Figure 1. Extensive areas of forest have been destroyed to make way for sugarcane plantations, leaving the landscape heavily fragmented (Luiz Claudio Marigo)



Figure 2. Usina Serra Grande contains one of the largest and best-preserved remnants of montane forest in Alagoas; it harbours a considerable number of endemic and globally threatened species (Luiz Claudio Marigo)



**Table 1.** Endemic forest birds of the Pernambuco centre and nearby highland forests of Ceará state, Brazil. Threat categories follow BirdLife International<sup>11</sup>. Nomenclature and status of endemic taxa is based on general catalogues or recent revisions<sup>8,33,49,55,56,70</sup> and specimens housed in the collections of Museu de Zoologia da Universidade de São Paulo and Universidade Federal de Pernambuco.

| Taxon   | Distribution                              | Status              |
|---|---|---------------------|
| <i>Tinamus solitarius pernambucensis</i> Berla, 1946              | Alagoas and Pernambuco                    | Near Threatened     |
| <i>Mitu mitu</i> Linnaeus, 1766                                   | Alagoas                                   | Extinct in the wild |
| <i>Penelope superciliaris alagoensis</i> Nardelli, 1993           | Alagoas                                   | -                   |
| <i>Odontophorus capueira plumbeicollis</i> Cory, 1915             | Alagoas to Ceará                          | -                   |
| <i>Leptodon forbesi</i> (Swann, 1922)                             | Alagoas and Pernambuco                    | Critical            |
| <i>Pyrrhura anaca</i> (Gmelin, 1788)                              | Ceará, Pernambuco and Alagoas             | -                   |
| <i>Phaethornis ochraceiventris camargoi</i> Grantsau, 1988        | Pernambuco, Alagoas                       | -                   |
| <i>Momotus momota marcgraviana</i> Pinto & Camargo, 1961          | Alagoas and Paraíba                       | -                   |
| <i>Picumnus limeae</i> Snethlage, 1924                            | Ceará                                     | -                   |
| <i>Picumnus fulvescens</i> Stager, 1961                           | Pernambuco and Paraíba                    | -                   |
| <i>Picumnus exilis pernambucensis</i> Zimmer, 1947                | Alagoas and Pernambuco                    | -                   |
| <i>Dendrocincla fuliginosa taunayi</i> Pinto, 1939                | Alagoas to Pernambuco                     | -                   |
| <i>Lepidocolaptes fuscus atlanticus</i> (Cory, 1916)              | Pernambuco to Ceará                       | -                   |
| <i>Synallaxis infusca</i> Pinto, 1950                             | Pernambuco and Alagoas                    | Critical            |
| <i>Automolus leucophthalmus lammi</i> Zimmer, 1947                | Alagoas and Paraíba                       | -                   |
| <i>Philydor novaesi</i> Teixeira & Gonzaga, 1983                  | Alagoas                                   | Critical            |
| <i>Xenops minutus alagoanus</i> Pinto, 1954                       | Alagoas to Paraíba                        | -                   |
| <i>Sclerurus caudacutus caligineus</i> Pinto, 1954                | Alagoas                                   | -                   |
| <i>Thamnophilus caerulescens pernambucensis</i> Naumburg, 1937    | Alagoas and Pernambuco                    | -                   |
| <i>Thamnophilus caerulescens cearensis</i> (Cory, 1919)           | Ceará                                     | -                   |
| <i>Thamnophilus aethiops distans</i> Pinto, 1954                  | Alagoas and Pernambuco                    | -                   |
| <i>Myrmotherula snowi</i> Teixeira & Gonzaga, 1985                | Alagoas and Pernambuco                    | Critical            |
| <i>Terenura sicki</i> Teixeira & Gonzaga, 1983                    | Alagoas and Pernambuco                    | Endangered          |
| <i>Cercomacra laeta sabinoi</i> Pinto, 1939                       | Alagoas and Pernambuco                    | -                   |
| <i>Pyriglena leuconota pernambucensis</i> Zimmer, 1931            | Pernambuco, Alagoas and (perhaps) Paraíba | -                   |
| <i>Myrmeciza ruficauda soror</i> Pinto, 1940                      | Alagoas to Paraíba                        | Endangered          |
| <i>Conopophaga melanops nigrifrons</i> Pinto, 1943                | Alagoas to Paraíba                        | -                   |
| <i>Iodopleura pipra leucopygia</i> Salvin, 1885                   | Alagoas, Pernambuco and Paraíba           | Endangered          |
| <i>Phylloscartes ceciliae</i> Teixeira, 1987                      | Alagoas and Pernambuco                    | Critical            |
| <i>Platyrhynchus mystaceus niveigularis</i> Pinto, 1954           | Alagoas to Paraíba                        | -                   |
| <i>Hemitriccus mirandae</i> Snethlage, 1925                       | Alagoas and Ceará                         | Vulnerable          |
| <i>Hemitriccus zosterops naumburgae</i> (Zimmer, 1945)            | Alagoas to Paraíba                        | -                   |
| <i>Schiffornis turdinus intermedius</i> Pinto, 1954               | Alagoas to Paraíba                        | -                   |
| <i>Hemithraupis flavicollis melanoxantha</i> (Lichtenstein, 1823) | Pernambuco, Alagoas                       | -                   |
| <i>Tangara fastuosa</i> Lesson, 1831                              | Alagoas to Paraíba                        | Endangered          |
| <i>Tangara cyanocephala corallina</i> (Berlepsch, 1903)           | Pernambuco and Alagoas                    | -                   |
| <i>Tangara cyanocephala cearensis</i> Cory, 1916                  | Ceará                                     | -                   |
| <i>Caryothraustes canadensis frontalis</i> Hellmayr, 1905         | Ceará, Pernambuco and Alagoas             | -                   |

of the Atlantic and Amazon forests<sup>57</sup>, with typically Amazonian forms occurring alongside Atlantic Forest taxa<sup>18,54,76</sup>. Birds are the group with the largest number of north-east Brazilian representatives of Amazonian species, most being disjunct, endemic populations currently treated as subspecies (Table 1). Other taxa, such as *Crypturellus strigulosus* and *Pteroglossus inscriptus*, have not diverged morphologically from their Amazonian counterparts. Overall, 38 bird taxa are recognised as endemic to the Pernambuco centre (Table 1).

Compared to other sectors of the Atlantic Forest, the Pernambuco centre is the one that has been most severely impacted by humans, as well as being the least known and protected<sup>18–20,35,37,39</sup>. It is unsurprising that the region harbours the largest number of threatened birds in Brazil, and one area

(Murici, Alagoas) supports the most threatened birds in the Americas<sup>77</sup>.

Forest destruction in the Pernambuco centre began five centuries ago, driven mostly by sugarcane plantations and mills (*usinas*), and cattle ranching<sup>18</sup>. Aside from forest clearance, extraction and hunting depleted and even extirpated species, e.g. a population of Bare-faced Curassow *Crax fasciolata*<sup>53,69</sup>. Human impact has been sufficiently pervasive that most remaining forest is second growth, occupying formerly cultivated or heavily logged areas<sup>4</sup>.

Initially, the *usinas* planted sugarcane in the plains along the main rivers draining to the sea, and consequently riverine forests and wetlands are long gone. The mills used wood for power, thus deforestation increased in the 19th century when steam machinery was introduced. The tablelands



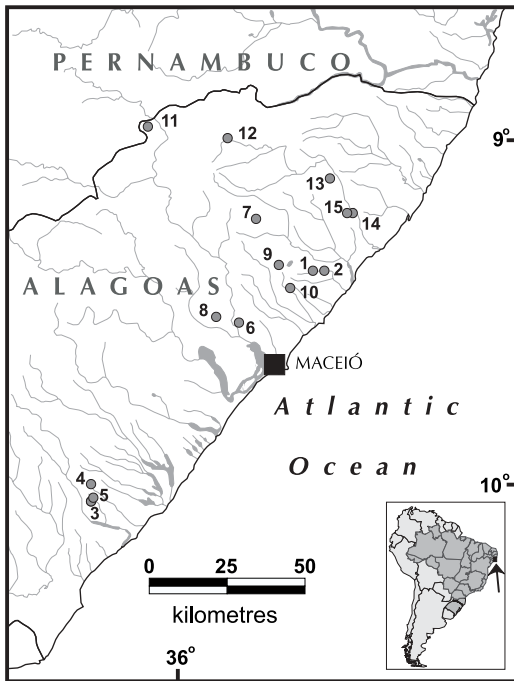


Figure 1. Localities surveyed (see also Table 2): 1. Usina Santo Antonio I; 2. Usina Santo Antonio 2; 3. Fazenda Riachão, Usina Coruripe; 4. Mata do Capiatã, Usina Coruripe; 5. Mata do Riachão, Usina Coruripe; 6. Mata da Sálvia, Usina Utinga-Leão; 7. Torre da Embratel, Murici Ecological Station; 8. Mata do Cedro, Usina Utinga-Leão; 9. Mata da Sela, Usina Cachoeira; 10. Mata Bamburral II, Usina Cachoeira; 11. Mata do Pinto, Usina Serra Grande; 12. Mata do Engenho Coimbra, Usina Serra Grande; 13. Mata da Encosta do Grotão, Usina Camaragibe; 14. Mata da Santa Justina, Usina Santo Antônio; 15. Grotão do Brás, Mata de Santa Justina, Usina Santo Antônio.

away from the floodplains were largely spared until the 20th century, when demand for wood, and thus clearance, peaked. Deforestation reached its height between the late 1970s and 1988, during the PROALCOOL, an official programme of the Brazilian government that subsidised the owners of *usinas* in order to increase ethanol and sugar production. In order to acquire readily accessible taxpayer money they had little incentive to return, *usina* owners virtually eliminated all accessible forest in order to grow sugarcane<sup>69</sup>. Now, most remnant forests are within steep valleys, where suitable conditions to plant sugarcane do not exist, or near sources of water the *usinas* considered useful to protect. Besides causing habitat loss, sugarcane plantations, until quite recently, also relied heavily on aerial pesticide applications, which reached remnant forests. In addition, few landowners forbade hunting or woodcutting in their forests. These further impacts have greatly affected the local avifauna.

Although Europeans occupied much of the Brazilian coast within a comparatively short period, it was in the north-east that colonisation had the most damaging impacts on the Atlantic Forest. Over 90% of forests in the Pernambuco centre have been cleared and the remnants are mostly small and isolated<sup>65</sup>, a different situation from that in south-east Brazil, where the coastal mountains and poor coastal soils forced large-scale agriculture elsewhere, permitting the survival of relatively large forest areas that may act as sources<sup>13,24,39,59</sup>.

The forests of the Pernambuco centre originally covered c.56,000 km<sup>2</sup> or 4.6% of the Atlantic Forest complex. Main forest types were transitional inland forests (34.9%), semideciduous forests (28.4%) and open ombrophylous forests (20.5%). Data from 1995 satellite images showed only 2,124 km<sup>2</sup> of forests remained or only 3.76% of the Pernambuco centre<sup>45</sup>. The situation has deteriorated since, as forest clearance has continued even in 'protected' areas such as Murici (pers. obs.).

It has been suggested that the Atlantic Forest avifauna is pre-adapted to withstand forest fragmentation because of the persistence of diverse communities in patches of reduced area<sup>7,13,14,58</sup> but the evidence is equivocal<sup>2</sup>, and it has been argued that those Atlantic Forest species more sensitive to human impacts became extinct without formal description<sup>46</sup>. Bird guilds differ in their vulnerability to human impacts, some being more susceptible to hunting (large-bodied species such as cracids and other ground frugivores<sup>64</sup>), while others are vulnerable to fragmentation and changes in the physical structure of their habitat, such as understory insectivores and large arboreal frugivores<sup>1-3,16,28,30,38,78</sup>.

Despite being considered a conservation priority, and the long history of human impact making it an ideal area to understand the long-term impact of habitat fragmentation, deforestation, extraction and chronic hunting on Neotropical forests, few recent data concerning forest bird communities in the Atlantic Forest of north-east Brazil exist<sup>6,36,44,54</sup>. Here, we endeavour to plug this gap, describing the results of quantitative bird surveys in 15 forest fragments in Alagoas state, and discussing the impacts of human activities on selected bird guilds.

## Methods

We conducted bird surveys in Atlantic Forest fragments in Alagoas during October 2001. Our main goal was to search for unreported populations of the regional endemics<sup>66,67</sup> (see Table 1) and to assess the conservation status of forest fragments on sugar mill land, which harbour most such remnants in north-east Brazil.

Field work was undertaken during the period 6–27 October 2001. We visited 15 previously identified, larger and better-preserved forest fragments



Table 2. Forest fragments surveyed for endemic Atlantic Forest birds in Alagoas, 6–27 October 2001.

| Locality   | Location                     | Area (ha) | Field hours | Number of species recorded | Notes  |
|--|------------------------------|-----------|-------------|----------------------------|--|
| 1. Usina Santo Antônio I                                       | 09°23'S<br>35°37'W;<br>100 m | c.80      | 7           | 89                         | Ombrophyllous forest within a steep narrow valley with a creek. Few patches of larger trees amid tangled, degraded second growth; some large ground bromeliads, emergent trees (mostly <i>Parkia pendula</i> ). Intensive on-going selective logging. Several poacher hides.   |
| 2. Usina Santo Antônio 2                                       | 09°23'S<br>35°35'W;<br>30 m  | c. 25     | 4           | 84                         | Ombrophyllous forest within a steep narrow valley with creeks. Several large trees and emergents (mostly <i>Parkia pendula</i> ), open understorey. No evidence of recent logging. Several poacher hides.  |
| 3. Fazenda Riachão, Usina Coruripe                             | 10°03'S<br>36°16'W;<br>120 m | 337       | 6           | 38                         | Drier forest with many <i>Caesalpinia echinata</i> trees. No perennial creek. Upper canopy 20 m, with emergents over 30 m. No evidence of recent logging. Several poacher hides.   |
| 4. Mata do Capiatã, Usina Coruripe                             | 10°00'S<br>36°16'W;<br>150 m | 458       | 6           | 53                         | Linked to the previous fragment, with similar vegetation in better-drained areas. Three creeks, surrounded by ombrophyllous forest with trees over 40 m, draining a large reservoir surrounded by forest. A village of 400 people by the forest, which is encircled by second growth. Three poachers observed.   |
| 5. Mata do Riachão, Usina Coruripe                             | 10°03'S<br>36°16'W;<br>100 m | 454       | 2.1         | 24                         | Drier forest with many <i>Caesalpinia echinata</i> trees and very large fig trees. A small perennial creek. Upper canopy at 25 m, with emergents over 40 m. No evidence of recent logging.   |
| 6. Mata da Sálvia, Usina Utinga-Leão                           | 09°32'S<br>35°50'W;<br>160 m | c.400     | 4           | 77                         | Ombrophyllous forest within a valley with open undergrowth. Many tall emergents ( <i>Parkia pendula</i> ). Forest centre surrounded by a belt of <i>Cecropia</i> and other secondary species. Selective logging of poles, poaching and bird catching recorded.   |
| 7. Torre da Embratel, Murici Ecological Station                | 09°14'S<br>35°47'W;<br>470 m | c.300     | 2.5         | 40                         | Second-growth montane forest, highly degraded. Most trees have multiple trunks due to re-sprouting from former cutting. Taller trees belong to non-commercial species. Many secondary species like <i>Cecropia</i> . Intensive logging.  |
| 8. Mata do Cedro, Usina Utinga-Leão                            | 09°31'S<br>35°54'W;<br>120 m | c.500     | 7           | 78                         | Ombrophyllous tall forest with many emergents ( <i>Parkia</i> ) and large <i>Attalea</i> palms. Connected to other fragments and total area may be 1,000 ha. Slopes possess tall forest with open understorey; level areas selectively logged and have lower trees and tangled understorey. Forest surrounds a large water reservoir. One gunshot heard. |
| 9. Mata da Sela, Usina Cachoeira                               | 09°22'S<br>35°43'W;<br>160 m | c.100     | 2           | 46                         | Dry forest on a hillside with many exposed boulders. Highly degraded by selective logging. A few emergents, up to 30 m high, tower above an 8 m-high canopy of second-growth spp. ( <i>Cecropia</i> , Melastomaceae). Undergrowth with many sedges.  |
| 10. Mata Bamburral II, Usina Cachoeira                         | 09°26'S<br>35°41'W;<br>150 m | c.500     | 2.1         | 69                         | Ombrophyllous forest within a steep, narrow valley with a creek. Large emergents ( <i>Parkia pendula</i> and <i>Aspidosperma</i> sp.) amid many second-growth spp. ( <i>Inga</i> , <i>Cecropia</i> ). An abandoned camp (of poachers?) found.  |
| 11. Mata do Pinto, Usina Serra Grande                          | 08°58'S<br>36°06'W;<br>160 m | c.300     | 5.4         | 103                        | Ombrophyllous hilltop forest with a 20 m-high canopy; evidence of selective logging long ago. Many fruiting <i>Didymopanax morototoni</i> and melastomes, the latter forming a belt around parts of the fragment. Open undergrowth with sedge patches. Creeks and two water reservoirs within the fragment.  |
| 12. Mata do Engenho Coimbra, Usina Serra Grande                | 09°00'S<br>35°52'W;<br>590 m | c.800     | 5.1         | 103                        | Tall ombrophyllous forest with a 20–25 m-high canopy and emergents over 30 m. Many palms ( <i>Attalea</i> , <i>Euterpe edulis</i> ) and arboreal bromeliads. Many fallen fruits (Sapotaceae and Annonaceae) eaten by parrots. Several creeks. No evidence of selective logging. Eight poachers (plus six hunting dogs) recorded.                         |
| 13. Mata da Encosta do Grotão, Usina Camaragibe                | 09°07'S<br>35°34'W;<br>160 m | c.100     | 4           | 45                         | Very degraded ombrophyllous forest under severe selective logging. No permanent water. A few emergent <i>Parkia</i> .  |
| 14. Mata da Santa Justina, Usina Santo Antônio                 | 09°13'S<br>35°30'W;<br>30 m  | c.80      | 11          | 77                         | Ombrophyllous forest with evidence of past selective logging, within a steep narrow valley. Reasonably conserved, with emergent <i>Parkia</i> . Some trails used by poachers and loggers.  |
| 15. Grotão do Brás, Mata de Santa Justina, Usina Santo Antônio | 09°13'S<br>35°31'W;<br>50 m  | c.100     | 7           | 20                         | Well-conserved ombrophyllous forest in the narrow steep valley of a small river; 25 m-high canopy. Many emergents ( <i>Parkia pendula</i> and <i>Lecythis pisonii</i> ). Many palms, including fruiting <i>Euterpe edulis</i> . Open and species-rich undergrowth. An old trail, obstructed at points, leads to the forest.                              |





(Table 2) recording bird species observed, number of individuals, as well as habitat type, group size, food habits and general behaviour, and the conservation status of each area. Field work always commenced at dawn and usually continued until nightfall. Birds were observed using binoculars and vocalisations recorded with a Sony TCM 5000 EV and Sennheiser ME66 microphone. Copies of recordings have been deposited at the Arquivo Sonoro Elias Coelho (ASEC), Universidade Federal do Rio de Janeiro. Coordinates and altitude were taken using a GPS and the staff of the *usinas* furnished additional information such as the size of each area. The number of records of each species was converted to an abundance index (number of individuals/100 field hours<sup>78,79</sup>) to facilitate comparisons between areas. We also recorded mammals we encountered as complementary data.

The 15 fragments were very varied in habitat status and conservation. One important fact that demands emphasis is that in southern, drier fragments, there is a trend for the undergrowth of the more humid parts of such forests to be dominated by *Psychotria* (Rubiaceae) treelets, while *Miconia* and *Leandra* spp. (Melastomataceae) are abundant in the more humid northern fragments and may even form a 'belt' around higher altitude areas such as Murici and Usina Serra Grande<sup>66</sup>.

## Results

A list of bird species recorded in our survey is presented in Table 3. The areas that harboured the most species were Mata do Engenho Coimbra and Mata do Pinto, both with 103 species recorded after slightly more than five field hours in each fragment. Both belong to Usina Serra Grande and are relatively close (c.30 km by car) to each other, though situated at different altitudes.

### Indicator species

#### *Tinamous and cracids*

The larger cracids and tinamous are classic examples of birds vulnerable to hunting<sup>50,64</sup>; indeed Alagoas Curassow *Mitu mitu* is considered extinct in the wild<sup>11,66</sup>. We found no evidence for the continued existence of *Tinamus solitarius pernambucensis*, now thought to be restricted to Murici (F. Pinto pers. comm.), at any of our survey sites. None of the people we interviewed was aware of recent records of the *macuca*, as local people commonly refer to it. The form was rarely heard in Murici during the 1991 breeding season (J. F. Pacheco *in litt.*) and recent visits there by birdwatching groups have also failed to detect it; thus the taxon, if valid, is evidently Critically Endangered.

Even where present, forest tinamous were scarce in all areas, with only 1–2 records/area, while *Crypturellus parvirostris* was common in nearby

sugarcane plantations and other man-made habitats. *C. soui* was the most widespread species, recorded in six areas, an expected result, as the species prefers dense secondary vegetation at edges and clearings, and will use bushy areas and cocoa plantations<sup>15</sup>. It is probably well able to withstand selective logging and forest fragmentation, and its small size and cryptic habits mean that hunters do not favour the species. *C. strigulosus*, on the other hand, is restricted to lowland humid forests and was found only at Grotão do Brás, near sea level, where a single record was made. At Usina Uruba and Coruripe we were shown three captive *C. noctivagus* caught in scrubby coastal forest (restinga) near the mouth of the rio São Francisco, at *usinas* Coruripe and Marituba. They exhibited the dark coloration characteristic of the threatened nominate (Atlantic Forest) subspecies and thus represent either a significant northward range extension for this taxon or a population intermediate between *C. n. noctivagus* and the caatinga *C. n. zabele*. The species appears to be as locally scarce as Solitary Tinamou and is Critically Endangered at a regional level.

*Ortalis araucuan* is apparently a habitat generalist easily recognised by its vocalisation and gregarious habits that make its detection simple for biologists and poachers alike. This species was considered common throughout north-east Brazil<sup>71</sup> but we recorded it only once (a pair duetting at site 2). Despite chachalacas being the cracids best able to cope with hunting and deforestation, it was absent from 14 fragments surveyed and its status does not appear as safe as formerly considered.

*Penelope superciliaris* is another generalist able to cope with deforestation and even comparatively high levels of poaching, and was found in five fragments varying from well conserved to heavily degraded forest. The population in Alagoas belongs to the recently described *P. s. alagoensis*, which appears quite distinctive in plumage<sup>43</sup>.

#### *Birds of prey*

While open-country species such as *Buteo* spp. are common, larger forest raptors and owls (*Spizaetus* spp., *Spizastur melanoleucus* and *Pulsatrix perspicillata*) appeared scarce or absent from our survey sites. The continued survival of *Spizaetus tyrannus* in the region is attested by recent records at Usina Serra Grande (S. A. Roda *in litt.*) and one was seen in June 2002 near the Pernambuco/Alagoas border stalking marmosets (F. Melo *in litt.*). The largest hawk species we recorded were the medium-sized and adaptable *Leptodon cayanensis* (two sites), *Geranospiza caerulescens* (two sites) and *Micrastur semitorquatus* (only in Mata da Sálvia). All *Leptodon* recorded by us exhibited the typical characters of *L. cayanensis*, and the validity of White-collared Kite *L. forbesi* is currently being studied by LFS.

**Table 3.** Bird taxa recorded in 15 forest fragments in Alagoas, north-east Brazil, and their relative abundances (individuals/100 hours; for a fuller explanation of such methodology see Willis<sup>78</sup> and Willis & Onki<sup>99</sup>). See Table 2 for the code of localities (1–15). Question marks refer to observations in which the species identity was uncertain.

| English name                 | Scientific name                             | 1   | 2   | 3  | 4   | 5   | 6   | 7    | 8  | 9   | 10  | 11  | 12  | 13  | 14 | 15 |
|------------------------------|---|-----|-----|----|-----|-----|-----|------|----|-----|-----|-----|-----|-----|----|----|
| Little Tinamou               | <i>Crypturellus soui</i>                    | 14  | 50  | -  | -   | -   | -   | -    | -  | 100 | -   | -   | 59  | -   | 18 | 29 |
| Tataupa Tinamou              | <i>Crypturellus tataupa</i>                 | 14? | -   | -  | -   | -   | -   | -    | -  | -   | -   | -   | -   | -   | -  | -  |
| Brazilian Tinamou            | <i>Crypturellus strigulosus</i>             | -   | -   | -  | -   | -   | -   | -    | -  | -   | -   | -   | -   | -   | -  | 57 |
| Striated Heron               | <i>Butorides striatus</i>                   | -   | -   | -  | -   | -   | -   | -    | 29 | -   | -   | 19  | -   | -   | -  | -  |
| Rufescent Tiger-heron        | <i>Tigrisoma lineatum</i>                   | -   | -   | -  | 17  | -   | -   | -    | -  | -   | -   | 37  | -   | -   | -  | -  |
| Black Vulture                | <i>Coragyps atratus</i>                     | 14  | 50  | 67 | -   | -   | 100 | 320  | 14 | 150 | -   | 56  | 118 | 50  | 64 | 14 |
| Turkey Vulture               | <i>Cathartes aura</i>                       | 14  | -   | -  | -   | -   | -   | 80   | 29 | -   | -   | -   | 20  | 75  | 36 | -  |
| Lesser Yellow-headed Vulture | <i>Cathartes burrovianus</i>                | 14  | -   | -  | 33  | -   | -   | 120  | 57 | -   | -   | 19  | 20  | -   | 18 | -  |
| Bicoloured Hawk              | <i>Accipiter bicolor</i>                    | -   | -   | -  | 17? | -   | -   | -    | -  | -   | -   | -   | -   | -   | -  | -  |
| Grey-headed Kite             | <i>Leptodon cayanensis</i>                  | -   | -   | -  | -   | -   | -   | -    | -  | -   | -   | 59  | -   | -   | -  | -  |
| Crane Hawk                   | <i>Geranospiza caerulescens</i>             | -   | -   | -  | -   | -   | -   | -    | 14 | -   | -   | -   | -   | 25  | -  | -  |
| Grey Hawk                    | <i>Asturina nitida</i>                      | -   | -   | -  | -   | -   | 25  | 40   | 29 | -   | 95  | 19  | -   | -   | -  | -  |
| Roadside Hawk                | <i>Rupornis magnirostris</i>                | 14  | 25  | -  | 33  | -   | -   | -    | -  | -   | 95  | -   | -   | 50  | 27 | -  |
| Short-tailed Hawk            | <i>Buteo brachyurus</i>                     | -   | -   | -  | -   | -   | -   | -    | -  | -   | -   | -   | -   | -   | 9  | -  |
| Zone-tailed Hawk             | <i>Buteo albonotatus</i>                    | 14  | -   | -  | 17  | -   | -   | -    | -  | -   | -   | -   | 59  | -   | -  | -  |
| Crested Caracara             | <i>Caracara plancus</i>                     | 14  | -   | -  | 17  | -   | 50  | -    | -  | -   | 48  | 19  | 20  | 25  | 18 | -  |
| Yellow-headed Caracara       | <i>Milvago chimachima</i>                   | -   | -   | -  | -   | -   | 75  | -    | -  | -   | -   | 37  | -   | -   | -  | -  |
| Laughing Falcon              | <i>Herpetotheres cachinanns</i>             | -   | -   | -  | -   | -   | 25  | -    | 29 | 50  | -   | -   | -   | -   | 9  | -  |
| Barred Forest-falcon         | <i>Micrastur ruficollis</i>                 | 14  | 25  | -  | -   | -   | -   | -    | -  | -   | -   | 19  | 20  | -   | 9  | 14 |
| Collared Forest-falcon       | <i>Micrastur semitorquatus</i>              | -   | -   | -  | -   | -   | 75  | -    | -  | -   | -   | -   | -   | -   | -  | -  |
| Speckled Chachalaca          | <i>Ortalis araucuan</i>                     | -   | 50  | -  | -   | -   | -   | -    | -  | -   | -   | -   | -   | -   | -  | -  |
| Rusty-margined Guan          | <i>Penelope supercilialis alagoensis</i>    | -   | -   | 33 | -   | -   | -   | -    | 29 | 50  | 48  | 19  | -   | -   | -  | -  |
| Spot-winged Wood-quail       | <i>Odontophorus capueira plumbeicollis</i>  | -   | -   | -  | -   | -   | -   | -    | 29 | -   | -   | -   | -   | -   | -  | -  |
| Limpkin                      | <i>Aramus guarauna</i>                      | -   | -   | -  | -   | -   | -   | -    | 43 | -   | -   | -   | -   | -   | -  | -  |
| Rufous-sided Crake           | <i>Laterallus melanophaius</i>              | -   | -   | -  | -   | -   | 50  | -    | -  | -   | -   | -   | -   | -   | -  | -  |
| Russet-crowned Crake         | <i>Laterallus viridis</i>                   | -   | -   | -  | -   | -   | -   | -    | -  | -   | 48  | -   | -   | -   | -  | -  |
| Grey-necked Wood-rail        | <i>Aramides cajanea</i>                     | -   | -   | -  | -   | -   | -   | -    | -  | -   | -   | 19  | -   | -   | -  | -  |
| Ash-throated Crake           | <i>Porzana albicollis</i>                   | -   | -   | -  | -   | -   | 25  | -    | -  | -   | -   | -   | -   | -   | -  | -  |
| Blackish Rail                | <i>Pardirallus nigricans</i>                | -   | -   | -  | -   | -   | -   | -    | -  | -   | -   | 37  | -   | -   | -  | -  |
| Purple Gallinule             | <i>Porphyryla martinica</i>                 | -   | -   | -  | -   | -   | -   | -    | -  | -   | -   | 37  | -   | -   | -  | -  |
| Common Moorhen               | <i>Gallinula chloropus</i>                  | -   | -   | -  | -   | -   | -   | -    | -  | -   | -   | 37  | -   | -   | -  | -  |
| Wattled Jacana               | <i>Jacana jacana</i>                        | -   | -   | -  | -   | -   | -   | -    | 71 | -   | -   | 37  | -   | -   | -  | -  |
| Scaled Pigeon                | <i>Columba speciosa</i>                     | 29  | -   | -  | -   | -   | -   | -    | 29 | 100 | 95  | 19  | 20  | -   | -  | -  |
| Plain-breasted Ground-dove   | <i>Columbina minuta</i>                     | 29  | -   | -  | -   | -   | -   | -    | -  | -   | -   | -   | -   | -   | -  | -  |
| Ruddy Ground-dove            | <i>Columbina talpacoti</i>                  | -   | -   | -  | -   | -   | 300 | -    | 57 | -   | -   | -   | -   | -   | -  | 29 |
| White-tipped Dove            | <i>Leptotila verreauxi</i>                  | 14  | 25  | -  | 17  | -   | 50  | -    | 71 | -   | -   | 19  | 20  | 25  | 18 | -  |
| Grey-fronted Dove            | <i>Leptotila rufaxilla</i>                  | -   | -   | -  | -   | -   | -   | -    | 14 | -   | -   | 19  | 20  | -   | 9  | -  |
| Ruddy Quail-dove             | <i>Geotrygon montana</i>                    | -   | -   | -  | -   | -   | 25  | -    | 29 | -   | -   | -   | -   | -   | -  | -  |
| Red-shouldered Macaw         | <i>Diopsittaca nobilis</i>                  | 71  | 100 | -  | -   | -   | 450 | 2560 | 57 | -   | -   | -   | 235 | 100 | 91 | 57 |
| Jandaya Parakeet             | <i>Aratinga jandaya</i>                     | -   | 25  | -  | -   | -   | -   | -    | -  | 100 | -   | -   | -   | 100 | 27 | -  |
| Peach-fronted Parakeet       | <i>Aratinga aurea</i>                       | -   | 50  | -  | -   | -   | -   | -    | -  | -   | -   | -   | -   | -   | -  | -  |
| Blue-winged Parrotlet        | <i>Forpus xanthopterygius</i>               | -   | -   | -  | -   | -   | -   | -    | -  | -   | -   | 37  | 39  | -   | -  | -  |
| Plain Parakeet               | <i>Brotogeris tirica</i>                    | -   | -   | -  | -   | -   | -   | -    | -  | 50  | -   | -   | -   | -   | -  | -  |
| Golden-tailed Parrotlet      | <i>Touit surda</i>                          | 14  | -   | -  | -   | -   | 150 | 480  | -  | -   | 95  | -   | 235 | -   | -  | -  |
| Blue-headed Parrot           | <i>Pionus menstruus</i>                     | 29  | -   | -  | -   | -   | -   | -    | -  | 100 | -   | -   | 98  | -   | 91 | -  |
| Dark-billed Cuckoo           | <i>Coccyzus melacoryphus</i>                | -   | -   | -  | -   | -   | -   | -    | 57 | -   | -   | -   | -   | -   | -  | -  |
| Squirrel Cuckoo              | <i>Piaya cayana</i>                         | 14  | 50  | -  | 17  | 48  | 50  | 40   | 43 | -   | 95  | 74  | 39  | -   | 27 | 14 |
| Smooth-billed Ani            | <i>Crotophaga ani</i>                       | -   | 150 | -  | -   | -   | -   | -    | -  | -   | -   | -   | -   | -   | -  | -  |
| Guira Cuckoo                 | <i>Guira guira</i>                          | 57  | 50  | -  | -   | -   | -   | -    | -  | -   | -   | -   | -   | -   | -  | -  |
| Striped Cuckoo               | <i>Tapera naevia</i>                        | 14  | 25  | -  | -   | -   | 25  | 40   | -  | -   | 95  | -   | 39  | 25  | 18 | -  |
| Tropical Screech-owl         | <i>Otus choliba</i>                         | -   | -   | -  | -   | -   | -   | -    | -  | -   | -   | -   | -   | -   | 9  | -  |
| Spectacled Owl               | <i>Pulsatrix perspicillata</i>              | -   | -   | -  | -   | 95  | -   | -    | -  | -   | -   | -   | -   | -   | -  | -  |
| Ferruginous Pygmy-owl        | <i>Glauucidium brasilianum</i>              | -   | -   | -  | 33  | -   | -   | -    | -  | -   | -   | -   | -   | 25  | -  | -  |
| Common Potoo                 | <i>Nyctibius griseus</i>                    | -   | -   | 17 | 17  | -   | -   | -    | -  | -   | -   | -   | -   | -   | -  | -  |
| Short-tailed Nighthawk       | <i>Lurocalis semitorquatus</i>              | -   | -   | 17 | 33  | 48  | -   | -    | -  | -   | -   | 19  | 137 | -   | 36 | -  |
| Pauraque                     | <i>Nyctidromus albicollis</i>               | -   | 50  | 33 | 50  | 286 | -   | -    | -  | -   | -   | 19  | 118 | 50  | 18 | -  |
| Ocellated Poorwill           | <i>Nyctiphrynus ocellatus</i>               | -   | -   | -  | -   | -   | -   | -    | -  | -   | -   | -   | 20  | -   | -  | -  |
| Rufous Nightjar              | <i>Caprimulgus rufus</i>                    | -   | 25  | -  | 33  | -   | -   | -    | -  | -   | -   | -   | -   | -   | 9  | -  |
| Scissor-tailed Nightjar      | <i>Hydropsalis torquata</i>                 | -   | 25  | -  | -   | -   | -   | -    | -  | -   | -   | -   | -   | 25  | -  | -  |
| Lesser Swallow-tailed Swift  | <i>Panyptila cayennensis</i>                | -   | -   | -  | -   | -   | -   | -    | -  | -   | -   | -   | -   | -   | -  | 18 |
| Grey-rumped Swift            | <i>Chaetura spinicauda</i>                  | -   | 75  | -  | -   | -   | -   | -    | -  | 50  | -   | -   | 20  | -   | -  | -  |
| Rufous-breasted Hermit       | <i>Glaucis hirsuta</i>                      | 14  | -   | -  | -   | -   | 25  | -    | 29 | -   | -   | 19  | -   | -   | -  | -  |
| Buff-bellied Hermit          | <i>Phaethornis ochraceiventris camargoi</i> | -   | -   | -  | -   | -   | -   | -    | -  | -   | 48? | 19? | 59? | -   | -  | -  |
| Reddish Hermit               | <i>Phaethornis ruber</i>                    | 29  | 25  | 50 | 83  | 48  | 25  | 40   | 57 | -   | 48  | -   | 78  | -   | -  | -  |
| Swallow-tailed Hummingbird   | <i>Eupetomena macroura</i>                  | -   | -   | -  | -   | -   | -   | -    | -  | -   | -   | -   | -   | 25  | -  | -  |



## Cotinga 20

## Birds in Atlantic Forest fragments in north-east Brazil

| English name                  | Scientific name                                 | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15 |
|-------------------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Black Jacobin                 | <i>Melanotrochilus fuscus</i>                   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 78  | -   | -   | -  |
| Sombre Hummingbird            | <i>Aphantochroa cirrochloris</i>                | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 37  | -   | -   | -   | -  |
| Black-throated Mango          | <i>Anthracothorax nigricollis</i>               | -   | -   | -   | -   | -   | 50  | -   | 29  | -   | 48  | 19  | -   | -   | -   | -  |
| Ruby-topaz Hummingbird        | <i>Chrysolampis mosquitus</i>                   | -   | -   | -   | -   | -   | 50  | -   | -   | -   | -   | -   | 20  | 25  | 9   | -  |
| Blue-chinned Sapphire         | <i>Chlorestes notatus</i>                       | 29  | 25  | 33  | 50  | -   | 25  | 40  | 43  | 100 | -   | -   | -   | 25  | -   | -  |
| Glittering-bellied Emerald    | <i>Chlorostilbon aureoventris</i>               | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 95  | -   | -   | -   | -  |
| Long-tailed Woodnymph         | <i>Thalurania watertonii</i>                    | 29  | 25  | -   | 33  | -   | -   | -   | -   | -   | 143 | -   | 20  | -   | -   | -  |
| Rufous-throated Sapphire      | <i>Hylocharis sapphirina</i>                    | 14  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -  |
| White-chinned Sapphire        | <i>Hylocharis cyanus</i>                        | -   | 25  | 17  | 17  | -   | -   | -   | 14  | -   | -   | -   | 78  | -   | -   | -  |
| Versicoloured Emerald         | <i>Agyrtia versicolor</i>                       | 14  | -   | -   | -   | -   | -   | -   | -   | -   | 48  | -   | -   | -   | -   | -  |
| Glittering-throated Emerald   | <i>Amazilia fimbriata</i>                       | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 37  | -   | -   | -   | -  |
| Black-eared Fairy             | <i>Heliothryx aurita</i>                        | -   | 25  | -   | -   | -   | -   | -   | -   | -   | -   | 37  | -   | -   | -   | -  |
| Blue-crowned Trogon           | <i>Trogon curucui</i>                           | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 18  | -  |
| White-tailed Trogon           | <i>Trogon viridis</i>                           | 43  | 50  | -   | 33  | -   | 25  | -   | -   | -   | 95  | -   | -   | -   | 9   | 14 |
| Green Kingfisher              | <i>Chloroceryle americana</i>                   | 14  | -   | -   | -   | -   | -   | -   | 29  | -   | 48  | -   | -   | -   | -   | -  |
| Blue-crowned Motmot           | <i>Momotus momota marcgraviana</i>              | 14  | -   | -   | -   | -   | -   | -   | 71  | -   | 95  | -   | 59  | -   | 82  | -  |
| Rufous-tailed Jacamar         | <i>Galbula ruficauda</i>                        | 29  | 50  | 50  | 17  | -   | 25  | 40  | 100 | 100 | 48  | 93  | 20  | -   | 9   | -  |
| Lettered Aracari              | <i>Pteroglossus inscriptus</i>                  | -   | -   | -   | -   | -   | -   | -   | 43  | -   | -   | 37  | -   | -   | 18  | -  |
| Black-necked Aracari          | <i>Pteroglossus aracari</i>                     | -   | 25  | -   | -   | -   | -   | 240 | 29  | -   | -   | -   | -   | -   | 127 | 43 |
| Channel-billed Toucan         | <i>Ramphastos vitellinus</i>                    | 14  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 78  | -   | -   | -  |
| Golden-spangled Piculet       | <i>Picumnus exilis pernambucensis</i>           | -   | -   | -   | 17  | -   | 75  | 80  | 43  | 100 | 48  | 19  | 157 | -   | 36  | -  |
| Fulvous Piculet               | <i>Picumnus fulvescens</i>                      | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 37  | -   | -   | -   | -  |
| Little Woodpecker             | <i>Veniliornis passerinus</i>                   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 95  | -   | -   | -   | -   | -  |
| Red-stained Woodpecker        | <i>Veniliornis affinis</i>                      | 43  | -   | -   | -   | -   | -   | 160 | -   | -   | -   | 19  | 39  | -   | 18  | -  |
| Yellow-throated Woodpecker    | <i>Piculus flavigula</i>                        | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 20  | -   | -   | -   | -  |
| Golden-green Woodpecker       | <i>Piculus chrysochlorus</i>                    | -   | -   | -   | -   | -   | 40  | -   | -   | -   | -   | -   | -   | -   | -   | -  |
| Blond-crested Woodpecker      | <i>Celeus flavescens</i>                        | 29  | -   | -   | -   | -   | -   | -   | -   | 48  | 19  | -   | -   | -   | -   | -  |
| Lineated Woodpecker           | <i>Dryocopus lineatus</i>                       | 14  | 25  | -   | -   | -   | -   | -   | -   | -   | 19  | 20  | -   | -   | -   | -  |
| Sooty-fronted Spinetail       | <i>Synallaxis frontalis</i>                     | -   | -   | -   | -   | 25  | -   | -   | -   | -   | 19  | -   | 50  | -   | -   | -  |
| Pinto's Spinetail             | <i>Synallaxis infusata</i>                      | -   | -   | -   | -   | 25  | -   | -   | -   | -   | 74  | -   | -   | -   | -   | -  |
| Grey-headed Spinetail         | <i>Cranioleuca semicinerea</i>                  | -   | -   | -   | -   | -   | -   | -   | -   | -   | 74  | 20  | -   | -   | -   | -  |
| Yellow-chinned Spinetail      | <i>Certhiaxis cinnamomea</i>                    | -   | -   | -   | -   | -   | -   | -   | -   | -   | 37  | 20  | -   | -   | -   | -  |
| Common Thornbird              | <i>Phacelodanus ruffrons</i>                    | -   | -   | -   | -   | -   | -   | -   | -   | -   | 19  | 20  | -   | -   | -   | -  |
| Plain Xenops                  | <i>Xenops minutus alagoanus</i>                 | 57  | 25  | -   | -   | -   | 40  | 29  | -   | 48  | 19  | 20  | -   | 9   | -   | -  |
| White-eyed Foliage-gleaner    | <i>Automolus leucophthalmus lammi</i>           | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 137 | -   | -   | -   | -  |
| Plain-brown Woodcreeper       | <i>Dendrocincla fuliginosa taunay</i>           | -   | -   | -   | -   | -   | -   | 29  | -   | -   | -   | 78  | -   | 18  | -   | -  |
| Olivaceous Woodcreeper        | <i>Sittosomus griseicapillus</i>                | 43  | 25  | -   | 17  | -   | 100 | -   | 43  | 50  | 95  | 37  | 59  | -   | 45  | -  |
| Straight-billed Woodcreeper   | <i>Xiphorhynchus picus</i>                      | 14  | 50  | -   | -   | -   | -   | -   | -   | -   | 19  | 20  | 25  | -   | -   | -  |
| Buff-throated Woodcreeper     | <i>Xiphorhynchus guttatus</i>                   | 14  | -   | 17  | 100 | 95  | 50  | -   | 100 | -   | 37  | -   | -   | -   | 55  | 29 |
| Lesser Woodcreeper            | <i>Lepidocolaptes fuscus atlanticus</i>         | -   | -   | -   | -   | 25  | -   | -   | -   | -   | -   | 20  | -   | -   | -   | -  |
| Great Antshrike               | <i>Taraba major</i>                             | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 37  | -   | -   | -   | -  |
| Barred Antshrike              | <i>Thamnophilus doliatus</i>                    | 14  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -  |
| White-shouldered Antshrike    | <i>Thamnophilus aethiops distans</i>            | -   | -   | -   | -   | -   | 80  | 29  | -   | -   | -   | -   | 78  | -   | -   | -  |
| Variable Antshrike            | <i>Thamnophilus caerulescens pernambucensis</i> | 86  | 25  | -   | -   | 95  | 25  | -   | -   | 50  | -   | 74  | 39  | 100 | 27  | 14 |
| Rufous-winged Antshrike       | <i>Thamnophilus torquatus</i>                   | -   | 50  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -  |
| Plain Antwren                 | <i>Dysithamnus mentalis</i>                     | -   | -   | -   | 17  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -  |
| White-flanked Antwren         | <i>Myrmotherula axillaris</i>                   | 29  | 50  | 33  | 17  | -   | -   | 40  | 86  | 100 | -   | -   | 78  | -   | 18  | 57 |
| Black-capped Antwren          | <i>Herpsilochmus atricapillus</i>               | 57  | 50  | -   | 33  | -   | -   | -   | -   | -   | -   | 56  | -   | -   | -   | -  |
| Rufous-winged Antwren         | <i>Herpsilochmus rufimarginatus</i>             | 86  | 50  | 100 | 133 | 95  | 275 | 80  | 143 | 250 | 95  | 37  | 490 | -   | 27  | -  |
| White-fringed Antwren         | <i>Formicivora grisea</i>                       | 114 | 50  | 33  | 33  | 95  | 25  | 40  | 114 | 100 | -   | -   | -   | -   | -   | -  |
| Orange-bellied Antwren        | <i>Terenura sicki</i>                           | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 98  | -   | -   | -  |
| Willis' Antbird               | <i>Cercomacra laeta sabinoi</i>                 | 14  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 39  | -   | -   | -  |
| White-backed Fire-eye         | <i>Pyriglena leuconota pernambucensis</i>       | 29  | 50  | 33  | -   | -   | 50  | 80  | 43  | 100 | 48  | -   | 118 | -   | -   | 14 |
| Scalloped Antbird             | <i>Myrmeciza ruficauda soror</i>                | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 235 | -   | -   | 29 |
| Rufous-capped Antthrush       | <i>Formicarius colma</i>                        | -   | -   | -   | 33  | -   | -   | -   | 14  | -   | -   | -   | 20  | -   | -   | -  |
| Rufous Gnateater              | <i>Conopophaga lineata cearae</i>               | 14  | 25  | -   | -   | -   | 25  | -   | -   | -   | -   | -   | -   | -   | -   | -  |
| Black-cheeked Gnateater       | <i>Conopophaga melanops nigrifrons</i>          | -   | 50  | 33  | 33  | 48  | 25  | -   | 14  | -   | -   | -   | 157 | -   | 55  | 14 |
| Screaming Piha                | <i>Lipaugus vociferans</i>                      | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 9   | -  |
| Bearded Bellbird              | <i>Procnias averano</i>                         | 43  | -   | -   | -   | -   | -   | 80  | 86  | -   | -   | -   | -   | -   | -   | -  |
| White-bearded Manakin         | <i>Manacus manacus</i>                          | 114 | 100 | -   | -   | -   | 75  | 40  | -   | 100 | 95  | 204 | 59  | -   | 55  | -  |
| Blue-backed Manakin           | <i>Chiroxiphia pareola</i>                      | 171 | 100 | 67  | 200 | 190 | 25  | 120 | 257 | 200 | 190 | 93  | 588 | -   | 73  | 14 |
| Red-headed Manakin            | <i>Pipra rubrocappilla</i>                      | 86  | 100 | 33  | 50  | 48  | 100 | 120 | 100 | -   | 48  | 130 | 510 | -   | 55  | -  |
| Pale-bellied Tyrant-manakin   | <i>Neopelma pallescens</i>                      | 86  | 100 | 17  | 17  | -   | -   | -   | 29  | -   | -   | 19  | 39  | -   | -   | -  |
| Slender-footed Tyrannulet     | <i>Zimmerius gracilipes</i>                     | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 20  | -   | -   | -  |
| White-lored Tyrannulet        | <i>Ornithion inerme</i>                         | -   | -   | -   | -   | -   | -   | 80  | -   | 100 | 48  | 19  | -   | -   | 36  | -  |
| Southern Beardless-tyrannulet | <i>Camptostoma obsoletum</i>                    | 29  | 100 | 17  | 33  | 48  | 125 | -   | 43  | 50  | 48  | -   | 20  | 25  | 18  | -  |
| Yellow Tyrannulet             | <i>Capsiempis flaveola</i>                      | 57  | 100 | -   | -   | -   | 175 | -   | -   | -   | 95  | 19  | 39  | -   | -   | -  |
| Forest Elaenia                | <i>Myiopagis gaimardii</i>                      | -   | -   | -   | -   | 25  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -  |





## Cotinga 20

## Birds in Atlantic Forest fragments in north-east Brazil

| English name                  | Scientific name                              | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15 |
|-------------------------------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Large Elaenia                 | <i>Elaenia spectabilis</i>                   | 14  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -  |
| Yellow-bellied Elaenia        | <i>Elaenia flavogaster</i>                   | 29  | 25  | 17  | 17  | -   | 125 | 120 | 14  | -   | 190 | 74  | 118 | 75  | 36  | -  |
| White-crested Tyrannulet      | <i>Contopus cinereus</i>                     | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 19  | -   | -   | -   | -  |
| Sepia-capped Flycatcher       | <i>Leptopogon amaurocephalus</i>             | 14  | 25  | 17  | 17  | 48  | 125 | -   | 43  | 50  | 48  | 19  | 39  | -   | 73  | -  |
| Alagoas Tyrannulet            | <i>Phylloscartes ceciliae</i>                | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 20  | -   | -   | -  |
| White-eyed Tody-tyrant        | <i>Hemitriccus zosterops naumburgae</i>      | 43  | 50  | 67  | 83  | 95  | 50  | 120 | 100 | 100 | 95  | 19  | 216 | -   | 91  | -  |
| Common Tody-flycatcher        | <i>Todirostrum cinereum</i>                  | 14  | 25  | -   | -   | -   | 150 | -   | 43  | -   | -   | 111 | -   | 75  | 18  | -  |
| White-throated Spadebill      | <i>Platyrinchus mystaceus</i>                | -   | -   | -   | -   | 143 | -   | -   | 29  | -   | 48  | -   | 20  | -   | -   | -  |
| Olivaceous Flatbill           | <i>Rhynchocyclus olivaceus</i>               | -   | -   | 17  | -   | -   | -   | -   | -   | -   | -   | -   | 59  | -   | -   | -  |
| Yellow-olive Flycatcher       | <i>Tolmomyias poliocephalum</i>              | -   | -   | 17? | -   | -   | -   | -   | 57? | -   | -   | 19? | -   | -   | -   | -  |
| Yellow-breasted Flycatcher    | <i>Tolmomyias flaviventris</i>               | 57  | 100 | 67  | 67  | 143 | 150 | -   | 114 | 50  | 143 | 19  | 98  | 25  | 27  | -  |
| Bran-coloured Flycatcher      | <i>Myiophobus fasciatus</i>                  | -   | -   | -   | -   | -   | -   | -   | 14  | -   | -   | 19  | -   | 25  | -   | -  |
| Euler's Flycatcher            | <i>Lathrotriccus euleri</i>                  | -   | 50  | 33  | 33  | 48  | -   | -   | 14  | -   | 48  | 74  | 39  | -   | 27  | -  |
| Masked Water-tyrant           | <i>Fluvicola nengeta</i>                     | -   | -   | -   | -   | -   | 25  | -   | 86  | -   | -   | 74  | -   | -   | -   | -  |
| Bright-rumped Attila          | <i>Attila spadiceus</i>                      | -   | -   | 17  | 17  | 48  | 25  | -   | 71  | -   | 48  | 37  | 98  | -   | 36  | 14 |
| Greyish Mourner               | <i>Rhytipterna simplex</i>                   | 14  | 25  | 17  | 17  | 48  | 25  | -   | 29  | 50  | 95  | -   | 157 | -   | 27  | 14 |
| Dusky-capped Flycatcher       | <i>Myiarchus tuberculifer</i>                | -   | -   | -   | -   | -   | -   | -   | -   | -   | 48  | -   | -   | -   | -   | -  |
| Swainson's Flycatcher         | <i>Myiarchus swainsoni</i>                   | 29  | -   | -   | 50  | -   | -   | -   | -   | 100 | 95  | -   | 20  | -   | -   | -  |
| Short-crested Flycatcher      | <i>Myiarchus ferox</i>                       | -   | -   | -   | -   | -   | -   | -   | 29  | -   | -   | -   | -   | 25  | -   | -  |
| Great Kiskadee                | <i>Pitangus sulphuratus</i>                  | 29  | 25  | -   | -   | -   | 25  | -   | 43  | -   | 48  | 130 | -   | 25  | 18  | -  |
| Boat-billed Flycatcher        | <i>Megarynchus pitangua</i>                  | 57  | 50  | -   | -   | -   | 25  | -   | -   | 100 | 95  | 111 | 59  | 25  | 18  | -  |
| Social Flycatcher             | <i>Myiozetetes similis</i>                   | 29  | 50  | -   | -   | -   | 100 | -   | 143 | -   | 95  | 37  | 78  | -   | 18  | -  |
| Streaked Flycatcher           | <i>Myiodynastes maculatus</i>                | -   | -   | 17  | -   | 48  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -  |
| Variiegated Flycatcher        | <i>Empidonomus varius</i>                    | -   | -   | -   | -   | -   | 25  | -   | -   | -   | -   | -   | -   | -   | -   | -  |
| Tropical Kingbird             | <i>Tyrannus melancholicus</i>                | 14  | 25  | 17  | 17  | -   | 225 | -   | 29  | -   | 95  | 56  | 137 | -   | 36  | -  |
| Thrush-like Schiffornis       | <i>Schiffornis turdinus intermedius</i>      | 14  | -   | 17  | 33  | 48  | -   | -   | 57  | 50  | 48  | -   | -   | -   | 18  | -  |
| Green-backed Becard           | <i>Pachyrhamphus viridis</i>                 | -   | -   | -   | -   | -   | 25  | -   | 14  | 50  | 48  | -   | -   | -   | -   | -  |
| White-winged Becard           | <i>Pachyrhamphus polychopterus</i>           | 14  | 25  | -   | -   | -   | -   | -   | -   | 50  | 95  | 37  | 20  | -   | -   | -  |
| Grey-breasted Martin          | <i>Progne chalybea</i>                       | -   | -   | -   | -   | -   | -   | -   | -   | -   | 190 | 37  | -   | -   | -   | -  |
| White-rumped Swallow          | <i>Tachycineta leucorrhoa</i>                | -   | -   | -   | -   | -   | -   | -   | 57  | -   | -   | -   | -   | -   | -   | -  |
| Blue-and-white Swallow        | <i>Notochelidon cyanoleuca</i>               | 14  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -  |
| Southern Rough-winged Swallow | <i>Stelgidopteryx ruficollis</i>             | 29  | -   | -   | -   | 75  | -   | 43  | 100 | 381 | 19  | -   | -   | -   | 127 | -  |
| Black-capped Donacobius       | <i>Donacobius atricapillus</i>               | -   | -   | -   | -   | -   | -   | -   | -   | -   | 37  | -   | -   | -   | -   | -  |
| Moustached Wren               | <i>Thryothorus genibarbis</i>                | 86  | 50  | 33  | 33  | 95  | 200 | 80  | 143 | 300 | 48  | -   | 59  | 100 | 36  | -  |
| House Wren                    | <i>Troglodytes aedon</i>                     | -   | 25  | -   | -   | -   | 100 | 40  | -   | -   | -   | 19  | 20  | 25  | 18  | -  |
| Rufous-bellied Thrush         | <i>Turdus rufiventris</i>                    | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 19  | -   | -   | -   | -  |
| Pale-breasted Thrush          | <i>Turdus leucomelas</i>                     | 43  | 100 | -   | -   | -   | 200 | 40  | 43  | 50  | 48  | 278 | 137 | 50  | 55  | 57 |
| Cocoa Thrush                  | <i>Turdus albicollis</i>                     | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 19  | 39  | -   | -   | -  |
| Long-billed Gnatwren          | <i>Ramphocaenus melanurus</i>                | 86  | 25  | -   | -   | -   | -   | -   | -   | 50  | 48  | 19  | 373 | -   | 45  | -  |
| Tropical Gnatcatcher          | <i>Poliopitila plumbea</i>                   | -   | 75  | -   | -   | -   | 25  | -   | -   | -   | 95  | 37  | -   | -   | -   | -  |
| Red-eyed Vireo                | <i>Vireo olivaceus</i>                       | 143 | 100 | 100 | 317 | 333 | 125 | -   | 271 | 100 | 190 | 93  | 294 | 150 | 91  | 29 |
| Rufous-browed Peppershrike    | <i>Cyclarhis gujanensis</i>                  | 114 | 25  | 17  | 17  | -   | 75  | 40  | -   | 50  | 95  | 130 | 176 | 25  | 9   | -  |
| Tropical Parula               | <i>Parula pitayumi</i>                       | 57  | 50  | -   | -   | -   | -   | 40  | -   | -   | -   | -   | 20  | -   | -   | -  |
| Golden-crowned Warbler        | <i>Basileuterus culicivorus</i>              | 57  | 25  | -   | 17  | -   | 100 | -   | 14  | -   | 95  | 74  | 20  | 50  | 36  | -  |
| Flavescent Warbler            | <i>Basileuterus flaveolus</i>                | 29  | 25  | -   | -   | -   | -   | -   | -   | -   | 48  | 74  | -   | 50  | -   | -  |
| Bananaquit                    | <i>Coereba flaveola</i>                      | 86  | 100 | 117 | 67  | -   | 250 | -   | 100 | 50  | 190 | 93  | 314 | 75  | 55  | -  |
| Brazilian Tanager             | <i>Ramphocelus bresilius bresilius</i>       | -   | -   | -   | -   | -   | 50  | -   | -   | -   | -   | 93  | 20  | -   | -   | -  |
| Cinnamon Tanager              | <i>Schistochlamys ruficapillus</i>           | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 25  | -   | -  |
| Orange-headed Tanager         | <i>Thlypopsis sordida</i>                    | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 56  | -   | 50  | -   | -  |
| Guira Tanager                 | <i>Hemithraupis guira</i>                    | 57  | 50  | 67  | -   | -   | 50  | 120 | -   | -   | -   | 111 | 118 | -   | -   | -  |
| Yellow-backed Tanager         | <i>Hemithraupis flavicollis melanoxantha</i> | 43  | 50  | 167 | 33  | -   | -   | -   | -   | 100 | -   | 37  | 529 | -   | 36  | -  |
| Hooded Tanager                | <i>Nemosia pileata</i>                       | -   | 50  | 33  | 33  | -   | 150 | -   | 100 | -   | 48  | 37  | -   | 50  | -   | -  |
| Flame-crested Tanager         | <i>Tachyphonus cristatus</i>                 | 86  | 75  | -   | 50  | -   | -   | 80  | -   | 50  | -   | 37  | 294 | -   | 36  | -  |
| White-lined Tanager           | <i>Tachyphonus rufus</i>                     | 114 | 50  | 33  | -   | -   | 175 | -   | -   | 50  | 190 | 37  | 98  | 100 | 55  | -  |
| Sayaca Tanager                | <i>Thraupis sayaca</i>                       | -   | -   | -   | -   | -   | 75  | -   | 14  | -   | -   | 56  | 59  | 50  | 36  | -  |
| Palm Tanager                  | <i>Thraupis palmarum</i>                     | 29  | 50  | -   | -   | -   | 225 | -   | 100 | 100 | -   | 204 | 157 | 150 | 73  | -  |
| Purple-throated Euphonia      | <i>Euphonia chlorotica</i>                   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 19  | 20  | 25  | 18  | -  |
| Violaceous Euphonia           | <i>Euphonia violacea</i>                     | -   | 50  | -   | -   | -   | 150 | 80  | 29  | 50  | -   | 111 | 39  | -   | 18  | -  |
| Chestnut-bellied Euphonia     | <i>Euphonia pectoralis</i>                   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 98  | -   | -   | -  |
| Seven-coloured Tanager        | <i>Tangara fastuosa</i>                      | 171 | 150 | -   | -   | -   | 75  | -   | -   | -   | 95  | 148 | -   | -   | -   | -  |
| Red-necked Tanager            | <i>Tangara cyanocephala corallina</i>        | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 444 | 78  | 200 | -   | -  |
| Burnished-buff Tanager        | <i>Tangara cayana</i>                        | 114 | 100 | -   | -   | -   | 275 | -   | -   | -   | 143 | 204 | 39  | -   | 73  | -  |
| Opal-rumped Tanager           | <i>Tangara velia cyanomelaena</i>            | 57  | -   | -   | -   | -   | -   | 280 | -   | -   | -   | -   | -   | -   | -   | -  |
| Blue Dacnis                   | <i>Dacnis cayana</i>                         | 114 | 50  | -   | -   | -   | 100 | -   | 57  | 150 | 48  | 56  | 137 | -   | 18  | -  |
| Green Honeycreeper            | <i>Chlorophanes spiza</i>                    | -   | 25  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -  |
| Red-legged Honeycreeper       | <i>Cyanerpes cyaneus</i>                     | -   | 50  | -   | -   | -   | -   | 80  | -   | 100 | 48  | -   | -   | -   | -   | -  |
| Blue-black Grassquit          | <i>Volatinia jacarina</i>                    | -   | 25  | -   | -   | -   | -   | -   | -   | -   | -   | -   | 20  | -   | -   | -  |
| White-bellied Seed-eater      | <i>Sporophila leucoptera</i>                 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 50  | -   | -  |



## Cotinga 20

## Birds in Atlantic Forest fragments in north-east Brazil

| English name            | Scientific name                            | 1  | 2  | 3 | 4  | 5 | 6   | 7  | 8  | 9   | 10 | 11  | 12 | 13 | 14 | 15 |
|-------------------------|--|----|----|---|----|---|-----|----|----|-----|----|-----|----|----|----|----|
| Sooty Grassquit         | <i>Tiaris fuliginosa</i>                   | 29 | -  | - | -  | - | -   | -  | -  | -   | -  | 37  | -  | -  | -  | -  |
| Pectoral Sparrow        | <i>Arremon taciturnus</i>                  | -  | 25 | - | 33 | - | 175 | 40 | 14 | -   | 95 | 167 | 39 | -  | -  | -  |
| Rufous-collared Sparrow | <i>Zonotrichia capensis</i>                | -  | 25 | - | -  | - | -   | -  | -  | -   | -  | -   | -  | -  | -  | -  |
| Buff-throated Saltator  | <i>Saltator maximus</i>                    | 86 | 25 | - | -  | - | 75  | 40 | 29 | -   | 95 | 19  | 78 | 25 | 55 | -  |
| Black-throated Grosbeak | <i>Saltator fuliginosus</i>                | -  | 50 | - | -  | - | 75  | -  | -  | -   | -  | 37  | 20 | -  | -  | -  |
| Yellow-green Grosbeak   | <i>Caryothraustes canadensis frontalis</i> | 57 | -  | - | 33 | - | -   | -  | -  | 100 | -  | -   | 39 | -  | 36 | -  |
| Epaulet Oriole          | <i>Icterus cayanensis</i>                  | -  | -  | - | -  | - | 50  | -  | -  | -   | 95 | 37  | -  | 25 | -  | -  |

### Large canopy frugivores and omnivores

Some canopy frugivores require large territories, while all rely on limited resources such as tree hollows and adequate fruit crops. Many are targeted by poachers for meat or to supply the cagebird market. Nevertheless, most are able to cover long distances in search of fruiting trees (some even performing migrations<sup>63</sup>) and may be pre-adapted to fragmented landscapes provided key food resources and nest sites remain.

The most widespread parrots were the adaptable, forest-edge and cerrado *Diopsittaca nobilis* and *Aratinga jandaya*, found in nine and five sites respectively. Their comparative abundance is surprising as both are targets of illegal cagebird commerce (*D. nobilis* being made up to look like Amazon parrots) and rely on fairly large cavities for nesting, available only in older trees. *D. nobilis* is quite common in coconut groves in northern Alagoas and its ability to utilise open habitats presumably include unappreciated strategies that permit the species to survive in Alagoas.

No *Amazona* parrots were recorded, and the threatened *Amazona rhodocorytha* may be extinct in Alagoas. We also failed to record *Pyrhura anaca*, which is apparently restricted to the montane forests of Murici<sup>73</sup>. *Brotogeris tirica* was found only at Mata da Sela, where a pair was observed. Its rarity is surprising as it was described as common by Teixeira *et al.*<sup>72</sup> and the species is widespread in south-east Brazil from sea-level (where it is very common) to over 1,000 m, and it even occurs in downtown São Paulo (pers. obs.).

*Pionus menstruus reichenowi* is a quite distinctive form of a widespread Amazonian species, which occurs from Alagoas south to northern Espírito Santo (records from Rio de Janeiro are uncertain: J. F. Pacheco pers. comm.). Habitat destruction has been severe within its range and the race has been heavily trapped to supply the cagebird market, although it persists in a few protected areas, principally in Espírito Santo<sup>41,48</sup>. This taxon deserves Vulnerable status. We found *P. m. reichenowi* in four areas (Table 2), including the large Mata do Engenho Coimbra. However, the most significant population was at site 14, where we recorded at least three different small groups. In other areas, despite the presence of apparently suitable habitat, none was recorded. In the southern Atlantic Forest, the related *P. maximiliani* is more

abundant in some fragmented or logged forests<sup>1,78</sup>, so the genus may be better able to cope with human impacts than *Amazona* species.

That the commonest forest parrot (and one of the most frequent birds in Mata do Engenho Coimbra) during our surveys was the globally threatened *Touit surda* points to the cause of the demise of the *Amazona* spp. *T. surda* is not sought as a cagebird because of its poor survival in captivity, and, not being wholly dependent on tree hollows, it is able to nest in arboreal termitaria in relatively young forest<sup>74</sup>. Termitaria and other alternative nest sites probably also account for the continued survival of *Diopsittaca nobilis* and *Aratinga jandaya*<sup>27</sup>. *D. nobilis* has successfully established feral populations in southern Brazilian cities such as São Paulo and Rio de Janeiro, nesting in buildings and other human structures<sup>63</sup> (pers. obs.).

Like parrots, toucans are locally sought by cagebird traffickers and are dependent on tree hollows for nesting and roosting. Toucans also feed heavily on large fruits produced by commercial timber species, e.g. *Virola*, *Ocotea* and *Copaifera* spp., and palms such as *Euterpe edulis*<sup>28,29</sup>. Therefore, they are almost certainly affected by selective logging and palm-heart extraction. The largest toucan in Alagoas, *Ramphastos vitellinus*, was found in only two fragments (Usina Santo Antonio 1 and Mata do Engenho Coimbra), being commonest at the latter. Its rarity is unsurprising as it requires more mature forest with larger hollowed trees and is a more desired target among poachers than the smaller species. It should be noted that the species is quite common in old second-growth forest in the southern Atlantic Forest, being easily found in isolated (but protected) forests of a few hundred hectares close to urban areas (e.g. around São Paulo and Rio de Janeiro, and in northern Santo Amaro Island) but also near large areas of continuous forest that act as sources.

*Pteroglossus inscriptus* is a widespread Amazonian species known from Pernambuco<sup>52</sup> and three localities in Alagoas<sup>47</sup>. We found it in another three forest fragments (Mata do Cedro, Mata do Pinto and Mata da Santa Justina), being sympatric with *P. aracari* at the first-named locality. The latter occurred in five fragments, all lowland forests, and its relatively greater abundance is consistent with its ability to persist in Atlantic Forest fragments



elsewhere<sup>5</sup>.

Two cotingas were found during the surveys: *Lipaugus vociferans* (only at Mata da Encosta do Grotão, near sea level) and *Procnias averano* (at sites 1, 7 and 8). *Xipholena atropurpurea* has been recorded from Mata do Engenho Coimbra (two specimens in the collection of the Universidade Federal de Pernambuco<sup>11</sup>) but was not observed by us. *L. vociferans* is restricted to lowlands, while *P. averano* occurs to at least to 500 m. *Lipaugus* can persist in mosaics of logged forest in the Amazon (pers. obs.) and the closely related *L. unirufus* has survived, albeit in greatly reduced numbers, on Barro Colorado Island after 85 years of isolation from the mainland<sup>62</sup>. A similar pattern appears evident in Alagoas. Bellbirds undertake fairly extensive migrations and this ability probably assists individuals explore widely dispersed forest fragments<sup>63</sup>. *P. averano* has been subject to heavy trapping in Alagoas to supply bird fanciers (one specialised trapper until recently worked in the Camaragipe area: F. Pinto pers. comm.) and this pressure, combined with habitat destruction, explains the species' comparative rarity.

#### Trunk and twig insectivores

Only two large woodpeckers were found (*Celeus flavescens* and *Dryocopus lineatus*), both at just 3–4 sites. The lack of these otherwise common and conspicuous species able to utilise fragmented forests was striking in apparently suitable habitat such as at Usina Coruripe and Utinga-Leão. The scarcity of large woodpeckers probably affects cavity nesters such as parrots, trogons and toucans, which take advantage of the holes created by woodpeckers.

Six woodcreeper species were found. *Sittasomus griseicapillus*, *Xiphorhynchus picus* and *X. guttatus* appeared widespread and occurred even in degraded fragments, which is unsurprising given that they occupy a broad range of habitats, including woodland with sparse trees<sup>61</sup>.

The two forest-dependent woodcreepers, the local forms of *Dendrocincla fuliginosa* and *Lepidocolaptes fuscus*, were found only in the few fragments of more humid forest with the best habitat and/or largest area. Some specialised woodcreepers, e.g. *Dendrocolaptes certhia* and *Campylorhamphus trochilostrius*, whose geographic range includes this region, were not recorded during the surveys. The rarity/absence of woodcreeper species may be linked to the observed scarcity of mixed-species flocks and army ant swarms (see below).

#### Understorey and ground insectivores

This group comprises forest-dependent species with limited dispersal ability that are known to be adversely affected by habitat fragmentation, changes in vegetation structure associated with log-

ging and extraction, and loss of associated organisms such as army ants, especially if no 'source' areas of undisturbed habitat exist nearby<sup>1,3,9,16,42,78</sup>. Representative taxa are antbirds, e.g. *Thamnophilus aethiops*, *T. caerulescens*, *Dysithamnus mentalis*, *Myrmotherula axillaris*, *Cercomacra laeta*, *Myrmeciza ruficauda*, *Pyriglena leuconota*, *Formicarius colma*, gnatcatchers (*Conopophaga lineata* and *C. melanops*), some furnariids (*Synallaxis infuscata*, *Automolus leucophthalmus*) and tyrant-flycatchers (*Zimmerius gracilipes*, *Rhynchocyclus olivaceus*).

A few species, at least, appear fairly widespread and able to withstand habitat disturbance (*Thamnophilus caerulescens*, *Myrmotherula axillaris*, *Pyriglena leuconota*, *Conopophaga melanops*). *Pyriglena leuconota*, *T. caerulescens* and, especially, *Hemitriccus zosterops* are the most widespread of the endemic Pernambuco centre taxa, occurring in at least ten of the 15 surveyed sites. On the other hand, the rarity of the conspicuous *Dysithamnus mentalis*, recorded in only one area, was unexpected as the species is usually adaptable and able to maintain healthy populations in forest fragments. The apparent lack of the forest-edge *Synallaxis infuscata* and *Cercomacra laeta*<sup>10</sup> from most fragments was unexpected and, in the latter's case, may partially be a sampling artefact caused by lack of familiarity with the species' vocal repertoire.

Other species, found in only 1–3 areas, which appeared genuinely rare were: *Thamnophilus aethiops*, *Myrmeciza ruficauda*, *Conopophaga lineata*, *Formicarius colma*, *Automolus leucophthalmus* and *Rhynchocyclus olivaceus*. All were present (and some found only) at Mata do Engenho Coimbra and this group probably includes those species most sensitive to habitat disturbance and fragmentation. The presence of some appeared linked to specific microhabitats not found in disturbed fragments. For example, we found *Myrmeciza ruficauda* and *Automolus leucophthalmus* only in open shaded undergrowth dominated by broad-leaved Marantaceae under tall forest by creeks.

One striking observation was the rarity of this guild in apparently suitable habitat at Usina Coruripe and Mata do Cedro, and the generally low species richness and number of records of all guilds there. One explanation may be the recent widespread use of aerially dispersed chemical pesticides, which have certainly reached the isolated forests amid the plantations.

The scarcity of mixed-species flocks comprising understorey and mid-level species was also notable. Although canopy flocks of tanagers and some insectivores such as antwrens (*Herpsilochmus* spp.) were common, flocks of ground and mid-level insectivores were not observed. Also, some key (and



conspicuous) species in this group, e.g. *Sclerurus mexicanus*, *S. caudacutus*, *Dendrocolaptes certhia*, *Thamnomanes caesi*, *Thamnophilus pelzelni*, etc were completely absent, suggesting an important rupture in the bird community. This may be linked to the absence of army ant swarms, none of which was recorded by us.

### Important areas

The most important areas in terms of habitat extent, quality of remaining forest and number of threatened and/or endemic bird taxa were those at Usina Serra Grande (16 species in Mata do Engenho Coimbra and eight at Mata do Pinto), Usina Utinga-Leão (11 species at Mata do Cedro), Usina Cachoeira (nine species at Bamburral) and Usina Santo Antônio (nine species at Santo Antonio 1) and, of course, the uplands of Murici. The latter is one of the most important sites for conservation in Neotropics<sup>11,77</sup>.

The forests owned by Usina Serra Grande comprise one the most continuous and best-preserved fragments in north-east Brazil, and Mata do Engenho Coimbra may be the largest remnant in the entire region, given the continuing deforestation at Murici. Mata do Engenho Coimbra, despite the activities of poachers, holds most of the endemics described from Murici except, apparently, the local race of Solitary Tinamou, *Tinamus solitarius pernambucensis*, and Alagoas Foliage-gleaner *Philydor novaesi*.

Mata do Cedro may be the largest remnant midway between the sea and the Serra de Borborema highlands, and holds very good habitat. The area is interesting because of the presence of bellbirds and other large frugivores such as toucans and guans, and was one the few fragments where *Thamnophilus aethiops* and *Dendrocincla fuliginosa* were found. The area certainly warrants further research.

The small fragments at Usina Santo Antônio are restricted to the valleys and slopes of low hills. However, the presence of tinamous (*Crypturellus strigulosus*), hawks (*Leptodon cayanensis*), parrots (*Pionus menstruus reichenowi*) and the report of a probably undescribed form of capuchin monkey, *Cebus* sp. (which is rare, but still present) place this forest as a priority for future research. The true extent of the forest belonging to the *usina* is unknown and should be investigated using up-to-date satellite images.

The forests at Usina Coruripe, especially Capiatã, are important due their extent, numbers of mature *Caesalpinia echinata* trees and the apparent vegetation difference between the forests north and south of Maceió. Despite its comparatively impoverished avifauna, the Fazenda Riachão/Capiatã fragment could be used for reintroduction and/or translocation experiments of endemics.

### Conservation issues

All surveyed fragments were isolated from other forest patches by sugarcane plantations, pastures and other inhospitable habitats for forest birds, effectively making them ecological islands. Though it is possible for canopy frugivores, tanagers and other groups to move between fragments, the same is not true for undergrowth and forest-floor species. Much of the observed species loss can be attributed to the isolation of forest fragments too small to harbour viable populations<sup>25</sup>. Clearly there is an urgent need to create forested corridors between fragments both to increase available habitat and to provide connectivity between otherwise isolated populations<sup>34</sup>. Forest corridors could be planted along watercourses and steep slopes, as dictated by Brazilian law, putting to better use areas that are currently under-utilised<sup>75</sup>.

Despite most *usinas* nominally protecting their forests, woodcutting (mainly for poles and firewood) was detected in many surveyed areas. Such activity is deleterious as most forests have been selectively logged and continue to lose trees as they become adult. Planting of fast-growing species could provide an alternative source of poles, and coupled with better enforcement would help prevent further degradation. Also, forest enrichment by planting timber species important in shaping forest structure, and other species offering resources such fruits and nectar to the fauna, would assist in making better habitats of many remaining forests.

An important issue is poaching, which is undertaken using shotguns and dogs, and accounts for the general scarcity of larger birds and mammals. Among the latter, only the marmoset *Callithrix jacchus* was common and widespread (recorded in nine areas). We also recorded lone raccoons *Procyon cancrivorus* (area 12), foxes *Cerdocyon thous* (areas 6 and 12) and tayras *Eira barbara* (sites 1 and 12) and a group of c.6 coatias *Nasua nasua* (area 5). Agoutis *Dasyprocta prymnolopha* and squirrels *Sciurus alphonsei* attain high densities in isolated forest fragments in south-east Brazil<sup>17,23</sup> but were observed only once in areas 8 and 4, respectively, and armadillo burrows, often comparatively ubiquitous in Neotropical forests, were absent from all but areas 8 and 12. Hunting with firearms is traditional in regional culture, but is not related to the poverty of the rural population. Rather, it is a weekend activity undertaken by urbanites and country people alike, and more a pastime than for survival. According to the owners of Usina Utinga-Leão, many poachers caught red-handed in their forests are off-duty policemen enjoying target practice and leisure time with like-minded friends.

Enquiries in Maceió and Murici revealed the cost of .12 and .28 cartridges (which are favoured)





to be R\$2.00–2.50 (c.US\$1) apiece, while 1 kg of frozen chicken cost R\$1.7 (c.US\$0.68). Given other costs involved in hunting, such as transportation (there is no sizeable forest within a 10 km-radius of urban areas) and food for the hunter and his dogs, it is clear that hunting is not being driven by hunger. The common excuse that hunger causes poaching is not supported by the facts, and the activity is the most likely cause for the obvious absence or rarity of medium and large vertebrates in all surveyed forests. Only if this threat can be removed will it be possible to advance plans to reintroduce locally extinct species such as *Tinamus solitarius* and *Mitu mitu* into the larger fragments.

### Research recommendations

The taxonomic status of several subspecies endemic to north-east Brazilian deserves further and urgent attention. Several taxa were originally described as species and subsequently demoted to subspecies during the 'lumping era' of the mid-20th century without detailed work to support such decisions, or relegated to synonyms by reviewers who failed to examine appropriate specimen material. The 'lower' taxonomic treatment afforded to several endemic (and certainly threatened) taxa has certainly been responsible for their conservation not being considered a priority<sup>60,79</sup>. Though the status of some taxa is doubtful (e.g. *Tinamus solitarius pernambucensis*), other subspecies are clearly species under either the PSC or BSC, which will dramatically increase the number of endemics and/or threatened species-level taxa in this region of Brazil. A more critical and scientific approach to taxonomic research is needed to support conservation efforts.

Local NGOs and authorities must undertake the implementation of multiple-use forested corridors between small forest fragments. Such projects are relatively inexpensive to finance and possess an obvious social component given the locally high demand for firewood, with results being apparent in the short term. This is an essential mechanism for forest birds that cannot cross the 'sea of sugarcane' that isolates forest fragments. The best tree associations for creating new habitats and their permeability by forest birds are interesting, and necessary, topics for future research.

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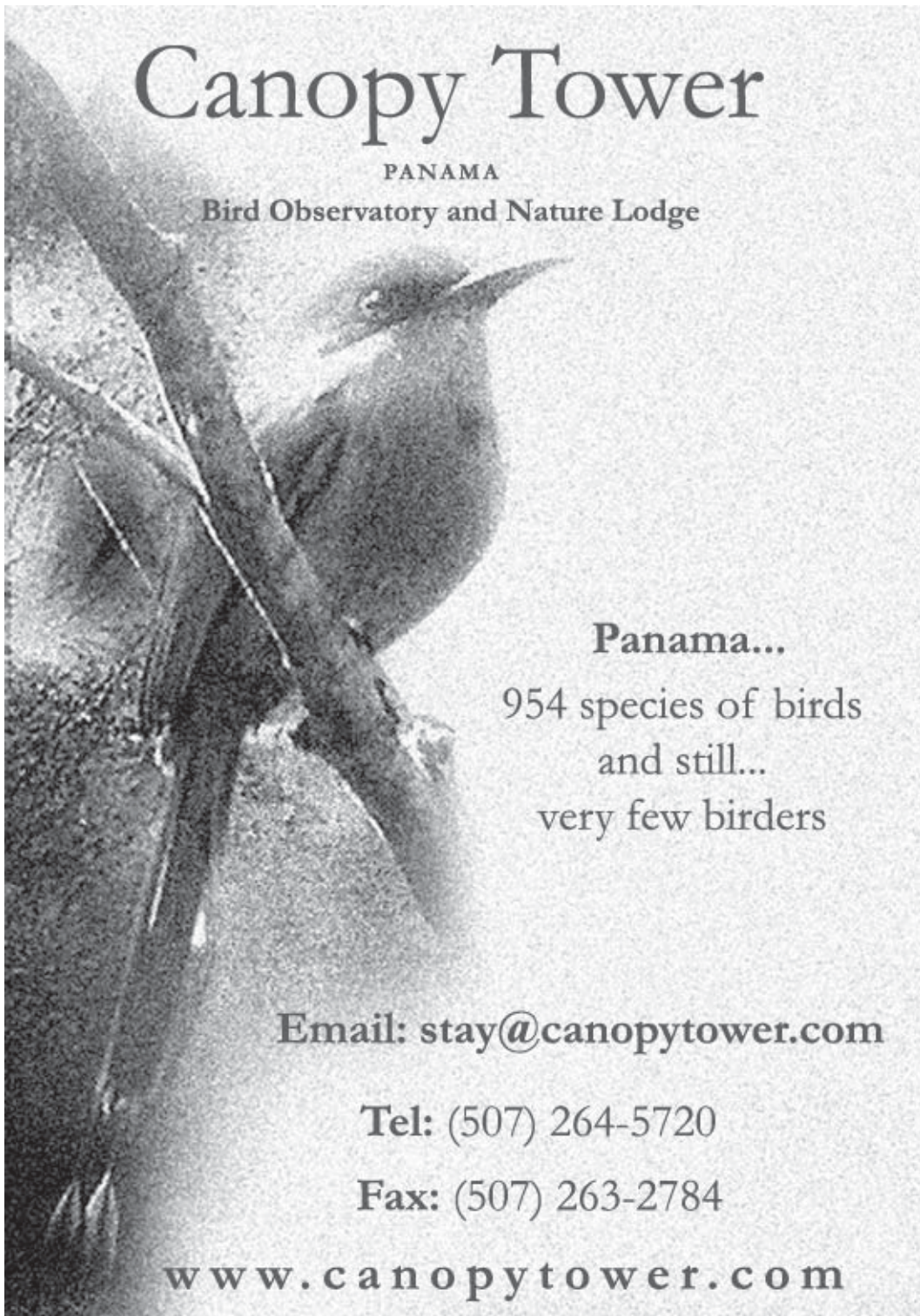
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## Rediscovery of Golden-crowned Manakin *Lepidotrix vilasboasi*

Fábio Olmos and José Fernando Pacheco

Cotinga 20 (2003): 48–50

O Dançador-de-coroa-dourada *Lepidotrix* (antes *Pipra*) *vilasboasi*, antes conhecido apenas de três exemplares coletados em 1957 no alto rio Cururu, Pará, foi reencontrado próximo à cidade de Novo Progresso, na margem esquerda do rio Jamunxim, cerca de 200 km a nordeste da localidade-tipo. Esta redescoberta levanta dúvidas sobre a sugestão de que este táxon é um híbrido de *L. nattereri* e *L. iris*. A região de Novo Progresso está sob intensa pressão de ocupação por madeireiros e criadores de gado, o que deverá ser exacerbado pela pavimentação da BR 163 (Cuiabá–Santarém).

Golden-crowned Manakin *Lepidotrix* (formerly *Pipra*) *vilasboasi* is an enigmatic species known only from three adult males, collected by Helmut Sick and Raimundo Costa in July 1957 near a small left bank tributary at the headwaters of the rio Cururu, a tributary at the right margin of the rio Teles Pires<sup>7,8</sup>. The holotype is in the Museu Nacional Rio de Janeiro (MNRJ), while the other specimens were sent to the American Museum of Natural History (New York) and the Museum für Naturkunde Alexander Humboldt (Berlin). The species is considered Vulnerable<sup>1</sup>.

The species' name honours the Villas-Boas brothers, explorers well regarded for their work on behalf of central Brazilian indigenous peoples, especially the creation of the famous Parque Indígena do Xingu, one of the best-known Indian territories in Brazil. The last of the Villas-Boas, Orlando, died in December 2002.

This manakin is clearly related to Snow-capped Manakin *Lepidotrix nattereri* but is distinguished by its yellow (with a faint green tinge) crown and greenish-yellow uppertail-coverts and lower back in males. *L. nattereri* males have white crowns and lower backs. Female *L. vilasboasi* is unknown with certainty but two individuals (both at MNRJ) described as *Pipra obscura*<sup>7</sup> are now believed to be a female and a juvenile male of the former species, despite their larger size.

The range of *L. vilasboasi* has been subject to some confusion, as there are two rios Cururu along the right bank of the rio Teles Pires. The map presented by Sick<sup>7</sup> shows that the specimens were collected near the headwaters of the northwest-flowing rio Cururu-ri, in Munduruku Indian territory (c.07 30'S 56 45'W), not the well-known and southwest-flowing rio Cururu-açu, further south. It has been suggested that *L. vilasboasi* occurs in a belt between the rios Tapajós and Xingu, but this is hypothetical<sup>1</sup>. The lack of recent records and the seemingly restricted range between that of *L. nattereri gracilis* (much of Rondônia and the headwaters of the Tapajós, Teles Pires and Xingu) and Opal-crowned Manakin *L. iris eucephala* (east bank of the lower Tapajós)<sup>6</sup> prompted the suggestion that *vilasboasi* is a hybrid between the two<sup>3</sup>.

In May 2002, we conducted an ornithological survey of areas along the Cuiabá–Santarém road (BR163), an earthen strip running from northern Mato Grosso to the right bank of the Amazon in Pará. One of the study sites was Consórcio Jamunxim (07 09'S 55 29'W), a colonisation project on the west bank of the rio Jamunxim (or Jamauxin), near Novo Progresso, Pará. The area has been subdivided among colonists, who have cleared the local *terra firme* forest for pastures. Most properties also selectively log their remnant forests, with much resultant damage to the ecosystem but also creating logging roads permitting access to these areas. In more intact nearby forests the dominant tree species are *Dodecastigma integrifolium* (Euphorbiaceae), *Bertholletia excelsa* (Lecythidaceae), *Protium opacum* and *P. spruceanum* (Burseraceae), and *Pouteria jariensis* (Sapotaceae).

Early in the morning of 14 May, JFP observed an adult male *L. vilasboasi* perched near the ground on a fallen branch beside a dirt road with some vehicle traffic. It was visible for a few seconds, permitting observation of the distinctive yellow crown, before disappearing within the dense edge vegetation. Later that morning, we observed a female manakin that may have been a *L. vilasboasi* feeding in an undergrowth shrub together with a female White-crowned Manakin *Pipra pipra*.

Knowing that manakin males tend to remain in a limited area, we set a line of mist-nets at the site that afternoon and opened them next morning at dawn. At 09h00 the four nets held five Pectoral Sparrow *Arremon taciturnus*, a Pará Foliage-gleaner *Automolus paraensis*<sup>9</sup>, a male Black-faced Antbird *Myrmoborus myotherinus* and an adult male *L. vilasboasi* (Fig. 1), all apparently part of a mixed-species flock. Measurements of the manakin, taken by FO, were: culmen 7.8 mm, wing 51.6 mm, tarsus 13.1 mm and tail 31.4 mm. The manakin was then photographed and released.

The same measurements from the holotype, also taken by FO, were: 7.7 mm, 50.3 mm, 12.2 mm and 27.7 mm. The Novo Progresso bird agrees well with the holotype, both having narrow bills akin to *L. nattereri* and contrasting with the more robust bill





Figure 1. Adult male Golden-crowned Manakin *Lepidotrix vilasboasi*, Consórcio Jamunxim, Novo Progresso, southern Pará, Brazil (Fábio Olmos)



Figure 2. Left: lateral views of the holotype of Golden-crowned Manakin *Lepidotrix vilasboasi* (top; MNRJ 28742), Snow-capped Manakin *L. nattereri* (centre; MNRJ 43342 from Porto Velho) and Opal-crowned Manakin *L. iris* (bottom; MNRJ 31983 from Belém). Right: dorsal view of the same individuals of *L. vilasboasi* (left), *P. iris* (centre) and *P. nattereri* (right). All are adult males. *L. iris* has a more robust bill compared to either *L. nattereri* or *L. vilasboasi*, and the opalescent cap is very distinctive (Fábio Olmos)

of *L. iris*. It is difficult to envisage how *L. vilasboasi* could represent an intermediate between *L. nattereri* and *L. iris* both in coloration (see Fig. 2) and general structure.

Our record, c.200 km north-east of the type-locality of Alto Cururu<sup>7</sup>, suggests *L. vilasboasi* occurs in the intervening area between the Jamunxim and Teles Pires. Further south, we found only Snow-capped Manakin at a locality we surveyed atop the northern border of the Serra do Cachimbo (09°03'S 54°52'W), suggesting the southern limit of the range

*L. vilasboasi* may lie along the north edge of the Serra do Cachimbo. This larger range, and the apparent absence of either *L. iris* or *L. nattereri* at the localities where *L. vilasboasi* occurs, cast further doubt on the hybrid theory.

The type locality of *L. vilasboasi* is within the 400,000-ha area belonging to the Brazilian air force at Serra do Cachimbo. Access restrictions and the exclusion of colonists and loggers have resulted in this being one of the best-conserved areas in southern Pará. However, numbers of colonists are increasing in the region of our discovery, and the population of Novo Progresso leapt from 15,562 in 1996 to 24,948 in 2000 (an increase of 12.5% per year). Approximately 27% are less than 15 years old. Population growth, caused both by immigration



and local births, has resulted in increased logging in response to the demand for land for cattle, which are fast eliminating or damaging the forests. Current plans to pave the BR163 will surely bring even greater habitat destruction, as occurred in Rondônia following the paving of the BR362<sup>4,5</sup>, unless strong government action is taken.

The rio Jamunxim has been considered a priority region for the creation of new protected areas in the Brazilian Amazon<sup>2</sup>. We hope our discovery will highlight the need to conserve the Jamunxim region and assure the future not only of *L. vilasboasi* but also of the entire ecosystem of which it is a part.

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## The avifauna of low elevations in the Serra dos Órgãos, Rio de Janeiro state, south-east Brazil

Francisco Mallet-Rodrigues and Maria Luisa Marinho de Noronha

Cotinga 20 (2003): 51–56

A Serra dos Órgãos é uma região bem conhecida ornitologicamente em suas mais elevadas altitudes, porém pouco é disponível na literatura sobre a avifauna de suas encostas mais baixas. Nesse artigo é apresentada e comentada a avifauna estudada durante dois anos (julho de 1995 a junho de 1997) numa região de baixa altitude da Serra dos Órgãos, situada entre 190 e 350 m. Foram registradas 182 espécies de aves, sendo algumas incomuns na área. A floresta da região vem sofrendo forte pressão antrópica, ameaçando não somente as espécies típicas das baixadas e encostas baixas, mas também as espécies que apresentam prováveis deslocamentos altitudinais, como o ainda comum tiê-de-topete *Trichothraupis melanops*. Essa espécie, durante o inverno, aparentemente migra (ainda que nem toda a população) das áreas mais elevadas para a encosta baixa da Serra dos Órgãos, tornando-se uma das espécies mais comuns na área nesse período.

The Serra dos Órgãos, which is close to the city of Rio de Janeiro, has been visited by naturalists since the early-19th century. Its avifauna is therefore well known<sup>3–5,14</sup>, although several additional species have been recorded recently<sup>6,8,12,17</sup>. The Serra dos Órgãos is a massif within central Rio de Janeiro state, south-east Brazil, which reaches 2,260 m. The Serra dos Órgãos National Park (established in 1939) encompasses c.10,000 ha, from 900 m to the highest peaks, and is cloaked in primary forest from lower altitudes to 1,800 m. The lower foothills have been cleared for human settlements and by illegal extraction of heart of palm, while the adjacent lowlands possess only scattered fragments of secondary forest, and abandoned farms and villas. Few recent ornithological studies have been made in these areas<sup>7,9–11</sup>. Here we present data on the birds recorded at a low-elevation site on the south side of the massif.

### Material and methods

The study area (22°31'S 43°01'W) is located in forested foothills (190–350 m) below the main Serra dos Órgãos National Park, near Guapimirim. The dominant vegetation is moderately disturbed primary Atlantic Forest, with some trees reaching more than 25 m, and abundant epiphytes and lianas. The understorey is relatively dense and there are some palms (especially *Euterpe edulis*).

Climate is warm and humid, with abundant rainfall in December–March. The avifauna was studied in July 1995–June 1997. The inventory was compiled from sight records, sound-recordings and mist-net captures (12 x 2.6 m, 36 mm-mesh). Thirty-six visits were made to the study site, totalling approximately 1,000 hours of field work. Mist-nets were used for a total of 3,510 net-hours.

### Results and discussion

We recorded 182 bird species in the study area (Appendix 1). Seventy-one species were mist-netted. Among the more frequently captured species were White-shouldered Fire-eye *Pyriglena leucoptera*, White-bearded Manakin *Manacus manacus* and Black-goggled Tanager *Trichothraupis melanops*. The avifauna has some typical lowland forest species, as well as several representative of montane Atlantic Forest.

The study area marks the southernmost limit of forest that extends from the higher Serra dos Órgãos National Park. Throughout the region below this the forest is almost entirely fragmented. Deforestation caused by the uncontrolled human development is the main threat to birds in the lowlands near Serra dos Órgãos. Although several species have been recorded in fragments of lowland forest<sup>6–8</sup> (including some considered threatened), human action is largely destroying these forests that have been little studied ornithologically. It appears that for some lowland species, such as Cinereous Antshrike *Thamnomanes caesius*, all of the local population occurs in the study area.

Human occupation commenced in the lowlands and is now advancing higher into the Serra dos Órgãos, with large numbers of weekend houses and villas being constructed. Extraction of heart of palm and timber, as well as banana cultivation at the forest edge, also constitute considerable threats. The illegal capture of birds for the cagebird trade is also intense, locally threatening some species.

The most important conservation areas close to the study site, apart from the national park, are the Petrópolis Environmental Protection Area (59,050 ha), the Paraíso Ecological Reserve (4,920 ha), the Floresta do Jacarandá Environmental Protection Area (2,700 ha) and the Araras Biological Reserve (2,000 ha), all of which are at higher altitudes.

No Nearctic migrants were recorded in the study area, although some have been recorded nearby<sup>7,14</sup>. Some species appear to move locally, probably altitudinally. White-throated Woodcreeper *Xiphocolaptes albicollis*, Grey-hooded Flycatcher *Mionectes rufiventris*, Yellow-legged Thrush *Platycichla flavipes* and Black-goggled Tanager have been recorded only in the cooler months.

Black-goggled Tanager was recorded only in February–September at the study site, when it is less abundant at higher elevations<sup>3</sup>, providing strong evidence of altitudinal movement. However, it is probable that only some Black-goggled Tanagers move altitudinally, because we have found some individuals at 1,000 m in winter. Detailed studies are needed to elucidate patterns of possible altitudinal movements in the Serra dos Órgãos.

Euler's Flycatcher *Lathrotriccus euleri*, in contrast, is common year-round at the study site, although it is absent in winter at higher altitudes of the Serra dos Órgãos<sup>3</sup>. Its presence in winter may relate to austral migrants<sup>13</sup>. Piratic Flycatcher *Legatus leucophaeus* was mainly recorded in summer. Possibly it also migrates north in the austral winter.

Three species (1.6%) were detected only as mist-net captures, and all are apparently uncommon.

Nocturnal birds were possibly overlooked, although we used playback to search for owls and nightjars likely to occur. Curiously, some species recorded in adjacent areas (Solitary Tinamou *Tinamus solitarius*, Olivaceous Elaenia *Elaenia mesoleuca*, Variegated Flycatcher *Empidonomus varius*, Crested Becard *Pachyramphus validus*, Greenish Manakin *Schiffornis virescens*) did not respond to playback during the breeding season. These species were not found in the study site.

A total of 372 species has been recorded in the Serra dos Órgãos (Mallet-Rodrigues in prep.). Some are apparently extinct in the region (e.g. Black-fronted Piping-guan *Pipile jacutinga* and Red-ruffed Fruitcrow *Pyroderus scutatus*), with no records in the last 50 years. However, Kinglet Calyptura *Calyptura cristata* was discovered by Parrini<sup>12</sup> in October 1996 in an area close to our study site. During our study we did not find *C. cristata*, but this is unsurprising given that Parrini recorded it on only two (consecutive) days, during many years of field work in the region (R. Parrini pers. comm.).

Because lowland forests play an important role in hosting altitudinal migrants during winter, fragmentation of these forests is a significant threat to those species that migrate altitudinally in the region, as well as to species restricted to these areas. We therefore recommend better protection of the remaining lowland forests to effectively conserve the avifauna of the Serra dos Órgãos.

### Selected species accounts

#### White-necked Hawk *Leucopternis lacernulata*

One was observed soaring over forest on 2 May 1997. This hawk is a rare and threatened endemic of the Atlantic Forest in eastern Brazil<sup>2</sup>, although appears to be not uncommon at lower elevations of the Serra dos Órgãos (R. Parrini pers. comm. 2002).

#### Collared Forest-falcon *Micrastur semitorquatus*

Not previously recorded in the Serra dos Órgãos. We heard it at dawn on five occasions. The



Figure 1. Male Unicoloured Antwren *Myrmotherula unicolor* (Francisco Mallet-Rodrigues)



Figure 2. Female Elegant Mourner *Laniisoma elegans* (Francisco Mallet-Rodrigues)



Figure 3. Female Uniform Finch *Haplopsiza unicolor* (Francisco Mallet-Rodrigues)





vocalisation was identical to that of a published recording<sup>16</sup>.

**Spot-winged Wood-quail** *Odontophorus capueira*  
Now rare at the study site, possibly due to hunting pressure. It was heard on two occasions.

**Saw-billed Hermit** *Ramphodon naevius*  
Common in forest understorey. Several were mist-netted during the study. Considered Near Threatened<sup>2,15</sup>.

**Rufous-breasted Hermit** *Glaucis hirsuta*  
One was mist-netted on 1 September 1996.

**Dusky-throated Hermit** *Phaethornis squalidus*  
Common in forest understorey and several were mist-netted. Scale-throated Hermit *P. eurynome* is common at higher elevations but was not recorded in the study area.

**Channel-billed Toucan** *Ramphastos vittelinus*  
Recorded on three occasions, all by voice.

**Cinereous Antshrike** *Thamnomanes caesius*  
Not previously recorded in the Serra dos Órgãos. A female was mist-netted and ringed on 15 July 1995. Cinereous Antshrike was always found within mixed-species flocks, although it was not an active sentinel (Mallet-Rodrigues in prep.).

**Spot-breasted Antvireo** *Dysithamnus stictothorax*  
One of the commoner thamnophilids at the study site. Occurs syntopically with the locally less common Plain Antvireo *D. mentalis*. Considered Near Threatened<sup>2,15</sup>.

**Unicoloured Antwren** *Myrmotherula unicolor*  
Common in forest understorey. Several were mist-netted (see Fig. 1). Considered Vulnerable<sup>2,15</sup>.

**Rufous Gnateater** *Conopophaga lineata*  
Recorded on several occasions, although Black-cheeked Gnateater *C. melanops* is more common. Rufous Gnateater is common at higher altitudes, while Black-cheeked Gnateater is a lowland forest species.

**White-browed Foliage-gleaner** *Anabacerthia amaurotis*  
One was mist-netted on 13 August 1995 (and recaptured 14 days later). Considered Near Threatened<sup>2,15</sup>.

**Black-billed Scythebill** *Campylorhamphus falcularius*  
Rare at the study site, although more common at higher elevations. Only one was recorded, a mist-net capture at dusk on 23 March 1996.

**Ochre-bellied Flycatcher** *Mionectes oleagineus*  
Mist-netted on several occasions. A lek was observed on December 1996 indicating breeding. In contrast to Amazonian populations, those in this region have plumbeous not yellowish gapes.

**Eye-ringed Tody-tyrant** *Hemitriccus orbitatus*  
Among the more common passerines at the study site. Considered Near Threatened<sup>2,15</sup>.

**Black-capped Becard** *Pachyramphus marginatus*  
Common in canopy and mid-strata, replacing White-winged Becard *P. polychopterus*, which occurs at the forest edge.

**Elegant Mourner** *Laniisoma elegans*  
Mist-netted twice (26 August 1995 and 28 April 1996), but its song was heard only on the second date, when a male was captured. Considered Vulnerable<sup>2,15</sup>.

**Bare-throated Bellbird** *Procnias nudicollis*  
Rare at the study site, possibly due to trapping. Three records in September and November 1996, possibly involving the same individual. Considered Near Threatened<sup>2,15</sup>.

**Buff-throated Purpletuft** *Iodopleura pipra*  
Apparently resident, as it was recorded year-round. Rarely seen, its vocalisation was frequently heard in the study area. Three were singing simultaneously near midday on 22 June 1997. Considered Endangered<sup>2,15</sup>.

**Orange-bellied Euphonia** *Euphonia xanthogaster*  
The most common *Euphonia* in the study area. Several individuals were mist-netted.

**Turquoise Tanager** *Tangara mexicana*  
A small flock was observed on 8 July 1996 in the forest canopy. No other species were present with the group. The species' conservation status in Rio de Janeiro state is considered Vulnerable<sup>1</sup>.

**Uniform Finch** *Haplospiza unicolor*  
Recorded only during the bamboo flowering season at the end of the study period (March–May 1997).

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**Appendix.** Bird species recorded in the study site in the lower foothills of the Serra dos Órgãos, Rio de Janeiro state, Brazil. Taxonomy follows Sick (1997) and the check-list of Brazilian birds published by the Brazilian Ornithological Records Committee (SBRO) available at <http://www.ib.usp.br/ceo/cbro/home.html>.

## Key:

Habitat types: 1 = canopy; 2 = mid-strata; 3 = understorey; 4 = forest edge; 5 = open areas; and 6 = flying over forest. Status: C = common (recorded on more than 80% of visits); F = fairly common (50–80%); U = uncommon (20–50%); and R = rare (less than 20%).\* Introduced by Man. Evidence: S = sight record; T = tape-recorded; M = mist-netted and P = photographed.

| Family/Species                  | Habitat | Status | Evidence   |
|---------------------------------|---------|--------|------------|
| <b>TINAMIDAE</b>                |         |        |            |
| <i>Crypturellus obsoletus</i>   | 3       | F      | S, T       |
| <i>Crypturellus tataupa</i>     | 3       | F      | T          |
| <b>CATHARTIDAE</b>              |         |        |            |
| <i>Coragyps atratus</i>         | 6       | C      | S          |
| <i>Cathartes aura</i>           | 6       | R      | S          |
| <b>ACCIPITRIDAE</b>             |         |        |            |
| <i>Leptodon cayanensis</i>      | 2, 3    | U      | T, M, P    |
| <i>Buteo magnirostris</i>       | 5, 6    | C      | S, T       |
| <i>Leucopternis lacernulata</i> | 6       | R      | S          |
| <b>FALCONIDAE</b>               |         |        |            |
| <i>Herpetotheres cachinnans</i> | 5       | R      | S, T       |
| <i>Micrastur semitorquatus</i>  | 2       | R      | T          |
| <i>Micrastur ruficollis</i>     | 2, 3    | U      | S, T, M, P |
| <i>Milvago chimachima</i>       | 6       | U      | S, T       |

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## The avifauna of low elevations in the Serra dos Órgãos, south-east Brazil

|                                   |         |   |            |                                     |         |   |            |
|-----------------------------------|---------|---|------------|-------------------------------------|---------|---|------------|
| <b>CRACIDAE</b>                   |         |   |            | <b>PICIDAE</b>                      |         |   |            |
| <i>Penelope superciliosus</i>     | 2, 4    | U | S, T       | <i>Picumnus cirratus</i>            | 2, 3, 4 | C | S, T, M, P |
| <b>PHASIANIDAE</b>                |         |   |            | <i>Piculus flavigula</i>            | 1, 2    | C | S, T       |
| <i>Odontophorus capueira</i>      | 3       | R | T          | <i>Celeus flavescens</i>            | 1, 2, 3 | C | S, T, M, P |
| <b>RALLIDAE</b>                   |         |   |            | <i>Melanerpes flavifrons</i>        | 1       | U | S, T       |
| <i>Aramides saracura</i>          | 3, 4    | U | S, T       | <i>Veniliornis maculifrons</i>      | 2, 3    | C | S, T, M, P |
| <b>CHARADRIIDAE</b>               |         |   |            | <b>THAMNOPHILIDAE</b>               |         |   |            |
| <i>Vanellus chilensis</i>         | 5       | R | S, T       | <i>Hypoedaleus guttatus</i>         | 1, 2    | C | S, T       |
| <b>COLUMBIDAE</b>                 |         |   |            | <i>Mackenziaena severa</i>          | 2       | U | T          |
| <i>Columba plumbea</i>            | 1       | C | S, T       | <i>Thamnophilus palliatus</i>       | 4       | U | S, T       |
| <i>Columbina talpacoti</i>        | 5       | C | S, T       | <i>Thamnophilus ambiguus</i>        | 4       | U | S, T       |
| <i>Leptotila verreauxi</i>        | 4       | F | S, T       | <i>Dysithamnus stictothorax</i>     | 2       | C | S, T, M, P |
| <i>Leptotila rufaxilla</i>        | 2, 3    | U | S, T, M, P | <i>Dysithamnus mentalis</i>         | 2       | C | S, T, M, P |
| <i>Geotrygon montana</i>          | 3       | U | S, T, M, P | <i>Thamnomanes caesius</i>          | 2, 3    | U | S, T, M    |
| <b>PSITTACIDAE</b>                |         |   |            | <i>Myrmotherula gularis</i>         | 3       | C | S, T, M, P |
| <i>Pyrrhura frontalis</i>         | 1, 6    | C | S, T       | <i>Myrmotherula axillaris</i>       | 2, 3, 4 | U | S, T, M, P |
| <i>Forpus xanthopterygius</i>     | 4, 5    | U | S, T       | <i>Myrmotherula unicolor</i>        | 3       | C | S, T, M, P |
| <i>Brotogeris tirica</i>          | 1, 5    | U | S, T       | <i>Herpsilochmus rufimarginatus</i> | 1       | C | S, T       |
| <i>Pionus maximiliani</i>         | 6       | C | S, T       | <i>Drymophila ferruginea</i>        | 2       | C | S, T       |
| <b>CUCULIDAE</b>                  |         |   |            | <i>Drymophila squamata</i>          | 3       | C | S, T, M, P |
| <i>Piaya cayana</i>               | 1, 2    | C | S, T       | <i>Terenura maculata</i>            | 1       | C | S, T       |
| <i>Crotophaga ani</i>             | 5       | U | S, T       | <i>Pyriglena leucoptera</i>         | 3       | C | S, T, M, P |
| <b>STRIGIDAE</b>                  |         |   |            | <i>Myrmeciza loricata</i>           | 3       | C | S, T, M, P |
| <i>Otus choliba</i>               | 2, 3, 4 | F | S, T, M    | <b>FORMICARIIDAE</b>                |         |   |            |
| <i>Glaucidium brasilianum</i>     | 4       | R | T          | <i>Formicarius colma</i>            | 3       | F | S, T, M, P |
| <b>NYCTIBIIDAE</b>                |         |   |            | <i>Grallaria varia</i>              | 3       | R | T          |
| <i>Nyctibius griseus</i>          | 1, 2    | U | T          | <b>CONOPOPHAGIDAE</b>               |         |   |            |
| <b>CAPRIMULGIDAE</b>              |         |   |            | <i>Conopophaga melanops</i>         | 3       | C | S, T, M, P |
| <i>Lurocalis semitorquatus</i>    | 6       | U | S, T       | <i>Conopophaga lineata</i>          | 3       | R | S, T       |
| <i>Nyctidromus albicollis</i>     | 4, 5    | F | S, T       | <b>FURNARIIDAE</b>                  |         |   |            |
| <b>APODIDAE</b>                   |         |   |            | <i>Synallaxis spixi</i>             | 4       | U | S, T       |
| <i>Streptoprocne zonaris</i>      | 6       | U | S, T       | <i>Synallaxis ruficapilla</i>       | 2, 3    | F | S, T, MP   |
| <i>Chaetura cinereiventris</i>    | 6       | U | S, T       | <i>Anabazenops fuscus</i>           | 2, 3    | F | S, T, M, P |
| <i>Chaetura meridionalis</i>      | 6       | F | S, T       | <i>Anabacerthia amaurotis</i>       | 3       | R | M, P       |
| <b>TROCHILIDAE</b>                |         |   |            | <i>Philydor atricapillus</i>        | 2, 3    | C | S, T, M, P |
| <i>Ramphodon naevius</i>          | 2, 3    | C | S, T, M, P | <i>Philydor lichtensteini</i>       | 2       | R | S, T, M    |
| <i>Glaucis hirsuta</i>            | 3       | R | M, P       | <i>Philydor rufus</i>               | 1, 2    | C | S, T       |
| <i>Phaethornis squalidus</i>      | 3       | U | S, T, M, P | <i>Automolus leucophthalmus</i>     | 3       | C | S, T, M, P |
| <i>Phaethornis ruber</i>          | 3, 4    | U | S, T       | <i>Cichlocolaptes leucophrus</i>    | 2, 3    | F | S, T, M, P |
| <i>Eupetomena macroura</i>        | 4, 5    | C | S          | <i>Xenops minutus</i>               | 2, 3    | C | S, T, M, P |
| <i>Melanotrochilus fuscus</i>     | 2, 3, 4 | U | S          | <i>Xenops rutilans</i>              | 2, 3    | F | S, T, M, P |
| <i>Chlorostilbon aureoventris</i> | 4       | R | S          | <i>Sclerurus scansor</i>            | 3       | C | S, T, M, P |
| <i>Thalurania glaucopis</i>       | 3, 4    | C | S, T, M, P | <i>Lochmias nematura</i>            | 3       | R | S, T       |
| <i>Hylocharis cyanus</i>          | 3, 4    | U | S, T, M, P | <b>DENDROCOLAPTIDAE</b>             |         |   |            |
| <b>TROGONIDAE</b>                 |         |   |            | <i>Dendrocincla turdina</i>         | 2, 3    | C | S, T, M, P |
| <i>Trogon rufus</i>               | 2, 3    | F | S, T, M, P | <i>Sittasomus griseicapillus</i>    | 2, 3    | C | S, T, M, P |
| <b>ALCEDINIDAE</b>                |         |   |            | <i>Xiphocolaptes albicollis</i>     | 2       | R | S, T       |
| <i>Ceryle torquata</i>            | 6       | R | S, T       | <i>Dendrocolaptes platyrostris</i>  | 3       | R | S, T, M, P |
| <b>MOMOTIDAE</b>                  |         |   |            | <i>Lepidocolaptes squamatus</i>     | 2, 3    | R | S, T, M, P |
| <i>Baryphthengus ruficapillus</i> | 3       | C | S, T, M, P | <i>Lepidocolaptes fuscus</i>        | 2, 3    | C | S, T, M, P |
| <b>GALBULIDAE</b>                 |         |   |            | <i>Campylorhamphus falcularius</i>  | 3       | R | S, T       |
| <i>Galbula ruficauda</i>          | 2, 4    | U | S, T       | <b>TYRANNIDAE</b>                   |         |   |            |
| <b>BUCCONIDAE</b>                 |         |   |            | <i>Phyllomyias fasciatus</i>        | 1, 2    | F | S, T       |
| <i>Malacoptila striata</i>        | 2, 3    | U | S, M, P    | <i>Camptostoma obsoletum</i>        | 4, 5    | F | S, T       |
| <b>RAMPHASTIDAE</b>               |         |   |            | <i>Elaenia flavogaster</i>          | 4, 5    | F | S, T       |
| <i>Selenidera maculirostris</i>   | 2, 3    | C | S, T, M, P | <i>Mionectes oleagineus</i>         | 2, 3    | U | S, T, M, P |
| <i>Ramphastos vitellinus</i>      | 1       | R | S, T       | <i>Mionectes rufiventris</i>        | 2, 3    | U | S, T, M, P |
|                                   |         |   |            | <i>Leptopogon amaurocephalus</i>    | 2, 3    | C | S, T, M, P |
|                                   |         |   |            | <i>Capsiempis flaveola</i>          | 4, 5    | U | S, T       |
|                                   |         |   |            | <i>Corythopis delalandi</i>         | 3       | R | S, T, M    |
|                                   |         |   |            | <i>Myiornis auricularis</i>         | 1, 2    | R | S, T       |
|                                   |         |   |            | <i>Hemitriccus orbitatus</i>        | 2, 3    | C | S, T, M, P |

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## The avifauna of low elevations in the Serra dos Órgãos, south-east Brazil

|                                    |         |   |            |                                  |      |   |            |
|------------------------------------|---------|---|------------|----------------------------------|------|---|------------|
| <i>Todirostrum poliocephalum</i>   | 4       | F | S, T       | <i>Thraupis sayaca</i>           | 4    | C | S, T, M    |
| <i>Tolmomyias sulphurescens</i>    | 2, 3    | C | S, T       | <i>Thraupis ornata</i>           | 1, 4 | U | S, T       |
| <i>Platyrinchus mystaceus</i>      | 2, 3    | C | S, T, M, P | <i>Thraupis palmarum</i>         | 1, 4 | C | S, T       |
| <i>Myiobius barbatus</i>           | 2, 3    | C | S, T, M, P | <i>Euphonia chlorotica</i>       | 4    | F | S, T       |
| <i>Myiophobus fasciatus</i>        | 4       | F | S, T       | <i>Euphonia violacea</i>         | 2, 4 | U | S, T       |
| <i>Lathrotriccus euleri</i>        | 2, 3    | C | S, T, M, P | <i>Euphonia xanthogaster</i>     | 2, 3 | F | S, T, M, P |
| <i>Fluvicola nengeta</i>           | 5       | F | S, T       | <i>Euphonia pectoralis</i>       | 2, 3 | U | S, T       |
| <i>Colonia colonus</i>             | 1, 4    | F | S, T       | <i>Tangara mexicana</i>          | 1    | R | S          |
| <i>Hirundinea ferruginea</i>       | 4       | R | S, T       | <i>Tangara seledon</i>           | 1, 2 | C | S, T, M, P |
| <i>Machaetornis rixosus</i>        | 5       | F | S, T       | <i>Tangara cyanocephala</i>      | 4    | F | S, T       |
| <i>Attila rufus</i>                | 1, 2    | R | S, T       | <i>Dacnis cayana</i>             | 1, 4 | F | S, T       |
| <i>Rhytipterna simplex</i>         | 1, 2    | R | T          | <i>Conirostrum speciosum</i>     | 1    | F | S, T       |
| <i>Myiarchus tuberculifer</i>      | 1       | U | S, T       | <i>Caryothraustes canadensis</i> | 1    | U | S, T       |
| <i>Pitangus sulphuratus</i>        | 4, 5    | C | S, T       | <i>Pitylus fuliginosus</i>       | 1    | R | T          |
| <i>Megarynchus pitangua</i>        | 1       | C | S, T       | <i>Saltator maximus</i>          | 2, 3 | C | S, T, M, P |
| <i>Myiozetetes similis</i>         | 4       | C | S, T       | <i>Zonotrichia capensis</i>      | 5    | U | S, T       |
| <i>Myiodynastes maculatus</i>      | 4       | F | S, T       | <i>Haplospiza unicolor</i>       | 3    | U | S, T, M, P |
| <i>Legatus leucophaeus</i>         | 1       | U | S, T       | <i>Sicalis flaveola</i>          | 5    | F | S          |
| <i>Tyrannus melancholicus</i>      | 4, 5    | F | S, T       | <i>Sporophila caerulescens</i>   | 5    | F | S, T       |
| <i>Pachyrhamphus castaneus</i>     | 1, 2    | C | S, T       | <i>Arremon semitorquatus</i>     | 4    | R | S, T       |
| <i>Pachyrhamphus polychopterus</i> | 4       | F | S, T       | <i>Cacicus haemorrhous</i>       | 1    | F | S, T       |
| <i>Pachyrhamphus marginatus</i>    | 2       | C | S, T       |                                  |      |   |            |
| <b>PIPRIDAE</b>                    |         |   |            | <b>FRINGILLIDAE</b>              |      |   |            |
| <i>Chiroxiphia caudata</i>         | 2, 3    | C | S, T, M, P | <i>Carduelis magellanicus</i>    | 5    | R | S          |
| <i>Ilicura militaris</i>           | 2, 3    | R | M, P       | <b>PASSERIDAE</b>                |      |   |            |
| <i>Manacus manacus</i>             | 2, 3    | C | S, T, M, P | <i>Passer domesticus*</i>        | 5    | F | S          |
| <b>COTINGIDAE</b>                  |         |   |            | <b>ESTRILDIDAE</b>               |      |   |            |
| <i>Laniisoma elegans</i>           | 2, 3    | R | T, M, P    | <i>Estrilda astrild*</i>         | 5    | F | S          |
| <i>Iodopleura pipra</i>            | 1, 2    | U | T          |                                  |      |   |            |
| <i>Procnias nudicollis</i>         | 1       | U | S, T       |                                  |      |   |            |
| <b>HIRUNDINIDAE</b>                |         |   |            |                                  |      |   |            |
| <i>Notiochelidon cyanoleuca</i>    | 4, 5    | C | S, T       |                                  |      |   |            |
| <i>Stelgidopteryx ruficollis</i>   | 4, 5    | C | S, T       |                                  |      |   |            |
| <b>TROGLODYTIDAE</b>               |         |   |            |                                  |      |   |            |
| <i>Thryothorus genibarbis</i>      | 4       | R | S, T       |                                  |      |   |            |
| <i>Thryothorus longirostris</i>    | 4       | F | S, T       |                                  |      |   |            |
| <i>Troglodytes musculus</i>        | 4, 5    | C | S, T       |                                  |      |   |            |
| <b>MUSCICAPIDAE</b>                |         |   |            |                                  |      |   |            |
| <i>Platycichla flavipes</i>        | 1, 2, 3 | U | S, T, M, P |                                  |      |   |            |
| <i>Turdus rufiventris</i>          | 4       | C | S, T, M, P |                                  |      |   |            |
| <i>Turdus leucomelas</i>           | 4       | U | S, T       |                                  |      |   |            |
| <i>Turdus albicollis</i>           | 3       | C | S, T, M, P |                                  |      |   |            |
| <b>MIMIDAE</b>                     |         |   |            |                                  |      |   |            |
| <i>Mimus saturninus</i>            | 5       | R | S          |                                  |      |   |            |
| <b>VIREONIDAE</b>                  |         |   |            |                                  |      |   |            |
| <i>Cycarhis gujanensis</i>         | 1, 2, 3 | C | S, T, M, P |                                  |      |   |            |
| <i>Vireo chivi</i>                 | 1, 2, 3 | F | S, T, M, P |                                  |      |   |            |
| <i>Hylophilus thoracicus</i>       | 4       | U | T          |                                  |      |   |            |
| <b>EMBERIZIDAE</b>                 |         |   |            |                                  |      |   |            |
| <i>Parula pitayumi</i>             | 1       | F | T          |                                  |      |   |            |
| <i>Geothlypis aequinoctialis</i>   | 4       | U | S, T       |                                  |      |   |            |
| <i>Basileuterus culicivorus</i>    | 2, 3    | C | S, T, M, P |                                  |      |   |            |
| <i>Coereba flaveola</i>            | 2, 3, 4 | C | S, T, M, P |                                  |      |   |            |
| <i>Thlypopsis sordida</i>          | 4       | U | S, T       |                                  |      |   |            |
| <i>Hemithraupis ruficapilla</i>    | 1, 2    | U | S, T       |                                  |      |   |            |
| <i>Hemithraupis flavicollis</i>    | 1, 2, 3 | F | S, T, M, P |                                  |      |   |            |
| <i>Tachyphonus cristatus</i>       | 1, 2, 3 | C | S, T, M, P |                                  |      |   |            |
| <i>Tachyphonus coronatus</i>       | 2, 3, 4 | U | S, T, M, P |                                  |      |   |            |
| <i>Trichothraupis melanops</i>     | 3, 4    | F | S, T, M, P |                                  |      |   |            |
| <i>Habia rubica</i>                | 2, 3    | C | S, T, M, P |                                  |      |   |            |
| <i>Ramphocelus bresilius</i>       | 4       | R | S, T       |                                  |      |   |            |



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## Observations on a nest of Russet-winged Spadebill *Platyrinchus leucoryphus* in the Brazilian Atlantic Forest

Marco A. Pizo

Cotinga 20 (2003): 57–58

Neste trabalho eu relato observações feitas durante 12 horas de acompanhamento de um ninho de *Platyrinchus leucoryphus* descoberto com dois filhotes em novembro de 2001 no Parque Estadual Intervales, estado de São Paulo. *Platyrinchus leucoryphus* é uma espécie ameaçada de extinção. Além do comportamento dos ninhegos e do adulto observado nas imediações do ninho, são apresentadas informações acerca dos tipos e tamanhos de itens alimentares oferecidos pelo adulto aos ninhegos, bem como informações sobre a estrutura do ninho e o ambiente onde estava localizado.

Russet-winged Spadebill *Platyrinchus leucoryphus* is a small tyrannid endemic to the Atlantic Forest, occurring in the understorey of primary and old secondary forests from Espírito Santo to northern Rio Grande do Sul, in Brazil, into eastern Paraguay and north-east Argentina<sup>6</sup>. The largest of its genus<sup>9</sup>, it is classified as Near Threatened by BirdLife International<sup>3</sup>. Apparently very sensitive to habitat disturbance<sup>1</sup>, *P. leucoryphus* suffers from the habitat destruction that pervades its range. Typically occurring at very low densities, Aleixo & Galetti<sup>1</sup> recorded three territories in a 50-ha plot at a study site in São Paulo state, Brazil, but the ecological requirements of *P. leucoryphus* remain poorly known<sup>6</sup>.

Here I report observations of a nest discovered at the Saibadela Research Station, Parque Estadual Intervales (24°14'S 48°04'W; 100 m), a 49,000-ha reserve in São Paulo state. Besides providing information on the behaviour of parents and nestlings, and nestling diet, I describe the nest, apparently the only second ever discovered by an ornithologist, and its immediate environment.

Vegetation at the site predominantly comprises old-growth forest (*sensu* Clark<sup>4</sup>). Climate is generally humid and hot. Annual precipitation exceeds 4,000 mm, and mean annual temperature is c.24 C. Though rainfall is evenly distributed throughout the year (no month receives less than 100 mm), showers are more intense and frequent in October–March, which is also the hottest period. For more details of the study site, see Aleixo & Galetti<sup>2</sup> and Aleixo<sup>1</sup>.

The nest, which held two nestlings, was discovered on 14 November 2001. It was situated 4.5 m above ground in a fork of a small (5.5 m height; 4 cm dbh) understorey tree (*Guapira opposita*, Nyctaginaceae). The cup-shaped nest measured 4 cm in height (not considering the pendant dry leaves; see Fig. 1) and 6 cm in external diameter, and its shape agreed with the 'hummingbird-like nests' typical of the genus<sup>12</sup>. It was constructed of fragments of dry leaves ornamented with small pieces of bark on its external wall. Loose, dry fibres

of the understorey palm *Geonoma* sp. hung below the nest, forming a conspicuous 'tail' (Fig. 1). The incubation chamber, 2 cm deep, was completely lined with black fungal rhizomorphs ('vegetable horsehair'). The nest was located on flat terrain within deep shade (only 7.8% open canopy, measured with a convex densitometer<sup>8</sup>), with canopy 16 m high (measured with a range finder) and some distance (at least 100 m) from any watercourse. The dimensions and general situation of the nest were similar to those of the only previously reported nest, from Paraguay<sup>5</sup>, but the outer wall of the latter was almost entirely constructed of *Chusquea* bamboo leaves (unavailable at Saibadela), with a white silk (presumably of spiders' webs) as decoration, and the inner cup was principally of fibrous lichens. Both nests were similar in general appearance and construction to the nests of White-throated Spadebill *P. mystaceus*<sup>10</sup> and Golden-crowned Spadebill *P. coronatus*<sup>11</sup>.

For two consecutive days following its discovery I observed the nest from a concealed position 15 m away, for a total of 12 hours. During this period, I recorded (1) the frequency of visits by the adults to

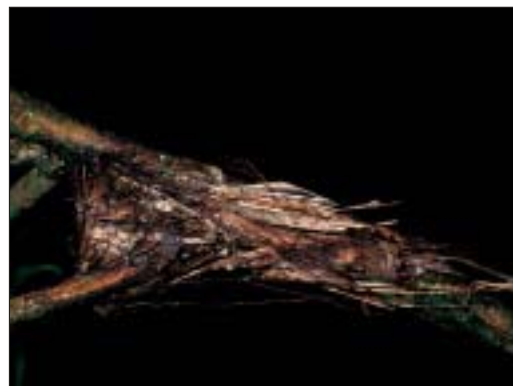


Figure 1. Nest of Russet-winged Spadebill *Platyrinchus leucoryphus*, Parque Estadual Intervales, Sao Paulo, Brazil, November 2001 (Marco A. Pizo)



## Cotinga 20

the nest, (2) the types and size of food items delivered to the nestlings, and (3) the behaviour of adults and nestlings. Food item size was visually estimated and categorised if smaller or larger than the beak length of the adult (mean  $\pm$  standard deviation =  $14.3 \pm 0.1$  mm, based on three specimens held in the Museum of Natural Sciences, Louisiana State University [LSUMNS] collection, USA).

The age of the nestlings at the time of discovery is unknown, but they were completely covered in creamy down, indicating that they were not newly hatched and were perhaps c.1 week old. Only one adult was seen undertaking fledging care at the nest or within the immediate vicinity. Because sexes are alike, I was unable to sex this adult or be certain as to the presence or not of a second adult. Nestlings were fed at a rate of 2.9 meals per nestling per hour. Only arthropods were identified in their diet, being 26 (59%) smaller and 18 (41%) larger than the beak length of the adult, a non-significant difference (Chi-square test:  $P^2=1.45$ ,  $P=0.22$ ). Of the 14 items reliably identified, eight were katydids, three cockroaches, two moths and one spider. The adult removed faecal sacs at a rate of 0.7 sacs per nestling per hour. For only 5.3% of the observation time did the adult brood the nestlings, in periods lasting 2–22 minutes. For *P. coronatus* in Costa Rica, Skutch<sup>11</sup> observed both parents feeding two 7–8-day old nestlings at a swifter rate (6.6. meals per nestling per hour) than I recorded for *P. leucoryphus*.

The breeding event reported here accords temporally with the few other reports of reproductive behaviour available for the species: a nest with two eggs in November 1996 at San Rafael National Park, Paraguay<sup>5</sup>, and males and females with enlarged testes and ovaries in September and October in Brazil<sup>6</sup>. Not previously reported for the species, and apparently unusual for tyrannids in general<sup>11</sup>, is that the nestlings remained silent and with their eyes closed throughout the observations. I never heard begging calls or any other sounds. As begging may attract the attention of predators<sup>7</sup>, such behaviour may be part of an anti-predator strategy worthy of future investigation.

### Acknowledgements

I thank the Fundação Florestal do Estado de São Paulo for permission to work at Intervalles and logistical support. Many thanks to Fábio Olmos for comments on the manuscript and Guy Kirwan for editorial assistance. Alexandre Aleixo provided bill measurements from specimens held at LSUMNS.

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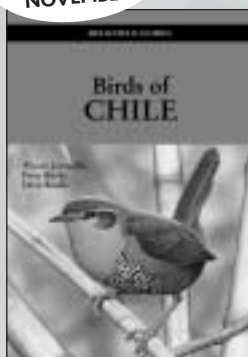
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## Brazil Special Photo Feature

Captions to photos on pages 61–63.

- Figure 1. Pfrimer's Conure *Pyrrhura (leucotis) pfrimeri*, near Nova Roma, Goiás, February 2002 (Arthur Grosset)
- Figure 2. Greater Wagtail-tyrant *Stigmatura budytoides gracilis*, Mocambinho, Minas Gerais, February 2002 (Arthur Grosset)
- Figure 3. Striated Softtail *Thripophaga macroura*, Boa Nova, Bahia, July 2002 (Arthur Grosset)
- Figure 4. Male Slender Antbird *Rhopornis ardesiacus*, Boa Nova, Bahia, July 2002 (Arthur Grosset)
- Figure 5. Female Spot-breasted Antvireo *Dysithamnus stictothorax*, Ubatuba, São Paulo, July 2002 (Arthur Grosset)
- Figure 6. Ochre-rumped Antbird *Drymophila ochropyga*, Boa Nova, Bahia, July 2002 (Arthur Grosset)
- Figure 7. Male White-winged Nightjar *Caprimulgus candicans*, Emas National Park, Goiás, April 2001 (Arthur Grosset)
- Figure 8. Female White-winged Nightjar *Caprimulgus candicans*, Emas National Park, Goiás, April 2001 (Arthur Grosset)
- Figure 9. Ochre-breasted Pipit *Anthus nattereri*, Serra da Babilônia, Minas Gerais, April 2001 (Arthur Grosset)
- Figure 10. Spot-backed Antshrike *Hypodaleus guttatus*, Ubatuba, São Paulo, 26 April 2001 (Arthur Grosset)
- Figure 11. Horned Sungem *Heliactin cornuta*, Mucugê, Bahia, July 2002 (Arthur Grosset)
- Figure 12. Southern Tawny-bellied Screech-owl *Otus usta*, rio Cristalino, Mato Grosso, April 2003 (Arthur Grosset)
- Figure 13. *Pionopsitta aurantiocephala*, Thaimaçu, Pará, April 2003 (Arthur Grosset)
- Figure 14. Curl-crested Aracari *Pteroglossus beauhamaesii*, rio Cristalino, Mato Grosso, April 2003 (Arthur Grosset)
- Figure 15. Hellmayr's Conure *Pyrrhura (picta) amazonum*, rio Cristalino, Mato Grosso, April 2003 (Arthur Grosset)
- Figure 16. Silvery-cheeked Antshrike *Sakesphorus cristatus*, Lençóis, Bahia, July 2002 (Arthur Grosset)
- Figure 17. Slaty-capped Shrike-vireo *Vireolanius leucotis*, rio Cristalino, Mato Grosso, April 2003 (Arthur Grosset)
- Figure 18. Zigzag Heron *Zebrilus undulatus*, rio Cristalino, Mato Grosso, April 2003 (Arthur Grosset)
- Figure 19. Hooded Visorbearer *Augastes lumachella*, Chapada Diamantina, Bahia, June 2002 (Marcelo Ferreira de Vasconcelos)
- Figure 20. Cipó Canastero *Asthenes luizae*, Serra do Cipó, Minas Gerais, June 1995 (Bo L. Christiansen)



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## Chestnut-bellied Guan *Penelope ochrogaster* in the Araguaia Valley, Tocantins, Brazil

Fábio Olmos

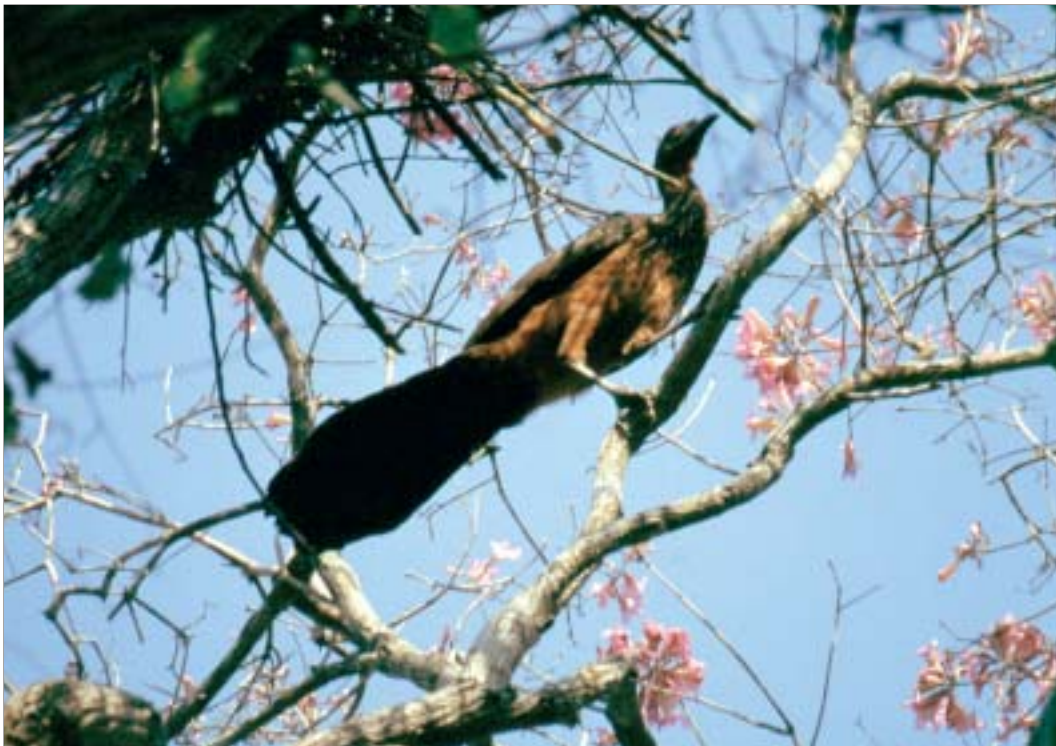
Cotinga 20 (2003): 64–65

Jacus-de-barriga-vermelha *Penelope ochrogaster* foram observados em duas localidades no oeste do estado do Tocantins, entre Lagoa da Confusão e Marianópolis, já no vale do rio Araguaia. A espécie ocupa florestas semelhantes àquelas onde é encontrado no Pantanal de Poconé, Mato Grosso, e não parece ser rara, embora a abertura de estradas e maior ocupação humana sejam ameaças ao seu habitat na região.

Chestnut-bellied Guan *Penelope ochrogaster* is globally threatened (Vulnerable)<sup>1</sup> and known from Minas Gerais (Pirapora, on the right bank of the rio São Francisco), Goiás (Monte Alegre de Goiás and Aruanã), Tocantins (Ilha do Bananal), Mato Grosso (several localities from São Domingos and Cáceres south to Porto Jofre) and Mato Grosso do Sul (rio Piquiri)<sup>1,2</sup>. It has not been recorded recently from either Minas Gerais or Goiás, while records from Tocantins date from the early 1990s<sup>1</sup>. The northern Pantanal of Mato Grosso, especially the Poconé region, is the source of most recent records and appears to be the species' stronghold<sup>1-3</sup>.

While undertaking a faunal inventory in western Tocantins, in August 2002, I observed Chestnut-bellied Guan in two localities along the unpaved road between Lagoa da Confusão and Marianópolis, an area dominated by cerrado, riverine and semi-deciduous forests and large expanses of seasonally flooded areas, not unlike the northern Pantanal of Mato Grosso. This area is within the Araguaia Valley, a region subject to strong flooding cycles of the rio Araguaia.

On 14 August, I observed three together in logged semi-deciduous forest at Fazenda Trindade (10°37'S 49°41'W). They flew away calling loudly



Chestnut-bellied Guan *Penelope ochrogaster*, northern Pantanal, Brazil (Fábio Olmos)



upon noticing me. Another was found in the same forest next day, as well as a tail feather, now in the Museu de Zoologia da Universidade de São Paulo (MZUSP 75494). The only other cracids seen here were Bare-faced Curassow *Crax fasciolata*, whilst Rusty-margined Guan *Penelope superciliaris* was commonly observed crossing the road in areas of denser cerrado.

On 17 August, a pair of Chestnut-bellied Guan was observed feeding on the fruits of a *Vismia* tree in pasture beside semi-deciduous forest grading into riverine forest of the rio do Côco (09°58'S 49°35'W), a large tributary of the Araguaia. They were alarmed by my approach and eventually flew across the flooded burlitizal bordering the forest.

Chestnut-bellied Guan has also been recorded in Cantão State Park<sup>4</sup>, a 90,017-ha reserve between the rio do Côco and the Araguaia. This, and my records, suggest it may be widespread in the Araguaia Valley of Tocantins wherever there is suitable semi-deciduous and riverine forest, and as common as it is in the Pantanal of Mato Grosso. It would be worth searching for the species along the rio Araguaia, including its western bank, where it was historically known from Aruanã.

Its discovery in the Araguaia Valley, in habitat similar to those in Mato Grosso, suggests an association with semi-deciduous forests on higher areas of floodplains. These forests, in addition to being selectively logged, are commonly cleared for agriculture. Unless legal requirements for the protection of riverine forests and other habitats are respected, the building of new roads in Tocantins may permit more intensive land use and increased pressure on the species' habitat.

It should be mentioned that Karajá and Javaé Indians invaded Araguaia National Park, where the species was noted in the 1990s, in 2001. The park formerly included the entire Ilha do Bananal but, in 1971, 1.5 million ha were granted to the Karajá and Javaé, reducing the park to just 500,000 ha. Now, the c.3,000 Indians are demanding the rest of the area, as their territory has been badly damaged by fires, overhunting and logging, principally because they rent their land for extensive cattle raising. This is just one of the ongoing disputes in Brazil between conservationists and Indian populations.

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## Variação de plumagem e expansão geográfica do Rapazinho-dos-velhos *Nystalus maculatus*

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We present some plumage variation characters in the Spot-bellied Puffbird *Nystalus maculatus*, based on nine specimens of the nominate form collected in an area of arboreal *caatinga* in Janaúba, northern Minas Gerais state, Brazil. Adults have spotted breasts and flanks while juveniles are streaked, thus resembling the subspecies *N. m. striatipectus*. We also report a range extension for this species in the Atlantic Forest region of eastern Minas Gerais state. We suggest that the Spot-bellied Puffbird reached this area recently due to Atlantic Forest destruction.

O Rapazinho-dos-velhos *Nystalus maculatus* é uma espécie de ampla distribuição geográfica na América do Sul, com ocorrência no norte (savanas do baixo Amazonas), nordeste, centro e sudoeste do Brasil, noroeste da Argentina, oeste e centro do Paraguai, e no sudeste e centro da Bolívia<sup>2-5</sup>. Silva<sup>4</sup> realizou uma revisão taxonômica da superespécie, reconhecendo duas aloespécies: *N. maculatus* e *N. striatipectus*, este último distribuído no extremo sudoeste do Brasil e nos outros países adjacentes acima citados. Entretanto, em um capítulo recente de uma importante obra referencial, dedicado à família Bucconidae, Rasmussen & Collar<sup>2</sup> mantiveram o tratamento tradicional, no qual estes dois táxons são relacionados como subespécies de *N. maculatus*. Uma das principais distinções entre as duas subespécies pode ser feita com base no aspecto da plumagem, sendo que a forma nominal

apresenta manchas negras cordiformes no peito e nos lados do corpo, enquanto que *N. m. striatipectus* possui estrias longitudinais negras nestas áreas<sup>2,4</sup>. Além disso, o bico de *N. m. striatipectus* é mais escuro que o da forma nominal<sup>2</sup>. O objetivo desta nota é descrever a variação de plumagem em *N. m. maculatus*, além de apresentar uma nova área de ocorrência para esta subespécie.

### Variação de plumagem

Uma série de nove espécimes de *N. m. maculatus* depositados na Coleção Ornitológica do Departamento de Zoologia da Universidade Federal de Minas Gerais (DZUFMG) demonstra aspectos de variação na plumagem de seus indivíduos (Fig. 1). Todas estas aves são provenientes de uma área de *caatinga* arbórea localizada no Campus Avançado de Janaúba, Universidade Estadual de Montes



Figura 1. Da esquerda para a direita: DZUFMG 3387, DZUFMG 3440, DZUFMG 3442 (juvenis), DZUFMG 3365, DZUFMG 3441 (intermediários), DZUFMG 3425, DZUFMG 3424, DZUFMG 3426 e DZUFMG 3386 (adultos).



Claros (15°49'S 43°16'W), município de Janaúba, norte de Minas Gerais, Brasil. Quatro espécimes (DZUFMG 3386 [macho], DZUFMG 3424 [fêmea], DZUFMG 3425 [fêmea] e DZUFMG 3426 [fêmea]) possuem características de plumagem típicas das descritas para *N. m. maculatus*<sup>2-4</sup>, sendo todos eles representados por aves adultas, possuindo manchas cordiformes nas partes inferiores e crânios totalmente ossificados (Fig. 1). Entretanto, três exemplares de sexo feminino (DZUFMG 3387, DZUFMG 3440 e DZUFMG 3442) possuem um padrão estriado de plumagem, característica diagnóstica de *N. m. striatipectus*<sup>2,4</sup> (Fig. 1). O grau de ossificação craniana destes espécimes estriados variou de 40 a 50%, sugerindo tratarem-se de indivíduos jovens. Além disso, as gargantas destes espécimes possuem uma coloração pardo-alaranjada bem mais apagada e seus bicos são mais escuros em relação aos exemplares adultos citados acima. Um casal (DZUFMG 3365 e DZUFMG 3441) apresenta um padrão intermediário de plumagem nas partes inferiores, possuindo uma mistura de estrias finas e manchas cordiformes, gargantas mais escuras e crânios totalmente ossificados, representando uma transição entre as formas jovens (aves estriadas) e adultas (aves manchadas) (Fig. 1). Deste modo, em *N. m. maculatus* são encontrados indivíduos jovens que apresentam aspectos da plumagem semelhantes aos de *N. m. striatipectus*.

### Expansão geográfica

Uma fêmea de *N. m. maculatus* (DZUFMG 570) foi coletada na Estação de Pesquisa e Desenvolvimento Ambiental de Peti (19°54'S 43°23'W), município de Santa Bárbara, leste de Minas Gerais, pela equipe liderada pelo ornitólogo Ney E. D. Carnevalli. A data de coleta deste espécime não foi anotada, mas suspeita-se de que o mesmo tenha sido obtido entre os meses de fevereiro de 1986 a maio de 1988, período no qual esta equipe trabalhou na região<sup>1</sup>. A vegetação de Peti é representada pela Mata Atlântica ou floresta estacional semidecidual. Uma vez que *N. m. maculatus* ocorre preferencialmente em ambientes secos como a caatinga e as florestas decíduas<sup>2-4</sup>, o registro no bioma da Mata Atlântica pode estar ligado a uma expansão geográfica da espécie devido a desmatamentos, de modo que o aparecimento de formações florestais secundárias mais secas poderia ter facilitado a dispersão de *N. m. maculatus* para esta região.

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## Brazilian Merganser *Mergus octosetaceus* discovered in Jalapão State Park, Tocantins, Brazil

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Este trabalho apresenta uma nova localidade de ocorrência do Pato-mergulhão *Mergus octosetaceus*, que amplia a distribuição conhecida desta espécie considerada criticamente ameaçada de extinção. Este registro para a região do Jalapão, uma das áreas de Cerrado mais bem preservadas do país, aumenta a expectativa de preservação da espécie em longo prazo. Outras cinco espécies ameaçadas foram registradas na região: *Taoniscus nanus*, *Harpyaliaetus coronatus*, *Anodorhynchus hyacinthinus*, *Amazona xanthops* e *Euscarthmus rufomarginatus*. A exploração turística, a caça e o tráfico de animais silvestres são ameaças à fauna regional. A expansão do cultivo de soja, a construção de usinas hidrelétricas e um projeto de transposição das águas da bacia do rio Tocantins para a bacia do rio São Francisco através da área do Parque estão entre as maiores ameaças à conservação local da espécie.

Brazilian Merganser *Mergus octosetaceus* is considered Critically Endangered at global<sup>6,8</sup> and national levels<sup>5</sup>. Few studies of its breeding biology, diet<sup>3,11</sup>, population density and habitat

requirements<sup>19</sup> exist. Its overall population is currently estimated at c.250 individuals<sup>6</sup>, in small, isolated subpopulations in the headwater tributaries of three large river basins: the upper rio



Figure 1. Sight records of Brazilian Merganser *Mergus octosetaceus* in Tocantins and the middle São Francisco basins. 1: rio Novo, near Mateiros, 2: rio Preto, in Chapada dos Veadeiros National Park, 3: rio São Miguel (not marked), near Veadeiros, 4: rio das Pedras, 5: rio Arrojado, 6: rio Pratudão, 7: rio Formoso, 8: rio Itaguari, 9: Barreiras, 10: Sítio Grande, 11: Correntina, 12: Jaborandi, 13: São Félix do Coribe, 14: Cocos. Not marked: Guardamor, in Goiás (data from Collar *et al.*<sup>7</sup>, Pineschi & Yamashita<sup>12</sup> and the present study). The arrow marks the location of the study site.





Tocantins, in Goiás and Tocantins<sup>15,16,20</sup>; the rio São Francisco, in Minas Gerais<sup>5,18,19</sup> and Bahia<sup>12</sup>; and the upper rio Paraná, throughout the Paranaíba and Paranapanema valleys<sup>2,8</sup>, and reaching Paraguay and Misiones province, Argentina<sup>4,11</sup>. In Argentina, despite much searching, there is only one recent published record, suggesting that the local population is near extinction; that in Paraguay is probably already so<sup>4</sup>. In Brazil, it is considered extinct in the states of Mato Grosso do Sul, Rio de Janeiro, São Paulo and Santa Catarina<sup>6</sup>.

Here we report the first record of *M. octosetaceus* for the rio Novo, in Jalapão State Park (JSP), Tocantins, Brazil, which extends its distribution c.200 km north from south-west Bahia, in the São Francisco basin<sup>12</sup> and the Paranã valley, on the upper Tocantins river<sup>15,16,20</sup> (Fig. 1).

### Study site

Jalapão is in eastern Tocantins state, near the border with the states of Maranhão, Piauí and Bahia, and covers 53,340 km<sup>2</sup>. Due to its geographical isolation and infertile soil, the region is one of the least populated and best-preserved parts of the Brazilian Cerrado<sup>10,13</sup>.

Field work was conducted in Jalapão State Park and surrounding areas, mainly around Mateiros (10°16'–10°43'S 46°08'–47°11'W). JSP was established in January 2001 and encompasses 1,580 km<sup>2</sup>. Geomorphologically the region is characterised by high plains and 'Chapada' plateau, with altitudes of 400 to 640 m<sup>10</sup>. Vegetation is typical of the Cerrado region's core<sup>13</sup>, and is dominated by extensive *campos sujos* (closed grasslands) and open savanna interspersed by *veredas* (wet grasslands with *Mauritia flexuosa* palms) and gallery forest. Climate

is characterised by two well-defined seasons, a rainy period in October–April, and a dry one in May–September, with mean annual temperatures of 27–30°C<sup>10</sup>.

### Our records

The area was visited on 5 May–4 June 2002, during a bird survey of the Jalapão region. *M. octosetaceus* was recorded on five occasions along the rio Novo, which is characterised by clear water, with numerous rapids and waterfalls, many exposed rocks, and is c.50 m wide. The river originates in the Serra Geral do Tocantins and flows to the rio Sono, which in turn joins the rio Tocantins.

On 9 May, at c.09h30, one was observed flying 3 m above the surface of the rio Novo (at 10°32'S 46°43'W), 3 km downstream of the TO 255 road bridge. Here the river is calm and fringed by narrow gallery forest. On 13 May, again at 09h30, one was observed a few metres above the Cachoeira da Velha (10°19'S 46°53'W), and flew at least 150 m upstream, upon our approach. The Cachoeira da Velha lies on the rio Novo; the waterfall is 15 m high and 100 m wide. On 26 May, at 07h20, two were observed 300 m upstream of the Cachoeira da Velha, swimming 5 m from a small sandbank. On 29 May, at 06h20, following an exhaustive search, we found two in a rapid 15 m upstream of the waterfall. They flew off when we approached to c.100 m distance. At 14h30 on the same day, we found two foraging in small rapids 50 m upstream of the earlier observation (Fig. 2).

In the study area five other globally threatened species were recorded (species tape-recorded are marked, T, and those photographed, P): Dwarf Tinamou *Taoniscus nanus* (T), Crowned Eagle



Figure 2. Pair of Brazilian Merganser *Mergus octosetaceus* on the rio Novo (Vivian S. Braz)



*Harpyhaliaetus coronatus* (T), Hyacinth Macaw *Anodorhynchus hyacinthinus* (T), Yellow-faced Parrot *Amazona xanthops* (sight records and vocalisation heard) and Rufous-sided Pygmy-tyrant *Euscarthmus rufomarginatus* (T), in addition to three considered Near Threatened, Greater Rhea *Rhea americana* (P), White-banded Tanager *Neothraupis fasciata* (specimen now housed in the Universidade de Brasília collection, where awaiting accession number; P) and Coal-crested Finch *Charitospiza eucosma*<sup>6</sup>(T). Based on the survey, there are 12 Cerrado endemics in the area<sup>7,17</sup>: Collared Crescentchest *Melanopareia torquata* (T), Large-billed Antwren *Herpsilochmus longirostris* (T), Helmeted Manakin *Antilophia galeata* (P), Curl-crested Jay *Cyanocorax cristatellus* (P), White-striped Warbler *Basileuterus leucophrys* (P), White-rumped Tanager *Cypsnagra hirundinacea* (P) and Black-throated Saltator *Saltator atricollis* (P), in addition to those already mentioned, namely *T. nanus*, *A. xanthops*, *E. rufomarginatus*, *C. eucosma* and *N. fasciata*.

## Discussion

Due to the sedentary and territorial nature of *M. octosetaceus*<sup>3,11</sup>, we consider that those observed in the vicinity of the Cachoeira da Velha were the same pair. Given the home range estimate of 9 km<sup>19</sup>, and the distance of more than 40 km between the Cachoeira da Velha and the first observation, we assume the latter to have almost certainly involved a different individual.

With the latest two sightings, we saw the distinct ability of the species to dive and pursue fish, even in the strongest rapids, a few metres above the waterfall. They appear shy and able to detect approaching humans even over long distances. At such times the pair would alarm-call briefly before flying upstream low over the water, as previously described<sup>11,20</sup>.

The rio Novo has a very narrow, occasionally non-existent, gallery forest along its course, surrounded by open cerrado or *veredas*. Our observations corroborate previous reports that the species is not exclusively found on forested rivers<sup>18,20</sup>. Downstream of the Cachoeira da Velha, the river is narrower and the broadest strip of forest is here, reaching at least 30 m wide, and may represent an important nest site<sup>11,19</sup>.

The lack of clear boundaries to the JSP, and the absence of basic conditions essential for their enforcement, result in many direct threats to the local fauna, such as frequent burnings, illegal hunting and wild-animal traffic<sup>1</sup> (pers. obs.). Increasing and uncontrolled tourism is a threat to *M. octosetaceus*, which is very sensitive to human disturbance<sup>19</sup>. Intense traffic of 4-WD vehicles in the park, and frequent rafting on the rio Novo may also threaten the species' local preservation. Other,

less intrusive, tourism activities such as birdwatching, photography, and hiking should be encouraged.

Expanding soybean culture and the construction of hydroelectric dams are considered the principal threats to *M. octosetaceus*<sup>12,20</sup>. The latter was considered responsible for a drastic reduction in the Argentine population<sup>4</sup>. In the Tocantins basin, two hydroelectric dams were constructed in the last five years: U.H.E. Serra da Mesa (1,800 km<sup>2</sup>), at Minaçu, Goiás and U.H.E. Luiz Eduardo Magalhães (660 km<sup>2</sup>), at Lajeado, Tocantins. In addition, three other large hydroelectric dams are planned<sup>14</sup>.

The Brazilian government proposed a project for the transposition of water from the Tocantins basin to São Francisco basin, through the Jalapão region, including the interior of the JSP, in an attempt to minimise the social and economic impacts of droughts in north-east Brazil<sup>10</sup>. However, evaluations of technical, economical, social and environmental aspects concluded that the project was impractical<sup>10</sup>. The project envisioned the creation of six dams in the headwaters of the rios Novo and Sono, which would have affected all downstream areas and reduced their drainage to ecologically unsustainable levels. Disturbances that further change the river drainage, increase water turbidity or obstruct its channel endanger *M. octosetaceus*, which depends on rapids and clear water<sup>12,19,20</sup>. Alternative models to resolve the problems caused by droughts in north-east Brazil are therefore required.

The Jalapão region, including JSP and other locations in eastern Tocantins and western Bahia, have been listed as priority areas for Cerrado biodiversity conservation<sup>9,10</sup>. The new record of *M. octosetaceus* reinforces the biological importance of the region. In Brazil there are records of this species in just three conservation areas: Chapada dos Veadeiros National Park, with observations in 1987<sup>20</sup>, Emas National Park, in 1990<sup>8</sup> (both of which lack recent published records) and Serra da Canastra National Park, where the *M. octosetaceus*' population is being monitored<sup>19</sup>. The occurrence of *M. octosetaceus* in another protected area increases the species' long-term survival prospects. Jalapão has several rivers suitable for *M. octosetaceus*. Efforts to determine occurrence in other areas, population estimates, and habitat and reproduction requirements are essential to evaluate the species' status and to guarantee its long-term conservation in Jalapão.

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## Alpha taxonomy of the *Xiphorhynchus spixii* species group with the validation of *X. juruanus* Ihering, 1904

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O trabalho revê o complexo específico *Xiphorhynchus spixii* que se distribui na região amazônica. Além de confirmar o status específico de *X. spixii* (ao sul do rio Amazonas, da margem leste do Tapajós, até o Maranhão) e de *X. elegans* (no interflúvio Madeira–Tapajós) o presente estudo valida *X. juruanus*, como uma espécie filogenética de ampla distribuição a oeste do rio Madeira, ocorrendo no Brasil, na Bolívia, no Peru, no Equador e na Colômbia. Esta última espécie passa a incluir os táxons *insignis*, *ornatus* e *buenavistae*, antes considerados subespécies de *X. elegans*. A variação geográfica dessas espécies é descrita.

The species group *Xiphorhynchus spixii* occurs over a vast region from the Colombian Andes and Bolivia into north-west Brazil and south along the right bank of the rio Amazonas to Mato Grosso, Pará, Tocantins and Maranhão<sup>14</sup>. Indeed, it is one of the most complex and debated species groups within the genus.

Cory & Hellmayr<sup>6</sup> stated that taxa within the group *spixii* are probably conspecific, also raising the possibility that *X. pardalotus* is merely a geographic substitute, i.e. yet another subspecies distributed north of the rio Amazonas. No subsequent author has linked *X. pardalotus* to the group in question, but some have tended to treat the entire complex as conspecific<sup>9,18,20,22,29</sup>. *X. ocellatus* and *X. obsoletus* were considered closely related to this complex by Raikow<sup>19</sup>, who removed *X. elegans* from the group and considered it only indirectly related to *X. spixii*. Haffer<sup>9</sup> and Aleixo<sup>1</sup>, however, recognised two species as valid: *X. spixii* (Maranhão to the rio Tapajós) and *X. elegans* (of the Tapajós/Madeira interfluvium to Bolivia), including *X. e. juruanus* (western Amazon, from south-east

Peru and Bolivia to the rio Madeira), *X. e. insignis* (Peru), *X. e. ornatus* (north-west Peru, Ecuador, south Colombia) and *X. e. buenavistae* (north-east Colombia).



Figure 2. Comparison between the dorsal spots of *Xiphorhynchus juruanus* and *X. elegans*. From right to left: *X. elegans* (AMNH 148470, Porto Velho); *X. juruanus* (AMNH 309317, Brasil); *X. juruanus* (AMNH 240413, Peru); *X. juruanus* (AMNH 407167, Ecuador); *X. juruanus* (AMNH 460242, Colombia) (Marcos A. Raposo)

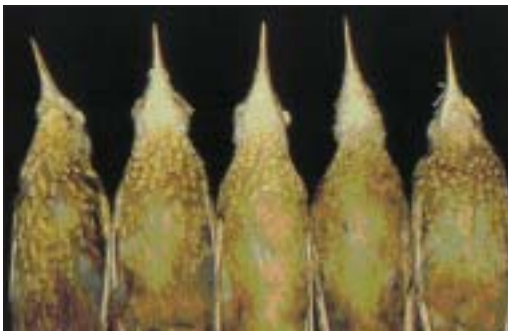


Figure 1. Comparison between the ventral spots of *Xiphorhynchus juruanus* and *X. elegans*. From right to left: *X. elegans* (AMNH 148470, Porto Velho); *X. juruanus* (AMNH 309317, Brasil); *X. juruanus* (AMNH 240413, Peru); *X. juruanus* (AMNH 407167, Ecuador); *X. juruanus* (AMNH 460242, Colombia) (Marcos A. Raposo)



Figure 3. Detail of the ochre lines along the rachis of the upperwing-coverts, ending in small spots on feathers, which is the diagnostic character of *Xiphorhynchus elegans* (Marcos A. Raposo)

*X. spixii*<sup>13</sup> was described on the basis of *Dendrocolaptes tenuirostris* Spix, 1824 (type lost), homonym of *Dendrocolaptes tenuirostris* Lichtenstein, 1818 (= *Lepidocolaptes fuscus*). Cory & Hellmayr<sup>6</sup> proposed Pará as the type locality. The species' small size is comparable to that of *X. obsoletus*<sup>14,22</sup>, from which it is distinguished by having more ochraceous plumage and a longer bill. It also differs from *X. ocellatus*, which it approaches in size, by its paler guttate spotting, more sharply demarcated and more amply distributed over the belly and mantle. *X. s. spixii* occurs in *terra firme* forest south of the rio Amazonas, from Maranhão west to the rio Tapajós. The occurrence of *X. spixii* in Ceará, mentioned by Teixeira *et al.*<sup>24</sup>, proved false and was based on the incorrect identification of an immature specimen of *X. picus* (corrected in Teixeira *et al.*<sup>25</sup>). Cory & Hellmayr<sup>6</sup> included *Xiphorhynchus fraterculus*<sup>21</sup>, described on the basis of a single specimen obtained in Santarém, Pará, as a junior synonym of *X. spixii*.

*X. elegans*<sup>16</sup> was described on the basis of specimens from Engenho do Capitão Gama, Mato Grosso, and is characterised, according to Cory & Hellmayr<sup>6</sup>, by the large ochraceous, ovoid ocelli distributed over the entire back from the nape to the uropygium. It has rufous shoulders, and the upperwing-coverts possess an ochraceous streak along the rachis, terminating in a small spot. It also has broad fan-shaped spots on the neck and breast, a straight dark bill and yellowish lower mandible. *X. elegans* occurs in the Madeira–Tapajós interfluvium and its headwaters, where it occasionally comes into close proximity with the parapatric forms of *X. spixii juruanus* and *X. s. spixii*. A possible intergradation between this form and *X. spixii* near the headwaters of the Tapajós, around Rio Peixoto de Azevedo, has been used to justify treating it as a subspecies of *spixii*<sup>9,20,22,29</sup>. Although Zimmer<sup>29</sup> and subsequent authors proposed to treat all forms in the group as subspecies of *X. spixii*, Ridgely & Tudor<sup>20</sup>, with the subsequent support of Haffer<sup>9</sup> and Aleixo<sup>1</sup>, contended that *X. spixii* might be considered a species, while all other taxa would remain subspecies of *X. elegans*.

*X. elegans juruanus*<sup>12</sup>, classified on the basis of material from the rio Juruá, is immediately distinguished from *X. s. spixii* and *X. elegans* by its smaller size and fewer breast spots, and the near absence of dorsal spots. It lacks the narrow ochraceous streaks on the upperwing-coverts of *X. elegans*. Moreover, it has a bright white throat patch and straight dark bill very similar to that of *X. elegans* but different from *X. e. insignis*<sup>6,11</sup>. It occurs on the left bank of the rio Madeira, south of the rio Amazonas and north to the lower rio Ucayali in Peru. Zimmer<sup>29</sup>, however, concluded that material from the left bank of the lower rio Madeira

(Rosarinho, Porto Velho and Manaqueri) more closely matched specimens of *X. elegans* and that the species therefore occurs on both sides of the river. There is much disagreement in the literature on this point. Most recently, Ridgely & Tudor<sup>20</sup> and Haffer<sup>9</sup> agreed that *X. spixii juruanus* occurs in all localities immediately west of the Madeira, except Rosarinho, from where morphological variants requiring further study are known<sup>9,29</sup>.

*X. elegans insignis*<sup>10</sup> is based on a specimen from Samiría, Peru. At the time of its description, Hellmayr was unaware of the description of *juruanus* by Ihering<sup>12</sup>, and as a result the two descriptions overlapped considerably. Hellmayr<sup>11</sup> presented his diagnosis in relation to the form described by Ihering only after the latter had sent him two specimens of *X. s. juruanus*, an adult and immature. However, given the considerable individual variation in these forms, insufficient material was available for more than initial remarks, limited to the more sharply curved and paler bill of *X. e. insignis*. In the original description, *X. e. insignis* was distinguished from *X. elegans* by its more stripe-like dorsal markings confined to the nape. In addition, its coloration was, in general, reportedly darker than *elegans*, including the ground colour of the pileum, which is dusky in *X. e. insignis*. As in *X. s. juruanus*, the median streaks on the upperwing-coverts characteristic of *X. elegans* are absent in *X. e. insignis*. Cory & Hellmayr<sup>6</sup> added that, in comparison to *X. e. insignis*, *X. s. juruanus* has spots both smaller and more confined to the upper body. Hence, he argued, *X. e. insignis* occupied the entire eastern portion of the region in which the complex occurred, from the left bank of the Ucayali in Peru to Colombia. Zimmer<sup>29</sup> concluded that all material examined from Sarayacu and Orosa to the east consisted of typical *X. s. juruanus*, whereas forms from the upper Ucayali were substantially different and matched Hellmayr's diagnosis in respect of bill and pileum coloration, and the mantle and ventral spots. Zimmer also suggested the possibility of intergradation with *juruanus* and, in noting the existence of morphological variation north of the rio Amazonas, concluded by describing two new taxa, *X. s. ornatus* and *X. s. similis*.

*X. elegans ornatus*<sup>29</sup> was described on the basis of a specimen from Puerto Indiana, near the rio Napo in Peru. It closely resembles *X. elegans* but is brighter and has larger ventral and dorsal spots. The bill is pale grey except the base of the lower mandible, whereas *X. elegans* has a dark bill. According to Zimmer<sup>29</sup>, both possess a similar pattern of median streaks along the rachis of the upperwing-coverts, but *X. s. ornatus* is darker cinnamon on the wings, tail and rump. It is distinguished from *X. e. insignis* by even larger ventral and dorsal spots, and by its deeper

ochraceous ventral spots. The throat is deep buff, not white as in *X. e. insignis* and *X. s. juruanus*. It occurs in northern Peru and on the left bank of the rio Amazonas from the rio Napo region to eastern Ecuador, north to eastern Colombia and east to the vicinity of São Paulo de Olivença, Brazil. Several specimens clearly identifiable as *X. s. juruanus* were available from the same area as the sample of *X. s. ornatus* taken at the latter locality. Zimmer<sup>29</sup>, expressing surprise at the presence of the two forms in the same locality and south of the Solimões, suggested that as the two were not collected on the same day they had been taken in different habitats, and plausibly even on opposite banks of the river. Todd<sup>26</sup>, in contrast, accepted that they had all been collected from one area and concluded that they were species, given that if they were subspecies they would reproduce freely and lose their diagnostic characters. He also claimed that specimens of the two had been taken on the same day, but this was subsequently emphatically refuted by Haffer<sup>9</sup>, who suggested that those of *X. s. ornatus* had been collected from an island in mid-river, c.500 m from the south bank of the Amazonas. Thus, they could be considered subspecies, as their potential reproductive compatibility was restored. After describing a degree of individual and geographic variation for his new subspecies, Zimmer<sup>29</sup> realised that an even more distinct form was present further north, in Buena Vista, upstream of Villavicencio, and described it as subspecies named for its place of origin.

*X. elegans buenavistae*<sup>29</sup>, was initially described as *X. s. similis* but its name was subsequently corrected, also by Zimmer<sup>30</sup>, because *Dendroplex similis*<sup>16</sup>, a synonym of *X. obsoletus*, preoccupied the name *similis*. The holotype is from Buena Vista, Colombia. This form closely resembles *X. elegans*, but is distinguished by a paler bill, less rufous shoulders and merely obsolete streaks along the rachis of its coverts and scapulars. It differs from *X. e. ornatus* in its overall greyer coloration, distinctly more ochraceous and smaller dorsal and ventral spots, and whiter throat, albeit not as white as *X. e. insignis*, from which it also differs in the larger size and distribution of its dorsal and ventral spots. *X. e. buenavistae* occurs from the eastern slopes of the Colombian Andes to the Orinoco basin. Closing his description, Zimmer raised the possibility of intergradation with *X. s. ornatus*, but did not reach a conclusion on the subject.

Here we review the alpha taxonomy of the *X. spixii* species group, adopting the concept of species proposed by Nelson & Platnick<sup>15</sup>. It should be noted that the results obtained using these parameters do not differ substantially from those that would be achieved if other supposedly phylogenetic concepts were deployed (for a review of such species concepts, see de Pinna<sup>17</sup>).

## Materials and methods

A total of 751 specimens was analysed, 308 of *X. spixii* and 443 of *X. elegans* (including *X. e. juruanus*, *X. e. insignis*, *X. e. buenavistae* and *X. e. ornatus*). This material included the types of *X. spixii ornatus* (AMNH 231998; for museum acronyms see below), *X. spixii similis* (AMNH 122088), *Dendroornis ocellata juruana* (MZUSP 3535), *Dendroornis elegans* (syntype NHM 89520522), *X. obsoletus parvimaclulatus* (ANSP 104157) and *Dendroornis fraterculus* (USNM 120928). Our work focused on plumage coloration and morphometric characters (length of wing, tail and exposed culmen).

Material analysed was from the following institutions: Museu Paraense Emílio Goeldi, Belém (MPEG), Museu Nacional/Universidade Federal do Rio de Janeiro (MNRJ), Museu de Zoologia da Universidade de São Paulo (MZUSP), Field Museum of Natural History, Chicago (FMNH), Museum of Natural History, University of Kansas, Lawrence (MNHUK), Museum of Natural Science, Louisiana State University, Baton Rouge (LSUMZ), American Museum of Natural History, New York (AMNH), National Museum of Natural History, Smithsonian Institution, Washington DC (USNM), Academy of Natural Sciences, Philadelphia (ANSP); Museum of Comparative Zoology, Harvard (MCZ), Muséum National d'Histoire Naturelle, Paris (MNHN), Natural History Museum, Tring (NHM) and Museum für Naturkunde Alexander Humboldt, Berlin (MFN).

## Results

Our analysis demonstrated that three taxa, *X. spixii*<sup>13</sup>, *X. elegans*<sup>16</sup> and *X. juruanus*<sup>12</sup>, should be recognised as species, confirming the conclusions of Haffer<sup>9</sup> and Aleixo<sup>1</sup> in relation to the independence of the first two and validating, for the first time, *X. juruanus*. The taxa *X. s. insignis*, *X. s. ornatus* and *X. s. buenavistae* should henceforth not be considered taxonomically for lack of possible diagnosis and because they were consistently found to represent geographic variants of the senior synonym *X. juruanus*.

The three valid species of the complex are re-described below.

*Xiphorhynchus spixii* (Lesson)

*Picolaptes spixii* Lesson, 1831; p. 314.

*Dendroornis fraterculus* Ridgway, 1888; p. 88.

*Type material*: Holotype missing. Pará is the type locality suggested by Cory & Hellmayr<sup>6</sup>.

*Diagnosis*: *X. spixii* is the member of the complex that is most easily distinguished due to the oval shape of the breast feathers and their distribution (Fig. 2), which give the birds a scaly appearance. It



**Table 1.** Descriptive morphometrics of males and females from the three phylogenetic species in the species group. *X. juruanus* is divided arbitrarily into sample A (specimens from Brazil, Bolivia, extreme north-east Peru) and sample B (central and northern Peru, Ecuador, Colombia).

| Population           | Sex    | Wing          | Tail         | Bill         |
|----------------------|--------|---------------|--------------|--------------|
| <i>X. spixii</i>     | Male   | 99.44 (3.89)  | 79.58 (3.51) | 29.53 (1.35) |
|                      |        | 160           | 155          | 115          |
|                      | Female | 94.41 (2.85)  | 75.49 (2.99) | 28.89 (1.49) |
|                      |        | 93            | 84           | 87           |
| <i>X. elegans</i>    | Male   | 97.23 (2.80)  | 79.15 (4.10) | 29.87 (1.50) |
|                      |        | 66            | 65           | 64           |
|                      | Female | 91.06 (2.90)  | 71.49 (3.65) | 29.23 (1.57) |
|                      |        | 59            | 62           | 62           |
| <i>X. juruanus</i> A | Male   | 100.42 (4.04) | 80.54 (3.51) | 32.46 (1.78) |
|                      |        | 62            | 59           | 63           |
|                      | Female | 94.19 (2.80)  | 75.30 (3.45) | 31.49 (1.66) |
|                      |        | 52            | 53           | 51           |
| <i>X. juruanus</i> B | Male   | 98.31 (3.42)  | 78.07 (3.67) | 32.25 (1.77) |
|                      |        | 54            | 53           | 52           |
|                      | Female | 93.02 (3.09)  | 72.83 (3.41) | 30.56 (1.72) |
|                      |        | 45            | 46           | 45           |

First row: mean and standard deviation (in parentheses). Second row: number of specimens

is immediately distinguished from *X. elegans* and *X. juruanus* by its oval-shaped pectoral spots, which are fan-shaped in the latter two. The ventral spots of *X. spixii* occur on the throat and breast, becoming gradually more elongated until they become stripes on the abdomen. It also differs from *X. juruanus* by the broader distribution of dorsal spots.

**Variation:** Males larger. There is a slight tendency for specimens from near the headwaters of the rio Tapajós to have less elongated spots and less chestnut plumage. This is especially conspicuous in specimens from the upper rio Cururu (4 specimens MNRJ, not yet registered with accession numbers) and the Serra do Cachimbo (MZUSP 38348, 38345 and 38349) but no sign of intergradation with *X. elegans* was detected. In Alta Floresta, the two occur on opposite sides of the rio Teles Pires, confirming their respective diagnoses. It should also be noted that if hybridisation occurred between them, it would be characterised as secondary contact, as indicated by the molecular phylogeny proposed for the genus by Aleixo<sup>1</sup>, who grouped *X. elegans* and the populations included here as *X. juruanus* within a monophyletic taxon.

**Descriptive morphometrics:** See Table 1.

**Distribution:** Occurs from Maranhão, on the banks of the rios Turiaçu and Buriticupu, west to the rio Tapajós, with its northern distribution delimited by the rio Amazonas. Distributional limits elsewhere are within the vicinity of Conceição do Araguaia to the south-east and the rio Teles Pires, rio Cururu (Pará) and the Serra do Cachimbo (Fig. 1).

**Geographic representation of the series: Brazil.**

**Pará:** Acará (2), right bank of the rio Teles Pires, opposite Alta Floresta (5), Altamira (2), Alto Cururu (4), Ananindeua (4), Apehu (1), Arumatéua (2), Aveiros (6), Baião (4), Belém (70), sites along the Belém–Brasília highway (13), Benevides (3), Bujaru (1), Cachimbo (4), Caldeirão (1), Capanema (1), Capim (53), Carajás (9), Castanhal (1), Caxiricatuba (3), Conceição (1), Diamantina (2), Fordlândia (3), Igarapi-açu (1), Ipixuna (1), Irituia (2), Jacundá (4), Jamanxim (1), Javá-guará ? (1), Marajó (9), Mirituba (1), Mocojuba (1), Ourém (6), Paragominas (3), Peixe Boi (1), Piquiatuba (1), Providência (3), rio Guamá (4), rio Iriri (1), rio Tocantins (1), Santa Isabel (1), Santana do Araguaia (18), Santarém Novo (1), Santo Antônio do Prata (1), São Félix do Xingu (4), Tapajós ? (2), Tapará (1), Tapiringá ? (1), Tauari (1), Tucunará (2), Tucuruí (8), Utinga (6), Vilarinho do Monte (3), Vitória (1). **Maranhão:** Açailândia (1), Alto da Alegria (3), Alto Turiaçu (3), Buriticupu (6), Carutapera (1), Flor do Prado (2), Itaizal (1). **Tocantins:** Couto Magalhães (2).

*Xiphorhynchus elegans* (Pelzeln)

*Dendrornis elegans* Pelzeln, 1868; p. 45.

**Type material:** Holotype from Engenho do Capitão Gama, Mato Grosso, syntypes in Natural History Museum, Tring, and Naturhistorisches Museum, Vienna.

**Diagnosis:** Distinguished from other species by fan-shaped spots (Fig. 1) distributed over the entire undersurface to the abdomen, without becoming



stripes as in *X. spixii* and not confined to the breast as in *X. juruanus*. Also distinguished from all populations of the two latter species by ochraceous streaks along the rachis of the upperwing-coverts, ending as small spots (Fig. 3). It has a darker throat than the parapatric populations of *X. juruanus*, from which it is also distinguished by ochraceous ocelli covering almost its entire mantle (Fig. 2), whereas the latter has a striped dorsum. *X. elegans* is similar to populations of *X. juruanus* north of the rio Amazonas (previously named *X. s. ornatus* and *X. s. buenavistae*), although *X. elegans* has a less cinnamon plumage, a darker bill and smaller pectoral spots confined to the apical portion of each feather. The pectoral spots of *X. elegans* also differ in being less elongated in the proximal and median portion, thus lacking the conical shape described for some populations of *X. juruanus*.

**Variation:** *X. elegans* is highly homogeneous throughout its distribution, and no sexual dimorphism has been observed in coloration. Males are larger on average. Specimens from Rosarinho (AMNH 282269, 282271, 282272 and 282273), previously considered intermediate between *X. juruanus* and *X. elegans*<sup>9,29</sup>, matched the diagnosis of *X. elegans*, possessing marked lesser wing-coverts and intermediate spots. The presence of dorsal spots

and ochraceous throat are additional characters of *X. elegans*.

**Descriptive morphometrics:** See Table 1.

**Distribution:** Occurs south of the rio Amazonas where it is confined to the Tapajós–Madeira interfluvium (Fig. 4), and known as far west as the banks of the rio Sepotuba (MNRJ 13346) near Cáceres (Mato Grosso). To the south-west, its distribution appears to be delimited by the rio Guaporé, except in Bolivia, where it crosses this river.

**Geographic representation of the series: Brazil.**

**Pará:** Alta Floresta, left bank of the rio Teles Pires (6), Itaituba (1), Uruá (1), Urucurituba (1), Vila Braga (4); **Amazonas:** left bank of the rio Aripuanã (5), rio Theodore Roosevelt (2), Rosarinho (5); **Mato Grosso:** Engenho do Capitão Gama (1), Jacaré (1), right bank of the rio Aripuanã (Cachoeira Dardanelus) (5), Rio Peixoto de Azevedo (6), Salto Grande do Sepotuba (1), Teles Pires (3); **Rondônia:** Aliança (3), Alvorada do Oeste (6), Cachoeira Nazaré (29), Calama (5), Jiparaná (2), Ouro Preto do Oeste (6), Pedra Branca (10), Porto Velho (4), Príncipe da Beira (1), rio Anari (4), rio Jamari (1), São João do Norte (1), UHE Samuel (8). **Bolivia. Santa Cruz:** Velasco (16), Serranía de Huanchaca (9).

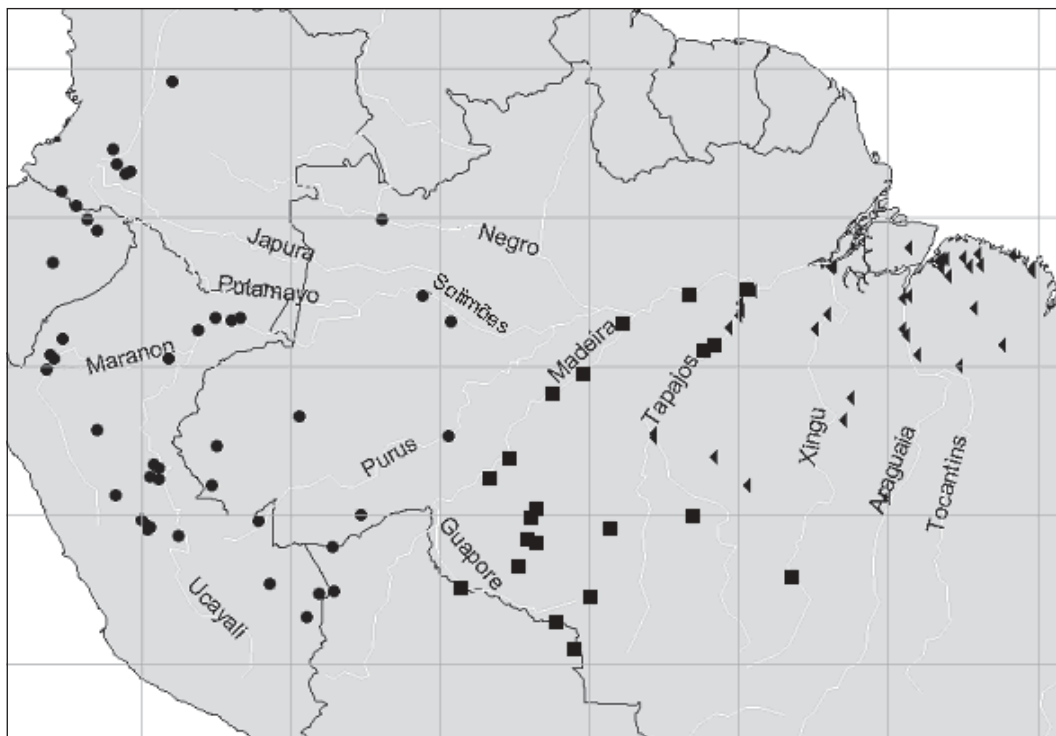


Figure 4. Map showing distributions of the examined specimens of ● *Xiphorhynchus juruanus*, ■ *X. elegans* and ◄ *X. spixii*.



*Xiphorhynchus juruanus* (Ihering)

*Dendroornis ocellata juruana* Ihering, 1904; p. 436.

*Dendroornis insignis* Hellmayr, 1905; p. 55.

*Xiphorhynchus spixii ornatus* Zimmer, 1934; p. 7.

*Xiphorhynchus spixii similis* (= *buenavistae*) Zimmer, 1934; p. 9.

*Xiphorhynchus obsoletus parvimaclulatus* Carriker, 1934; p. 323<sup>4</sup>.

**Type material:** Holotype from the banks of the rio Juruá, housed in the Museu de Zoologia da Universidade de São Paulo.

**Diagnosis:** *X. juruanus* possesses pronounced geographic variation. The Brazilian and Bolivian populations, which are geographically close to *X. elegans*, are distinguished from the latter by their smaller fan-shaped pectoral spots confined to the breast, and the dorsal spots reduced to stripes. In addition, they lack the latter's ochraceous stripes on the upperwing-coverts and have a more whitish throat. These populations of *X. juruanus* differ from *X. spixii* in the shape and distribution of spots, which are large, oval and rather diffuse in the latter. Peruvian, Ecuadorian and Colombian populations of *X. juruanus* (previously named *X. e. insignis*, *X. e. ornatus* and *X. e. buenavistae*) vary considerably but are distinct from *X. spixii* by having ventral spots that are conical and fan-shaped, rather than ovoid, and by having a pale bill, whereas both *X. spixii* and *X. elegans* have a dark bill, as do the Brazilian and Bolivian populations of *X. juruanus*. They also differ from *X. elegans* in having larger spots.

**Variation:** No sexual dimorphism detected in respect of plumage coloration. The young approximate to the pattern observed in other species of *Xiphorhynchus*, in that they are more chestnut and have a smaller, darker bill. They present pronounced modifications in body spots, which may be larger in some individuals (e.g. AMNH 824056).

Our analysis confirmed that *X. juruanus* also presents considerable geographic variation in respect of characters historically used for diagnostic purposes. In the area of contact with *X. elegans*, the belly spots are similar in shape to those of the latter, but much smaller and confined to the breast. Spots become larger in populations further from the rio Madeira, towards Ecuador and Colombia, confirming the observations of Zimmer<sup>29</sup>. The same applies to the dorsal spots, which are larger in the western range of *X. juruanus*. Localities near the rio Madeira (e.g. Porto Velho) have merely incipient dorsal spots appearing as stripes. In Porto Pardo, Porto Maldonado and the rio Manu (all in Madre

de Dios, Peru) and Nicolas Suarez (Pando, Bolivia), the dorsal and ventral spots are slightly larger, but the bill remains black (e.g. AMNH 82456 and 824057). Around Lagarto, Santa Rosa, Puerto Bermudez, the rio Linlla Pichis, Tingo María and Chuchurras, in the upper rio Ucayali region, a number of specimens have larger spots and paler bills (e.g. AMNH 240408 and 240411), typical of the synonym *X. e. insignis* (agreeing with Hellmayr<sup>10</sup>). In this region it is still possible to find some with black bills (AMNH 239365). North along the left bank of the Ucayali these characteristics are even more distant from typical *X. juruanus*, in Yarina Cocha, dpto. Loreto and thence to dpto. Amazonas (e.g. Huampami, Urakusa and La Poza), where the predominant phenotype is rather closer to the holotype of *X. s. ornatus*. The latter predominates east in the region of the rio Napo and north in Ecuadorian localities such as Archidona, Limoncocha and Santa Cecilia (Napo). Colombian populations closely resemble *X. elegans* except for their larger, more cinnamon-coloured pectoral spots, less ovoid dorsal spots and paler bill in most specimens.

It should be stressed that this transition does not occur on the banks of the rio Amazonas, where populations continue to present the typical phenotype of *X. juruanus* as far as the lower Ucayali, on the opposite bank of the mouth of the rio Napo, and at Iquitos. In this area, specimens from the right bank of the rio Amazonas correspond to the morphotype *X. s. juruanus* (e.g. specimens from Orosa, AMNH 232006, 232002, 232005 and 232008) while specimens from the left bank correspond to former *X. s. ornatus* (e.g. one from the rio Mazan; AMNH 407167), giving the impression of an abrupt transition.

The same variation is observed in size. Populations of *X. juruanus* from north-west Peru, Ecuador and Colombia are conspicuously closer in morphometrics to *X. elegans* than Brazilian and Bolivian populations of *X. juruanus*. This pattern of variation matches what Brown & Wilson<sup>4</sup> term 'character displacement'.

**Descriptive morphometrics:** Table 1 summarises mensural data for *X. juruanus*. Specimens were arbitrarily divided into sample A, comprising those from Brazil, Bolivia and extreme north-east Peru (previously named *X. s. juruanus*), and sample B, comprising the rest (previously named *X. e. insignis*, *X. e. ornatus* and *X. e. buenavistae*). The purpose of this was to test whether populations geographically more distant from *X. elegans* were closer to the latter in morphometrics. Indeed, it was generally observed that mensural data from sample B were closer to *X. elegans* than those of sample A, particularly the wing and tail measurements of males. With regard to tail measurements, sample A specimens of *X.*

*juruanus* were significantly larger than *X. elegans* ( $p < 0.05$ ), whereas sample B specimens were not.

**Distribution:** *X. juruanus* occurs from the left banks of the Madeira and Guaporé west, as far as La Poza, Huampami and Nazareth, dpto. Amazonas (Peru). South, it occurs along the eastern slopes of the Andes to Nicolas Suarez, dpto. Pando (Bolivia), and Astillero, Porto Pardo and Porto Maldonado in the region of the río Manu, dpto. Madre de Dios (Peru). North, it also occurs on the left bank of the río Solimões, occupying the region of the río Napo in the vicinity of Iquitos, and extending into Ecuador in dpto. Napo (e.g. Archidona, Limoncocha, the río Manu and Santa Cecilia) and Colombia in dptos. Putumayo, Caquetá, Cauca and Meta (in Villavicencio and Buena Vista).

**Geographic representation of the series:** **Bolivia.**

**Pando:** Nicolas Suarez (14). **Brazil. Amazonas:** Boca Lago Tefé (1), Estirão do Equador (8), Igarapé Grande (8), João Pessoa (8), rio Caitauhará (1), rio Juruá (1), Santa Cruz (5), Santo Isidoro (3), Tefé (1), Vila Bela Imperatriz (1); **Acre:** Cruzeiro do Sul (9), Iquiri (1), rio Branco (2), Vila Taumaturgo (Seringal Oriente on the rio Juruá) (1); **Rondônia:** Porto Velho, left bank of the rio Madeira (1). **Colombia. Cundimarca:** Bogotá (8); **Meta:** Buena Vista (1), Montanhas Macarenas (1), rio Duita (7), Villavicencio (5); **Cauca:** Moscopan (2); **Caquetá:** Morelia (2), Puerto Venecia (2); **Putumayo:** Guascayco (1); **Sucree:** rio Linlla Pichis (1). **Ecuador. Napo:** Archidona (1), Concepcion (5), Limoncocha (15), rio Manu (1), rio Pacayacu (1), rio Payamino (1), Santa Cecilia (8), San José Nuevo (1); **Pastaza:** Aucayacu (2). **Peru. Amazonas:** Huampami (4), La Poza (3), Nazareth (2), Urakusa (3); **Huánuco:** Águas Calientes (1), Calientillo (1), Chuchurras (1), El Indio (1), Tingo María (1); **Madre de Dios:** Altamira (1), Napo (1), Puerto Maldonado (4), Puerto Pardo (4), rio Tambopata (3); **San Martín:** El Tingo (1), Saposoa (3); **Loreto:** Balta (4), Chayauitas (1), Estacion Ecologica Pitheia (2), Iquitos (28), Oroza (5), Pebas (1), Quebrada Vanilla (25), Yurimaguas (1); **Pasco:** Puerto Bermudez (2), Navati Mission (1); **Puno:** Astillero (3), Huacamayo (3), Puerto Vessup (8), rio Pachitea Nebil (1), rio Ucayali (6), Santa Rosa (6) Yarina Cocha (1); **Ucayali:** Lagarto (10), Pucallpa (12). **Imprecise localities:** rio Mazan (1), 'Ecuador' (1). 'Colombia' (5), Madre Dios (1).

## Discussion

**Taxonomic definitions:** As they are clearly diagnosable and allopatric, *X. juruanus* and *X. elegans* cannot be considered conspecific as proposed by Ridgely & Tudor<sup>20</sup>, Haffer<sup>9</sup> and Aleixo<sup>1</sup>. From the material we examined it can be inferred that there is only one area of possible contact between *X.*

*elegans* and *X. spixii*: this lies in the vicinity of the Serra do Cachimbo, Pará, on the border with Mato Grosso. Nevertheless, all of the specimens of *X. spixii* from this area (e.g. four uncatalogued specimens in MNRJ and three in MZUSP, 38345, 38348 and 38340) and those of *elegans* (e.g. MPEG 33617, 33618, 33619, 33620, 33621, 33622) are perfectly diagnosable.

Records relating to specimens that supposedly match the diagnosis of the synonym, *X. j. ornatus*, for the right bank of the rio Amazonas in São Paulo de Olivença are most probably the result of imprecise labelling, as hinted by Zimmer<sup>29</sup> contra Todd<sup>26</sup>. A similar case may also have occurred with specimens collected around Orosa (AMNH 232006, 232002, 232005 and 232008), which present pronounced variation in dorsal and ventral spots. It must be stressed that the Olalla brothers employed several local hunters to collect birds<sup>18</sup>, thus some 'mislabelling' is perhaps to be expected, and may be true for those specimens from São Paulo de Olivença.

If, however, the material was taken from the right bank of rio Amazonas, Orosa must represent a transition site from typical *X. juruanus* to the more spotted form, distributed further east and north. It should be noted that the site is close to the mouth of the rio Ucayali and that strongly spotted forms predominate on the opposite bank of the latter river.

That the transition is abrupt around the mouth of the rio Ucayali and that populations may be isolated in this area does not justify validation of *X. e. insignis* (which would have priority over Zimmer's *X. s. buenavistae* and *X. s. ornatus*), as the transition in the southern distribution is gradual and characteristic of primary contact, which was corroborated by the molecular analysis of Aleixo<sup>1</sup>.

**Group phylogeny:** Bledsoe *et al.*<sup>3</sup> and Raikow<sup>19</sup> concluded that the species group is not monophyletic and excluded *X. elegans* from it. However, their findings (which used the same character matrix) have not been employed here because of major inconsistencies. In separating *X. elegans* from the *X. spixii* group, both studies used (see Raikow<sup>19</sup>) two specimens of *X. elegans* (LSUMZ 83715 and FM 330388) and a single *X. spixii* (LSUMZ 114412). FM 330388 was taken from the rio Jiparaná, Rondônia, and thus pertains to true *X. elegans*, whereas LSUMZ 83715 is from the province of Napo (Ecuador, 00°24'S 73°37'W), where *X. juruanus* occurs (labelled *X. elegans ornatus* in LSUMZ collection). Additionally, the specimen of *X. spixii* used in the previous studies is from Quebrada Vanilla, at the mouth of rio Napo (Peru), and is therefore another specimen of *X. juruanus* (identified as *X. spixii juruanus* in the collection). As mentioned earlier, *X. spixii* occurs only in Brazil, from the right bank of rio Tapajós west. The large

phylogenetic distance attributed to two specimens of the same species (LSUMZ 114412, 83715) therefore represents the potential negative effects of poor sampling combined with inconsistent terminals (polytypic species) within a phylogenetic analysis.

We consider that biogeographic patterns (parapatry), coloration and morphometrics to be highly indicative of the complex being monophyletic, thus agreeing with the phylogeny proposed by Aleixo<sup>1</sup>. The ‘character displacement’ described for *X. juruanus* / *X. elegans* is also typical of closely related populations<sup>4</sup>. At the same time, *X. juruanus* and *X. elegans* both have fan-shaped breast spots of a shape that is unique in the family (see diagnoses) and derived from that found in *X. spixii*, which in turn occurs in many related species, such as *X. obsoletus*, *X. ocellatus* and *Lepidocolaptes fuscus* (= *X. fuscus*; see García-Moreno & Silva<sup>8</sup> and Aleixo<sup>1</sup>). This, combined with the difficulty of diagnosing some populations of *X. juruanus* as distinct from *X. elegans*, indicates that they form a sister group derived from the same ancestral stock as *X. spixii*.

Considering that the cladogenesis of the group occurred dichotomously and that rivers have contributed decisively to the formation or maintenance of currently extant groups, our findings point to an area cladogram broadly congruent with that presented by Bates *et al.*<sup>2</sup> for the oscines (see their Fig. 3a). The group comprising the areas referred to as Belém, Pará 1 and Pará 2 would be a sister group of the one comprising Rondônia, Inambari and Napo. The latter, in turn, would be divided into Rondônia and Inambari–Napo subgroups. However, this cladogram is not consistent with the hypothesis that Bates *et al.*<sup>2</sup> propose as the most parsimonious for the ‘total passerine data set’ (see Bates’ Fig. 3b).

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## Notes on the Seven-coloured Tanager *Tangara fastuosa* in north-east Brazil

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São apresentadas novas localidades de ocorrência e extensões de distribuição geográfica para o pintor-verdadeiro *Tangara fastuosa*, uma espécie endêmica e ameaçada de extinção, que ocorre apenas em ambientes florestais dos estados do Rio Grande do Norte até Alagoas, no nordeste brasileiro. São reportados também novos dados sobre preferências de habitat, comportamento, ecologia e conservação desta espécie. A distribuição geográfica deste táxon é revisada e atualizada neste trabalho, bem como o *status* das populações nos diversos estados nordestinos onde ele ocorre. Aparentemente, há uma relação entre a abundância de Melastomataceae e a presença desta espécie em muitas das áreas pesquisadas, o que pode explicar a ausência do pintor-verdadeiro na porção sul de Alagoas. *T. fastuosa* foi freqüentemente observada em bandos mistos, em grupos ou em pares. Registros de nidificação foram realizados em janeiro, e as aves estavam construindo ninhos em bromélias. Atualmente, a principal ameaça à algumas populações do pintor-verdadeiro reside na captura de exemplares para serem mantidos em cativeiro, um hábito ainda muito disseminado nas áreas visitadas. Através do uso de 'chamas', alguns caçadores podem apanhar um número significativo de aves. A manutenção de alguns remanescentes florestais em grotões existentes nas usinas de cana-de-açúcar pode ter um impacto positivo na conservação desta espécie.



### Sponsored by NBC

Seven-coloured Tanager *Tangara fastuosa* is a globally threatened Atlantic Forest endemic restricted to north-east Brazil, where it is known from Alagoas, Pernambuco and Paraíba<sup>3,6,7</sup>. As part of projects investigating the distribution and current status of Atlantic Forest birds in this region of Brazil, we undertook forest bird surveys in protected areas and sugar plantations (*usinas*) where many of the remnant forests of north-east Brazil are located. We report here on our observations concerning the distribution, ecology and conservation of *T. fastuosa*, and relate our findings to published information for the species.

### Methods

SAR undertook general ornithological surveys in Atlantic Forest remnants in Alagoas and Pernambuco from June 1999 to January 2001 as part of a study of the distribution and biogeography of Atlantic Forest birds in north-east Brazil<sup>12</sup>. LFS, FO and AJL visited such remnant forests in Alagoas, Pernambuco, Paraíba and Rio Grande do Norte between 6 October and 20 November 2001. FO made additional brief surveys along the BR101 highway in May 2000.

During our surveys we recorded bird species, number of individuals and, for species of conservation concern, habitat type, group size, feeding habits and general behaviour. Habitat condition and any threats to the forest were also recorded. Observations were made using binoculars and vocalisations were recorded with a TCM5000 EV tape-recorder and Sennheiser ME66 micro-

phone. Copies of vocalisations are deposited at Arquivo Sonoro Elias Coelho (ASEC), Universidade Federal do Rio de Janeiro. Coordinates and altitudes were obtained using a GPS (Garmin GPS 12) and, where possible, staff of the *usina* plantations were interviewed to provide details on the distribution and size of the remaining forest.

### Results

We found Seven-coloured Tanager in 15 forest fragments (Table 1), of which 14 are probably new locations for the species (cf. Collar *et al.*<sup>3</sup>, BirdLife International Globally Threatened bird database). We also detail here the first records for Rio Grande do Norte, which although published locally<sup>14</sup> have not been widely reported in the ornithological literature. In order to map the tanager's distribution (Fig. 1) we made an exhaustive search of specimen data from all major museums, published literature and recent sightings by ornithologists, thus augmenting the synthesis presented by Collar *et al.*<sup>3</sup>.

### Rio Grande do Norte

Reported from Capim Macio just south of Natal<sup>14</sup>, and in adjoining forests of the 1,172-ha Dunas de Natal State Park (F. A. S. Roberto *in litt.*). Also reported to occur in the humid coastal forests of Baía Formosa near the border with Paraíba (F. A. S. Roberto *in litt.*), but not seen during a short visit by FO in May 2000 or by AJL and Luiz Gonzaga during a two-hour visit on 5 November 2001. Despite these reports it would be preferable to obtain more

**Table 1.** Summary of recent Seven-coloured Tanager *Tangara fastuosa* records in north-east Brazil. Letters in parentheses following the locality name refer to the key for Fig. 1.

| Area/date  | Number of birds/group                         | Notes   |
|--|---|---|
| Mata do Pau Ferro, Paraíba (A), 30 October–1 November 2001                     | Seen daily with seven being the largest group | Observed on forest edge and clearings within open and heavily modified <i>brejo</i> forest (semi-deciduous forest with much <i>Cecropia</i> ).  |
| Engenho Água Azul, Pernambuco (B), 22–30 May 1999                              | 2, 5, 5, 7                                    | This area has five forest fragments and <i>T. fastuosa</i> was recorded in all. Live trapping of tanagers for sale is common.   |
| Mata da Macambira, Engenho Triunfo, Pernambuco (C), 4–6 August 1999.           | 10, 12, 15                                    | Recorded always in flocks of 10+ individuals, usually with <i>T. cyanocephala</i> and <i>Euphonia violacea</i> . Forest is continuous with the previous locality. Poaching of mammals and larger birds recorded.  |
| Mata do Estado, Pernambuco (D), 12–20 October 1999                             | 10–15 (forest edge); 4–6 (clearings)          | Recorded both in forest interior and edges, most frequently with <i>Tangara cyanocephala</i> . Forest managed by a local association, but poaching of larger mammals by outsiders recorded. The species was not seen during a four-day visit in November 2001 (SAR, AJL and Luiz Gonzaga)   |
| Torre do Microondas, Taquaritinga do Norte, Pernambuco (E), 21–23 January 2000 | Five pairs                                    | Observed only in highland forest at 1,067 m, not below in the forest/caatinga ecotone at 800 m. Locals hunt passerines, including <i>T. fastuosa</i> , for food and report them as easy to catch.   |
| Usina Trapiche (F), Pernambuco, 19–20 November 2001                            | 2, 3  | Up to three observed in a tall emergent tree ( <i>Parkia</i> sp.). The forest block is in good condition but is only a few ha in size.  |
| Usina Sacramento, Pernambuco (G), 27–30 January 2000                           | 2   | A pair observed in forest edge. Logging and poaching recorded.  |
| Just north of Palmares, Pernambuco (H), May 2000                               | 2   | A pair in a severely degraded forest patch (mostly <i>Cecropia</i> with a few taller <i>Parkia</i> trees).  |
| Usina Frei Caneca, Jaqueira, Pernambuco (I), 7–10 July 1999                    | 12  | Flock with 12 <i>T. fastuosa</i> and ten <i>T. cyanocephala</i> . The area is protected by the landowner (private reserve).   |
| Mata do Pinto, Usina Serra Grande (J), 20 October 2001                         | 4, 3, 3, 2, 2                                 | Five groups in mixed-species flocks with <i>Tangara cyanocephala</i> , <i>Dacnis cayana</i> , <i>Hemithraupis guira</i> , <i>H. flavicollis</i> , <i>Cranioleuca semicincta</i> , <i>T. cayana</i> , <i>Picumnus exilis</i> , <i>P. fulvescens</i> , <i>Herpsilochmus atricapillus</i> , <i>Tachyphonus cristatus</i> , <i>T. rufus</i> , <i>Saltator maximus</i> and <i>Contopus cinereus</i> . Feeding on <i>Miconia</i> berries. |
| Mata do Coimbra, Usina Serra Grande (K), Alagoas, 12 November 2001             | 2   | Observed in <i>Cecropia</i> along an old logging trail through tall second-growth forest.   |
| Pedra (Serra) Branca, Murici, Alagoas—main forest block (L), 18 November 2001  | 3   | A group of three observed in understorey trees with a single <i>Chlorophanes spiza</i> .  |
| Usina Santo Antônio (M) 1, 6–7 October 2001                                    | 2, 2, 4, 4                                    | Two pairs alone, the others in different mixed-species flocks with <i>Tangara velia</i> (which is scarcer), <i>T. cayana</i> , <i>Dacnis cayana</i> , <i>Coereba flaveola</i> , <i>Hemithraupis guira</i> , <i>H. flavicollis</i> , <i>Tachyphonus cristatus</i> , <i>T. rufus</i> and <i>Saltator maximus</i> . Feeding on <i>Miconia</i> berries.   |
| Usina Santo Antônio 2 (M), 8 October 2001                                      | 4, 2  | Both in mixed-species flocks with <i>Hemithraupis</i> spp., <i>Dacnis cayana</i> , <i>Chlorophanes spiza</i> , <i>Euphonia violacea</i> , <i>Thraupis palmarum</i> , <i>Sittasomus griseicapillus</i> , <i>Xenops minutus</i> , <i>Saltator maximus</i> and <i>Polioptila plumbea</i> . Feeding on <i>Miconia</i> berries.  |
| Mata Bamburral II, Usina Cachoeira (N), 19 October 2001                        | 2   | A pair seen alone.  |
| Mata da Sálvia, Usina Utinga Leão (O), 14 October 2002                         | 3   | Found in forest edge with many <i>Cecropia</i> and <i>Miconia</i> . Three together feeding on <i>Cecropia</i> catkins. One (a male?) inspected a caged conspecific used as a decoy by trappers, while the others remained apparently unconcerned.   |

observations as they possibly could have been released cagebirds. It is common practice for wildlife officers to release birds confiscated from dealers in the nearest convenient vegetation.

### Paraíba

Known previously from sightings at two localities, one of which we have traced only to municipality<sup>3</sup> (Fig. 1). We observed the species at Mata do Pau Ferro State Ecological Park on four occasions dur-

ing 30 October to 1 November 2001. Sightings were mainly in forest edge and the largest group involved seven individuals. The site is close to the untraced Serrotinho, listed by Zenaide<sup>16</sup>, in the municipality of Alagoas Grande.

We failed to find the species during our two-day visit to Guaribas Biological Reserve, north of Mamanguape. Previous surveys of this reserve also failed to record it<sup>5</sup> and Pinto & Camargo<sup>10</sup> made



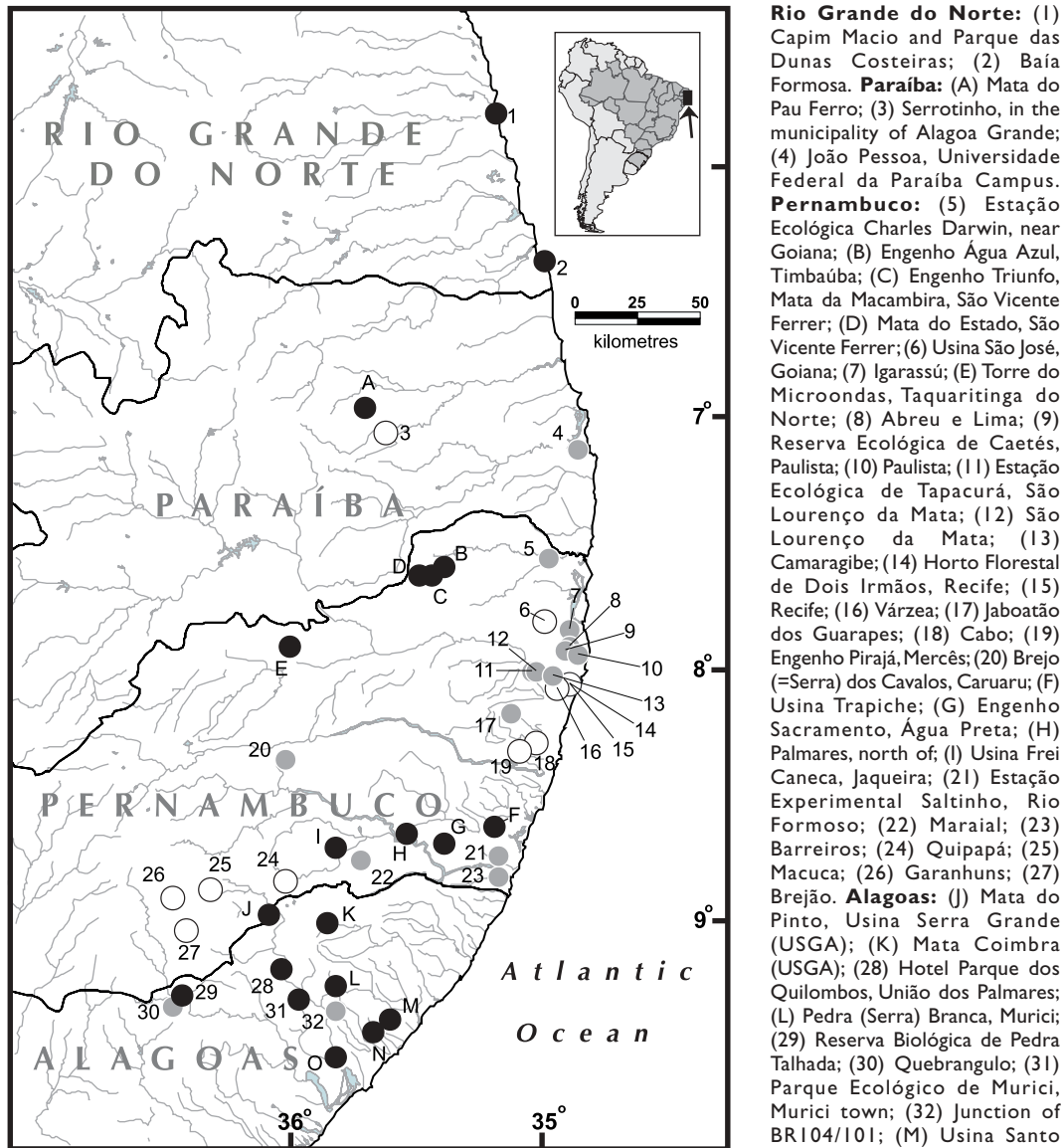


Figure 1. Distribution of Seven-coloured Tanager *Tangara fastuosa* in north-east Brazil. Localities prefixed by a letter represent area with records during our surveys. Filled circles refer to records in the last five years; grey circles to records between five and 25 years old; and open circles to records older than 25 years.

several collecting trips to the general area in the 1950s without finding the species, suggesting it is absent from northern Paraíba. The status of Seven-coloured Tanager in the state requires further study.

#### Pernambuco

Most specimen localities are from Pernambuco. A. G. M. Coelho (pers. comm.) found the species at several of the small ecological stations and biological reserves near Recife during the 1980s, and it has

been seen recently (late 1990s) at several localities in the state<sup>4,9</sup>, as well as within the Universidade Federal de Pernambuco (UFPE) Brejo dos Cavalos Reserve.

We observed the species at several widely scattered localities: the largest groups (flocks with 10+ individuals) were seen by SAR at Mata do Estado and Mata da Macambira in northern Pernambuco, both 'new' areas for *T. fastuosa*. FO observed a pair just north of Palmares in May 2000. AJL and Luiz

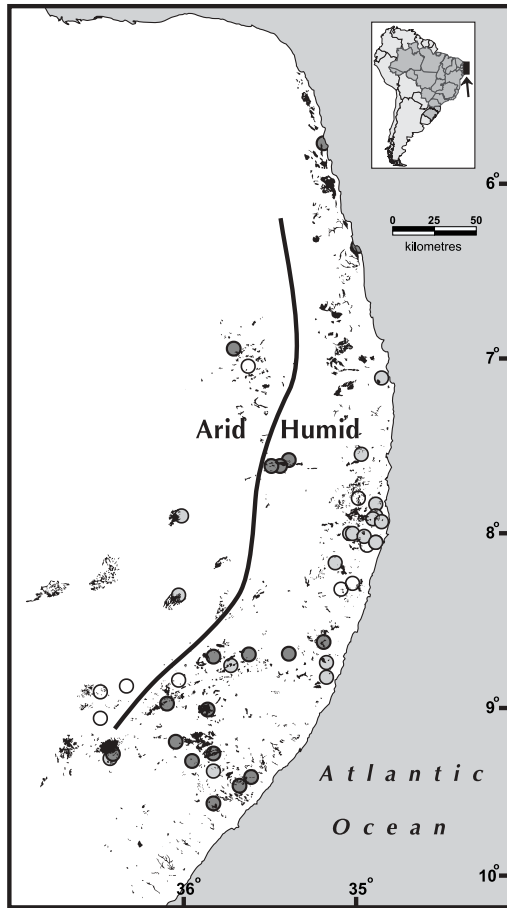


Figure 2. Localities for Seven-coloured Tanager *Tangara fastuosa* (see Fig. 1 for details) in relation to remaining forest cover in 1990. This map depicts the highly fragmented nature of the Atlantic coastal forests of north-east Brazil, where there are no fragments greater than 4,000 ha. The line represents the approximate division between the humid coastal plain and the dry *caatinga* interior of north-east Brazil. Forests marked on the arid side of the divide represent isolated *brejo* forest rather than remnant humid forests. The species occurs in isolated *brejo* forests within the *caatinga* region (e.g. Mata do Pau Ferro, Taquaritinga do Norte, Serra dos Cavalos, Macuca, Garanhuns and Brejão).

Gonzaga observed the species twice at Usina Trapiche on 19–20 November 2001, the largest group being three individuals. Other recent records (all SAR observations) are from Engenho Água Azul, Usina Frei Caneca, Engenho Triunfo, Engenho Sacramento and Taquaritinga do Norte (Table 1).

**Alagoas**

Collar *et al.*<sup>3</sup> listed five localities, with regular sightings in the 1990s from Murici and Pedra Talhada. Recent unpublished records are from the



Figure 3. Seven-coloured Tanager *Tangara fastuosa* being trapped at Usina Utinga Leão (Fábio Olmos)



Figure 4. Two boys selling five Seven-coloured Tanagers *Tangara fastuosa* trapped at Usina Utinga Leão (Fábio Olmos)



Figure 5. Seven-coloured Tanager *Tangara fastuosa* (Edson Endrigo)

grounds of the Hotel Parque dos Quilombos near União Palmares (G. Green *in litt.* 2002) and Usina Serra Grande, where two males were collected (deposited in the Universidade Federal de Pernambuco collection, UFPE 3312 and 3313).

We found the species in seven of the 17 fragments we visited (Table 1). It was not seen south of the state capital, Maceió, being absent from the drier forests of Usina Coruripe (c.10°20'S), near the mouth of the rio São Francisco. This suggests the





distribution of the species is subject to ecological constraints.

### Ecology

Collar *et al.*<sup>3</sup> and Isler & Isler<sup>6</sup> detailed our scant knowledge of the ecology of *T. fastuosa*. It occurs (often within mixed-species flocks) in the canopy and edges of lowland and montane forest, but also in second growth and at some sites regularly into scrub and orchards close to forest fragments. Nests have been found in March.

We found *T. fastuosa* in a variety of habitats, from forest edge and interior, and in areas ranging from relatively undisturbed mature forest to severely degraded second growth dominated by *Cecropia* and a few taller, vine-laden trees. At Usina Serra Grande and Pedra Talhada it has been observed in gardens and orchards with bromeliad-laden trees.

The northernmost locality for the species (Capim Macio, Rio Grande do Norte) is an area of cerrado (locally known as *tabuleiro*) bordering dunes and coastal scrubby *restinga*. *Tabuleiros* are typical of the transition between more humid coastal formations and the xeric hinterland<sup>14</sup>. As well as extending the range of the species, records from this area broaden its known habitat preferences. The other record from Rio Grande do Norte (Baía Formosa) is from the largest Atlantic Forest remnant in the state (Mata Estrela) comprising a tall, semi-deciduous area rich in Brazilwood *Caesalpinia echinata* between sugarcane fields and coastal dunes covered by scrubby *restinga*.

Our findings demonstrate that *T. fastuosa* occurs in humid forests within interior Paraíba, Pernambuco and Alagoas. Some of these interior humid forests (in Paraíba and Pernambuco) are isolated from the Atlantic Coast humid forests by arid *caatinga* vegetation and are known as *brejos*. They tend to be located on hills exposed at right angles to humid coastal winds<sup>1</sup>, and possess a more humid and cooler climate than the surrounding *caatinga* as their higher elevation causes air to cool, with consequent precipitation. Mata do Pau Ferro (Paraíba), Taquaritinga do Norte, Serra dos Cavalos, Macuca, Garanhuns and Brejão (all Pernambuco) are known *brejo*-forest localities for *T. fastuosa* (Fig. 2).

Most of our observations of feeding tanagers were on berries of arboreal *Miconia* spp. (Melastomataceae), c.4–7 m high in forest edge and second-growth forest. At Usina Santo Antônio and Usina Utinga Leão, tanagers were also seen searching dead leaves hanging from branches, apparently looking for insects. At Usina Utinga Leão three were feeding on *Cecropia* catkins and apparently on Müllerian corpuscles at the bases of the leaves.

Melastome berries are a known food item of *T.*

*fastuosa*<sup>3</sup>, as well as other *Tangara* spp.<sup>7</sup>. We believe it is possible that there is a relationship between the abundance of melastomes and the presence of *T. fastuosa*. Most *Miconia* are edge or second-growth species and in Alagoas they are dominant in humid forests in hilly country (such as Mata do Pinto and Usina Serra Grande) and in gullies north of Maceió (Usinas Santo Antônio, Utinga Leão, Cachoeira and Serra Grande; Fig. 1, Table 1). In fact, very few or no *Miconia* trees were found in the drier forests of southern Alagoas or in fragments on better-drained soils outside gullies, which were also devoid of *Tangara* spp. (Silveira & Olmos in prep.). Previous surveys by FO found that melastomes are uncommon in coastal lowland forests of Paraíba and Rio Grande do Norte. This could, at least partially, explain why *T. fastuosa* is rare or absent from coastal forests in these states. Further surveys are, however, required to substantiate the hypothesis.

Most *T. fastuosa* records were of pairs or groups of up to four (Table 1). Most were in mixed-species flocks of varying composition. Fragments with the best-conserved forest possessed more, and the most species-rich, flocks. The most frequent flock species in Alagoas were *Herpsilochmus rufimarginatus*, *Thraupis palmarum*, *Tangara cayana*, *Tachyphonus rufus*, *T. cristatus*, *Hemithraupis flavicollis*, *H. guira*, *Dacnis cayana*, *Coereba flaveola* and *Saltator maximus*. Other flock species, found only in Usina Serra Grande, which has the best forest in the state, were *Picumnus exilis*, *P. fulvescens*, *Cranioleuca semicinerea* and *Tangara cyanocephala*. *Tangara velia cyanomelaena*, an Atlantic Forest endemic probably worthy of specific status, was observed in a flock with *T. fastuosa* at Usina Santo Antônio, and was the rarest *Tangara* in the surveyed areas.

In Pernambuco, SAR has observed *T. fastuosa* in mixed flocks in the forest at Mata do Estado with *T. cyanocephala*, *Tersina viridis*, *Dacnis cayana* and *Cyanerpes cyaneus*. Flocks observed in clearings at the same locality included, in addition to both of the above *Tangara*, *Tachyphonus rufus*, *T. cristatus*, *Tangara cayana* and *Euphonia violacea*. At Usina Frei Caneca, *T. fastuosa* was seen in numbers with *T. cyanocephala*, *T. cayana*, *T. velia*, *Tachyphonus cristatus* and *Thraupis palmarum*, whilst *Hemithraupis flavicollis* was added at Engenho Água Azul. At the latter locality most flocks consisted solely of *Tangara fastuosa* and *T. cyanocephala*.

Breeding behaviour was observed at Torre do Microondas (which locality appears to be the highest-altitude area known for the species), in Taquaritinga do Norte, Pernambuco, where SAR saw five different pairs nest-building in different arboreal bromeliads, up to 15 m high, on 21 January 2000. The total area occupied was slightly larger than 500 m<sup>2</sup>, suggesting that breeding territories are relatively small. The only other breeding data we are



aware of are those of G. M. Kirwan (*in litt.* 2003), who observed fledged, non-dependent young in family parties at Pedra Talhada, in February 1995.

### Threats and conservation

Seven-coloured Tanager has experienced severe habitat loss, only 2% of the original Atlantic Forest remains in north-east Brazil, much of it second growth<sup>13</sup>, and capture to supply the cagebird trade. None of the remaining forest fragments is larger than 4,000 ha, with most of this still subject to selective logging and poaching (pers. obs.).

During a visit to the recently decreed (but ineffectively implemented) Murici Ecological Station we saw the last forest remnants on ridges-tops being encroached by pastures: the sound of axes and chainsaws was common. Large areas were cleared for charcoal production just prior to our visit in October 2001 (C. J. Bakker pers. comm.). There is a lack of law enforcement by local environmental authorities, despite the state representative of IBAMA (the Federal Environment Institute responsible for managing Murici) having its office only 65 km away.

Most *usinas* in Alagoas have banned further clearance or logging of forests fragments within their properties, but pole extraction was witnessed in Mata da Sálvia, and this type of extraction was also evident in other areas (Table 1). The only *usina* where we witnessed no attempt to curb tree cutting was Usina Santo Antônio, where the already severely degraded area, 1, was being felled. Several endemic and threatened birds, including *T. fastuosa*, were present in the area. In contrast, Usina Serra Grande harbours well-protected forest fragments that may be the most important in north-east Brazil, especially given the continued clearance at Murici.

Wild *T. fastuosa* are captured with the aid of a caged tanager, which serves as a decoy. The strongly territorial tanagers investigate the intruder and are caught in traps or nets (Figs. 3–4). Professional trappers are able to catch up to 30 Seven-coloured Tanagers in a day where the species is common. The captives are usually placed together in a cage with some fruit and despatched to market, where some may arrive injured from fights and overcrowding, and with their plumage soaked by fruit pulp (Fig. 3). Unsurprisingly, mortality may be high but most trappers seem more concerned with quantity than the quality of their product. Seven-coloured Tanagers could be purchased for just R\$5 (less than US\$2) in October 2000 (LFS and FO pers. obs.).

Catching wild birds, including Seven-coloured Tanagers, is common in Alagoas and indeed throughout north-east Brazil. We observed a large number of homes with caged native birds and saw, on many occasions, people (usually young males) with decoys and traps, especially at weekends. Today, because of the rarity of most passerines in Alagoas, 'new' bird

species are being caught to supply the demand and, perhaps surprisingly, Bananaquit *Coereba flaveola* is now among the commonest cagebirds, a phenomenon unknown elsewhere in Brazil. Most die within a few months because most owners do not know how to care for them. Everyone we met was unconcerned about displaying their birds and traps, despite the activity being illegal since 1965, and buying birds, including *T. fastuosa*, was quite easy. This, and what we have witnessed in Murici, is sure sign that law enforcement in Alagoas is in dire need of effective implementation.

Seven-coloured Tanager was considered threatened (Endangered) in the most recent global assessment<sup>2</sup>. It was judged, against the IUCN Red List criteria, to have a range smaller than 5,000 km<sup>2</sup> at five or fewer localities, as well as having a continued decline inferred and projected in its extent of occurrence, area of occupancy, quality of habitat, number of locations (or subpopulations) and number of mature individuals. BirdLife International<sup>2</sup> further stated that the species occurs 'at a minimum of four localities', with the strongholds thought to be Murici and Pedra Talhada, in Alagoas, and UFPE Serra dos Cavalos Reserve and near Goiana, in Pernambuco. Our recent surveys have greatly increased the number of extant localities and hence it should now be downgraded to Vulnerable under the B criterion. Its range is larger than previously estimated, but is still probably far less than 5,000 km<sup>2</sup>, given the small area of severely fragmented Atlantic forest remaining (Fig. 2).

We hope that the discovery of previously unreported populations of *T. fastuosa* and other endangered endemics<sup>11</sup> will prompt conservation initiatives for the most important areas, especially Mata do Estado, Usina Serra Grande, Mata da Macambira, Usina Utinga-Leão and Usina Santo Antônio. The ability of the species (and other regional endemics) to utilise second-growth habitat is encouraging, as the natural regeneration and forestation schemes being undertaken by some *usinas* to create new forested areas along rivers and on steep slopes may produce a positive impact in the short and medium-terms.

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## Description of the nest and eggs of two *Myrmeciza* antbirds endemic to the Atlantic Forest of Brazil

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São descritos pela primeira vez em detalhe os ninhos e ovos do papa-formiga-de cauda-ruiva *Myrmeciza ruficauda* e do papa-formiga-da-grota *M. loricata*, a partir de três ninhos da primeira espécie, encontrados na Estação Ecológica de Murici, Alagoas, entre setembro e outubro de 2002, e um ninho da segunda espécie encontrado em Penedo, Rio de Janeiro, em dezembro de 2000. São escassas na literatura as informações sobre a nidificação de ambas as espécies. Os quatro ninhos mostraram-se bastante semelhantes, todos eles situados junto ao solo, em meio à vegetação de sub-bosque. A estrutura dos ninhos era formada basicamente por uma plataforma de folhas secas e pequenos gravetos, apoiada diretamente sobre o solo, e que suportava uma taça forrada com folhas secas e fibras finas. Comparam-se os ninhos aqui encontrados com ninhos conhecidos de outras espécies do gênero *Myrmeciza*, e discute-se a semelhança entre os mesmos e uma possível relação entre a arquitetura dos ninhos e as relações filogenéticas das espécies deste gênero particularmente heterogêneo.

The family *Thamnophilidae*, *sensu* Sibley & Monroe<sup>12</sup>, is restricted to the Neotropical region and comprises 209 species<sup>21</sup>. It presents a large degree of variation

in size and colour patterns, and a significant proportion of species inhabit humid forests<sup>11</sup>. The genus *Myrmeciza* comprises 20 species<sup>21</sup> and exhibits a



Figure 1. Nest 1 of Scalloped Antbird *Myrmeciza ruficauda*, Murici Ecological Station, Alagoas, Brazil (Dante Buzzetti)



Figure 2. Nest 3 of Scalloped Antbird *Myrmeciza ruficauda*, Murici Ecological Station, Alagoas, Brazil (Dante Buzzetti)



Figure 3. Male White-bibbed Antbird *Myrmeciza loricata* at the nest, Penedo, Rio de Janeiro, Brazil (Dante Buzzetti)



Figure 4. Nest and eggs of White-bibbed Antbird *Myrmeciza loricata*, Penedo, Rio de Janeiro, Brazil (Dante Buzzetti)



broad range of morphological and behavioural variation (including such extremes as Yapacana *M. disjuncta*, White-bibbed *M. loricata* and Ferruginous-backed Antbirds *M. ferruginea*), which renders the genus probably paraphyletic. Nests of several species within the genus are undescribed, and improved knowledge in this sense could assist in defining natural groupings among these taxa and even relationships with other genera (see Zimmer & Isler<sup>21</sup>). The Thamnophilidae present a wide variation of nest architectures<sup>13</sup>, and it is not inconceivable to use this information in the manner performed for another trachaeophone group, the Furnariidae<sup>22</sup>, to infer phylogenetic relationships.

Scalloped Antbird *Myrmeciza ruficauda* and White-bibbed Antbird *M. loricata* are two closely related species endemic to the Atlantic Forest of Brazil. The former is distributed from southern Espírito Santo and east Minas Gerais to S Bahia, along the coastal lowlands, with an isolated population (subspecies *soror*) widely distributed in the 'Pernambuco centre'<sup>9</sup> of endemism in Alagoas, Pernambuco and Paraíba states<sup>11</sup>. The other species is found along the strip of coastal forests from extreme western Rio de Janeiro to central Bahia, mostly in lower montane habitats (above 700 m), being replaced at lower elevations and southwards by its sister species, Squamate Antbird *M. squamosa*<sup>11,21</sup>.

*M. ruficauda* is a relatively rare species, currently classified as Endangered<sup>2</sup>, although the subspecies *soror* apparently occurs at much higher densities than the nominate further south<sup>3</sup>. *M. loricata* is a common inhabitant of forests throughout its range, but is still poorly known in life, and virtually no breeding data are available for either species<sup>3,4,8</sup>. Here we describe the nest and eggs of *M. ruficauda* and *M. loricata*; we also describe two stages of the fledgling plumage of the former species, and present

some information concerning the breeding behaviour of both species. Finally, we place our findings in the context of what is already known of the breeding biology of this genus.

Our encounters with the nests of these species occurred during general avian surveys, and for the most part, were the result of luck. Nest measurements were taken with callipers and ruler, and the eggs were measured with callipers. Coordinates and altitudes were taken with a GPS. The nests were collected in plastic boxes, and are currently housed in DRCB's personal nest collection.

### The nest of Scalloped Antbird *Myrmeciza ruficauda*

Three nests were found, all of the subspecies *soror*, in different areas of Murici Ecological Station, Alagoas, during September and October 2002, after the core of the rainy season.

The first nest (number 1) was discovered by JMB on 17 September 2002 in the grounds of the Federal University of Alagoas experimental station, at c.515 m (09°15'S 35°50'W), when an individual, whose sex was not determined, was flushed from the nest. The bird quickly escaped, hopping on the ground with wings extended and tail fanned, flapping the wings in a type of distraction display, and uttering strong alarm calls. Regular intensity alarm calls were heard nearby, probably from the other member of the pair. The habitat was old secondary forest with a regenerated structure, 20 m tall, with mostly narrow dbh trees, and relatively open undergrowth, near the top of a hill. The forest on the slopes had patches that seemed primary, with a larger number of taller trees remaining.

The nest was on the ground, within a slight depression, and consisted of a deep cup-shaped structure in a dense platform and walls of dead leaves, some sticks and dead leaves of an introduced

**Table 1.** Measurements of the nests and eggs of Scalloped Antbird *Myrmeciza ruficauda* and White-bibbed Antbird *Myrmeciza loricata*. NA = Not available. No eggs were found in Nest 3.

| Species  | <i>Myrmeciza ruficauda</i><br>Scalloped Antbird |                        |             | <i>Myrmeciza loricata</i><br>White-bibbed Antbird |
|--|---|------------------------|-------------|---|
|  | Nest 1  | Nest 2                 | Nest 3      |   |
| <b>Nest measurements (cm)</b>                    |   |                        |             |   |
| Diameter of the incubation cup                   | 7.5 × 6.4                                       | 6.2 × 6.0              | 6.8 × 6.3   | 5.7 × 5.5   |
| Depth of the incubation cup                      | 8.0   | 6.0–7.6 <sup>a</sup>   | 4.5         | 5.8   |
| External diameter of the nest structure          | 14.7 × 11.3                                     | 15.5 × 13.0            | 19.5 × 18.0 | 13.2 × 15.5                                       |
| Total height of the nest structure               | 9.0   | 11.0–12.5 <sup>a</sup> | 15.0        | 12.0  |
| Height of the nest above the ground <sup>b</sup> | 0.0   | 9.5                    | 8.0         | 0.0   |
| <b>Eggs</b>                                      |   |                        |             |   |
| Measurements (mm)                                | 23.40 × 16.20<br>22.90 × 16.20                  | NA                     | –           | 21.00 × 16.40<br>23.00 × 16.15                    |
| Weight (g)                                       | 3.0<br>2.8                                      | NA                     | –           | NA  |

<sup>a</sup>one side of the structure's wall protruded beyond the rest

<sup>b</sup>measured to the bottom of the nest structure



Cyperaceae, among the bases of some small plants that covered it, and supported on one side by a vine (Fig. 1). The inner cup consisted of smaller dead leaves, including those of a small, undergrowth Palmaceae, layered with *Marasmius* sp. and some pale yellow fibres. Measurements are presented in Table 1.

The two eggs were dirty whitish, profusely marked with dark purple spots and lines, denser at the large end, but somewhat concentrated also on the small end. Measurements are presented in Table 1.

A second nest (number 2) was located on 3 October 2002 by JMB at Fazenda Angelim, at c.450 m (09°12'S 35°51'W), when an adult was flushed from it, flying at least 5 m away. The area was low (<12 m) secondary woodland, with open undergrowth (8–10 years old), near the top of a hill. Again, the nest was placed on the ground, by a road and near a clearing with dense edges. It was within three clumps of an introduced Cyperaceae, atop leaf litter and held in place by the clumps of grass, being thus somewhat elevated above ground. It consisted of a platform of large dead leaves of dicots and the same Cyperaceae. This structure and its walls were similar to those of the previous nest. The nest cup was layered with smaller dead leaves (some of the Cyperaceae), *Marasmius* sp. and rootlets. Measurements are given in Table 1. There were two eggs, similar in coloration to those described above, but it was not possible to measure them.

The third nest (number 3) was found on 12 October 2002 by DRCB and JMB at Fazenda Bananeiras, at c.550 m (09°12'S 35°52'W). The habitat consisted of tall, selectively logged, primary forest, c.20 m tall, with relatively dense undergrowth. The nest was beside an abandoned logging path, within an area of irregular terrain. It was on the ground, placed among clumps of the same Cyperaceae as the previous nest, and also somewhat elevated, supported by a platform and walls of dead leaves (Fig. 2), as described for the other two nests. The cup was lined with *Marasmius* sp. Measurements are shown in Table 1. No eggs, eggshells or nestlings were found, and it appeared that the nest had been used until some days before our discovery.

The only previous reports of the species' nest<sup>3,8</sup> did not provide a description. However, a nest found in Bahia was placed at 20 cm in the base of a forktail palm clump (E. O. Willis & Y. Oniki *in litt.* 2003), matching in general shape and location with those here reported.

On 27 September 2002, JMB noted a single downy fledgling near nest 1. It constantly delivered two call types as it hopped clumsily in the leaf litter, within 5 m of the nest. No eggshells were found at or near the nest, nor any signs of the second egg or

nestling. The bird was entirely chestnut-sepia, somewhat rufescent, buffier and brighter dorsally and darker on the head and breast. It had a slight dark waving on the back. The tertials, median and greater wing-coverts and alulae—which were beginning to grow—were broadly tipped cinnamon-buff. It had a pale yellow gape and dark bill, eyes and feet. This nestling must have been in the nest for a maximum of ten days, possibly eight or nine.

On 12 October 2002 nest 2 was visited again, and no trace of the eggs or eggshells was found, nor were any fledglings found nearby. However, the adults were in the vicinity, constantly alarm-calling, and we suspect that fledglings were present. Assuming that the fledglings had not been predated, we estimate that the nestlings remained in the nest at most eight days.

On 25 September 2002 JMB located a different pair being followed by a grown juvenile through the dense undergrowth of the forest edge (by a small clearing beside a road), at Fazenda Bananeiras, Murici Ecological Station. This juvenile had the appearance of a young *Turdus* thrush, with the head heavily spotted buff, less so dorsally. The underparts appeared checkered pale buff-grey with the centre of the feathers dark grey.

### A nest of White-bibbed Antbird *Myrmeciza loricata*

One nest was found by DRCB, on 31 December 2000, beside an abandoned logging path near the Pico do Penedinho, within Penedo Municipal Park, at Penedo, Itatiaia, Rio de Janeiro, at c.900 m (22°25'S 44°31'W). It was located when the female flushed from the nest, 1 m from the observer's feet. The bird quickly escaped by hopping on the ground with flapping wings extended and the tail fanned, in a distraction display much like that described above for Scalloped Antbird, and gave strong alarm calls, while the song of the male was heard nearby minutes after. Ten minutes later the female returned to the nest, but left it again soon after, and one hour later the male was incubating (Fig. 3). The habitat was secondary forest, in transition to semi-deciduous forest, with much leaf litter and relatively open undergrowth, mostly of slender trees and a regenerated structure (20 years old), 12–15 m high, near the top of a hill.

The nest was on the ground and consisted of a deep cup on a dense platform of sticks and walls of sticks and dead leaves, some of bamboo. It was placed among the bases of some plants that covered it, and supported on one side by the trunk of a bush (Fig. 4). It was also supported by a mass of leaf litter and was thus slightly elevated from the ground. Green leaves covered the nest 30 cm above it (Fig. 3). The inner cup was constructed of smaller dead bamboo leaves and other dead leaves. The cup was





lined with some brown and pale yellow fibres. Measurements of the nest are given in Table 1. The two eggs were whitish, profusely marked with dark purple spots and lines, denser at the large end (Fig 4). Measurements of the eggs are shown in Table 1.

Euler<sup>4</sup> reported a nest of this species found in November within a bamboo stand, placed atop sticks and dead leaves on the ground, consisting of a 'badly constructed cup' of twigs and leaf stalks, thus largely echoing our description. His description and measurements of the two eggs also coincide with our data.

### Discussion

From these data, it can be inferred that *M. ruficauda* breeds in the Murici area in the period following the heavy rains in midwinter. However, one nest containing two eggs was found at neighbouring Pedra Talhada Biological Reserve, Quebrangulo, Alagoas, by A. Studer<sup>3</sup> on 15 April 1985. A nest of the nominate race, containing two eggs, was found at Ituberá, Bahia, on 19 November 1974<sup>8</sup>, matching previous knowledge of this form's breeding biology<sup>3</sup>. Perhaps *M. ruficauda* lays two clutches during the course a single breeding season. Our estimate of a maximum of 8–10 days for the nestling (hatching to fledging) of *M. ruficauda*, if confirmed, would be among the lowest recorded for antbirds<sup>15</sup>.

Published descriptions of *Myrmeciza* antbird nests (Chestnut-backed *M. exsul*<sup>14,20</sup>, Ferruginous-backed *M. ferruginea*<sup>5,16</sup>, Sooty *M. fortis*<sup>18</sup>, Goeldi's *M. goeldi*<sup>17</sup>, Chestnut-tailed *M. hemimelaena*<sup>6</sup>, Dull-mantled *M. laemosticta*<sup>19</sup> and White-bellied *M. longipes*<sup>1</sup>) appear to show a range of variation with respect to their location, shape and supporting substrate, though not all descriptions provide the same amount of detail. It is noteworthy that although the nest of *M. squamosa*—the third Atlantic Forest representative of the genus—is undescribed, a detailed illustration of a bird sitting in a nest<sup>7</sup> depicts a structure very much like that described here for its putative closest relatives.

Regarding location, the nests of *M. ferruginea*, *M. fortis*, *M. goeldi*, *M. loricata*, *M. ruficauda* (and possibly *M. squamosa*, see above) were found on or near the ground. In contrast, the nest of *M. longipes* was at 1.5–2.0 m. on shrubs or tree ferns, and *M. exsul* also constructs nests supported atop some vegetable matter (such as a horizontal stem and litter), though much closer to the ground, at 0.1–0.4 m. The one described nest of *M. laemosticta* was low in a shrub, and a nest of *M. hemimelaena* was 0.28 m above ground on a small bank. Most species build a nest beside, or supported laterally by, a vertical plant shoot, such as a small understorey palm, a stem, vine or trunk, and all are supported from below. The nests of *M. exsul*, *M. goeldi* and *M. hemimelaena* seem to be rather hidden in dense

undergrowth. Instead, *M. ferruginea* and the two species of this study appear to build nests in more open situations.

The shape and construction of *Myrmeciza* nests appears consistent in that they are all open cups. Nest material seems to be similar as well, and all were constructed of dead leaves, sticks and fibres, with thin fibres, roots or rhizomorphs lining the nest cup, but never concealing its bottom. Differences seem to be in the type of structure that supports the incubation cup (being coarser or neater accumulations of plant detritus), and the extent to which these different materials are used (such as is the case with the two nests described here). The only nest that seems truly divergent is the domed nest of *M. fortis*. This type of nest does not even appear to be constructed by other species grouped with *fortis* by Ridgely & Tudor<sup>11</sup>.

Though a high level of homoplasy might be expected in nest architecture, we suggest that to some extent the perceived relative homogeneity, especially in the shape of the nests of *Myrmeciza* antbirds, arises from their brief descriptions, as well as incongruence in terminology and the extent to which details were presented by different authors. Finding the appropriate terms and presenting a clear written description is not straightforward. In this respect a degree of classification is desirable, such as exists for foraging behaviour<sup>10</sup>. However, even foraging behaviour variables cannot all be included in simple schemes, and nest characters are also difficult to analyse. For instance, we did not measure nest materials.

The nests of both Atlantic Forest species presented here are very similar to each other, and appear most similar to those of *M. ferruginea*, *M. hemimelaena* and possibly *M. squamosa*. A nest of *M. ruficauda* found in Bahia (see above) was considered to be similar in size and type to that of *M. exsul* (E. O. Willis & Y. Oniki *in litt.* 2003). Even though the nesting of several *Myrmeciza* species is now known, it still appears premature to speculate on the extent to which nest architecture identifies natural groupings, such as the subgenus *Myrmoderus*, of which *loricata* is the type. Its validity and member species must be tested using a thorough phylogenetic analysis of independent characters.

All *Myrmeciza* eggs thus far described are broadly similar, but conform to a widespread thamnophilid pattern, within which there appears to be little variation<sup>13</sup>.

Knowledge of the breeding habits of bird species is very important from several viewpoints. Beyond providing critical information to establish systematic links between species and support studies of evolution, basic data on reproduction are crucial for conservation action. In the case of *M. ruficauda*, a threatened forest species, even though





relatively common in the Murici region, it inhabits the last remaining forested patches of north-east Brazil, and we thus hope that these data contribute to conservation planning for this species, the region and other local threatened species.

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## Cotinga 20

### Kaempfer's Tody-tyrant *Hemitriccus kaempferi*



Kaempfer's Tody-tyrant *Hemitriccus kaempferi* is a globally threatened species known from three present-day localities in north-east Santa Catarina<sup>2-4</sup> and south-east Paraná (B. Reinert<sup>1</sup>), in south-east Brazil. Until recently it was known from only the type-specimen, collected by E. Kaempfer at Salto do Pirai, in 1929<sup>6</sup>, and a second specimen, a juvenile, taken by H. F. Berla at Brusque, in 1950, and located recently at Museu Nacional de Rio de Janeiro<sup>8</sup>. The species was rediscovered by M. Pearman near the type-locality, in 1991<sup>3,4</sup>, with subsequent observations from the same area, and at Reserva Particular do Patrimônio Natural de Volta Velha, Itapoá<sup>4</sup>.

Very little is known of the species' ecology. A pair, at Volta Velha, had a feeding territory along a c.100 m stretch of road. They usually foraged 0.5–1.0 m above ground, rarely reaching 3.5 m, and maintained a distance of c.5 m between each other. Prey items include insects taken by sally-gleaning from leaves, once a Lepidopteran caterpillar. The species was observed foraging in close proximity to Ruby-crowned Tanager *Tachyphonus coronatus* and Lesser Woodcreeper *Xiphorhynchus fuscus*, but not within a mixed flock. In response to playback, what appeared to be the male chased the female, producing a notable wing-slurring reminiscent of Rufous Gnateater *Conopophaga lineata*, though much softer. The photographs presented here, taken at Volta Velha, are probably the first available of the species.

The species' peculiar plumage pattern has already been noted and is well illustrated in the accompanying photographs. The salient features that aid its identification from Eye-ringed Tody-tyrant *H. orbitatum* (which inhabits the same forests at Volta Velha) are the brownish tones to the head and neck region. More striking is the pattern of the outer rectrices in one member of each pair we have observed, presumably the male. These feathers are slightly longer, and broader tipped, resulting in a slight tail notch. They have a pale yellowish outer fringe and tip, and a blackish subterminal band. We recently suggested that these features probably point to a closer relationship with Fork-tailed Tody-tyrant *H. furcatus* than to other tody-tyrants<sup>4</sup>. If such a relationship is confirmed through phylogenetic analysis, the genus *Ceratotriccus* appears to be available for these species. For comparison, we include a picture of the latter species. Both species share not only the striking tail pattern but also the brown-tinged head,

contrasting with a greener mantle (more evident in *H. furcatus*), and pale (buffy) loreal area. They differ mainly in their underpart and iris coloration. Vocal similarities also appear to suggest this, though we have not performed any definitive analysis.

Kaempfer's Tody-tyrant occurs in lowland forests. The sites where we found the species comprise two characteristic physiognomies. The reserve at Volta Velha represents Atlantic Dense Ombrophilous Forest<sup>7</sup>, and *H. kaempferi* was found in areas of 10–12 m-tall forest on sandy soils, with *Euterpe edulis*, *Bactris* sp., tree ferns, and a large number of epiphytes and vines, mainly bromeliads and *Phyllodendrum*, with a dense cover of ground bromeliads. Birds were also seen in a lower type of vegetation (c.5 m), partially waterlogged, with predominance of a Melastomataceae. The region has a mean elevation of 9 m, is located 5 km from the coast and 10 km from the foothills of the Serra do Mar, and further details of its floristic composition are provided by Negrelle<sup>7</sup>. At Salto do Pirai, further inland, the species occurs in secondary foothill forest and degraded edge, <10 m tall, with a predominance of *Cecropia* sp., and it was assumed that the species survived only in a small area as most of the valley bottom vegetation in the area had been cleared<sup>4</sup>.

We earlier advocated that thorough surveys were needed at Pirai, and searches around Brusque were also required, initially to locate suitable habitat. On 29–30 November 2002 JMB, GMK, Jeremy Minns and Heinz Remold visited Brusque—thus partially covering the targets set for the species' conservation<sup>2</sup>—and found a situation similar to that at Salto do Pirai, namely that lowland and valley-bottom areas have been cleared or are being cleared for housing development, and this is also encroaching hillsides, which are still forest-covered. We found much habitat resembling the areas where the species was found at Salto do Pirai along the road to Brusque (from São João Batista and further south), as well as around Planície Alta, Guabiruba (27°06'S 49°03'W), near Brusque. However, a random stop along the above-mentioned road and two visits to Planície Alta failed to locate Kaempfer's Tody-tyrant, despite use of playback. Similarly, all earlier work at Salto do Pirai concentrated in a small area around the CELESC station<sup>4</sup>. We surveyed other access roads east of this area and located patches of habitat similar to that at Volta Velha, but also failed to find the species in these areas. However, all of our visits were brief and to a degree negatively influenced by bad weather.





We estimate that the season was appropriate, as we found *H. kaempferi* responsive to playback at Volta Velha on 1 December 2002.

We suggest that more intensive surveys are required of the restricted region detailed above, which has a good network of access roads, between south of Brusque and north to Volta Velha. We predict such work will result in the discovery of new areas of suitable habitat, and possibly new populations of the species (as has been the case in southern Paraná state), thus better establishing its range, conservation status and priorities for its conservation.

RPPN Volta Velha covers 1,500 ha, and >80% is pristine forest<sup>7</sup>. Other threatened species have been found in the reserve<sup>5</sup>, resulting in the area ('Baía de Babitonga') being designated one of the 15 priority Important Bird Areas (IBAs) identified in the Brazilian Atlantic Forest<sup>1</sup>. The area where the species was recorded in Paraná ('APA Guaratuba') has also been designated a priority IBA<sup>1</sup>. The Estação Ecológica de Bracinho protects the forests at Salto do Pirai and is also a designated IBA<sup>1</sup>, but it covers no suitable habitat for this species.

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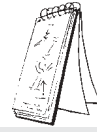
Figures 1–2. Kaempfer's Tody-tyrant *Hemitriccus kaempferi*, Volta Velha, Santa Catarina, July 2000 (Dante R. C. Buzzetti)



Figure 3. Fork-tailed Tody-tyrant *Hemitriccus furcatus*, Boa Nova, Bahia, July 2002 (Arthur Grosset)



# Neotropical Notebook



Neotropical Notebook contains three sections. The first consists of short papers documenting records. Photos and descriptions are published where appropriate. The second section summarises records published elsewhere, following the format established in previous issues of *Cotinga*. The third lists unpublished and undocumented records. Please indicate, with submissions, in which section you wish your records to appear.

## SHORT NOTES

### Primer registro fotográfico de nidificación de *Ferminia cerverai*

*Ferminia cerverai* ha sido una de las aves más interesantes, a jugar por la atención que le han dispensados los ornitólogos y naturalistas que han visitado la Ciénaga de Zapata, Cuba, desde su descripción original, hecha por Barbour & Peters<sup>1</sup>, el primero que tuvo que ver con la especie fue Bruner<sup>2</sup>, quien leyó los resultados de su expedición en la Sociedad Felipe Poey en 1927. Antes de la década del setenta la especie había sido registrada por sus colectores como relativamente común y hasta en número considerable, como expuso Bruner<sup>3</sup>. A partir de esa fecha comenzó a hacerse cada vez más escasa (presumiblemente a causa de los fuegos que se producían sistemáticamente para coleccionar jicoteas).

Esta temporal desaparición hizo a varios investigadores pensar muy seriamente que el ave pudo haber sido extirpada; opinión que incluso expresó Bond<sup>4</sup>. Afortunadamente, no fue como se pensó, ya que González<sup>4</sup> la registró en los meses de marzo y abril del propio año. Evidentemente, *Ferminia* se había retirado a sitios interiores desconocidos de la ciénaga y poco a poco, comenzó a repoblar sus antiguos territorios,

pero en muy escaso número. Posteriormente, OM y Ángel Martínez, encuentran por primera vez en el año 1986 el nido de la especie, el mismo no pudo ser fotografiado por no disponer de los recursos necesarios, pero a partir de aquí la especie fué objeto de un intenso estudio. Fatalmente ninguno de los investigadores pasados tuvimos la suerte de fotografiar el nido de esta especie y así de esta forma demostrar oficialmente su nido. Desde que se describió en 1926, hasta la fecha han pasado setenta y cinco años, y afortunadamente después de un intenso trabajo y utilizando condiciones especiales de ocultamiento el 22 de febrero del 2002 hemos podido fotografiar a *Ferminia cerverai* entrando al nido con una araña en su boca para alimentar a su crías, lo que corrobora lo antes expuesto por sus investigadores sobre algunos componente que forman parte de su dieta.

### Problemática actual de conservación

En los últimos años *Ferminia cerverai* no ha sido un ave difícil de localizar, así al menos han sido vistas o escuchadas por distintos grupos de observadores de aves que han visitado los territorios donde habita. Pero, teniendo en cuenta su distribución y las observaciones realizadas en sus antiguos territorios se ha notado un descenso en sus poblaciones. A causa de incendios forestales que se producen intencionalmente por cazadores furtivos para coleccionar jicoteas durante los meses de mayor sequía, y que causan desastrosas consecuencias para el hábitat de estas poblaciones, también incluyen en otros factores como depredadores potenciales: el Majá de Santa María *Epicrates angulifer* y la mangosta *Herpestes aeropuntatus*.

Tomando en cuenta todos los elementos expuestos, y ante la gran preocupación y necesidad por contar con trabajos más completos sobre la biología y conservación de esta especie. Se está realizando un esfuerzo de protección con las autoridades encargadas en el manejo de toda la reserva de Biosfera de Ciénaga de Zapata y en especial con un programa educativo en las comunidades cercanas a sus territorios, apoyado por el CAN, que está dirigido a conocer más sobre esta especie de singular importancia y en peligro, siendo la meta final contribuir al conocimiento, conservación y protección de las poblaciones de *Ferminia cerverai*.

### Agradecimientos

Deseamos agradecer principalmente el apoyo proporcionado por el CAN que mediante el premio de conservación. A Inty Sedeño por su colaboración durante el trabajo de campo.

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**Notable records of  
Loggerhead Shrike *Lanius  
ludovicianus* and Yellow-  
headed Blackbird  
*Xanthocephalus xanthocephalus*  
for the Yucatán Peninsula,  
Mexico**

Here I report the first observations of the Loggerhead Shrike *Lanius ludovicianus* and Yellow-headed Blackbird

*Xanthocephalus xanthocephalus* for the Yucatán Peninsula of Mexico.

On 28 December 1993, around midday, I observed a Loggerhead Shrike on the Chichén Itzá–Cancún toll road near the Yucatán–Quintana Roo border. It flew in front of the car at about windshield height, affording an excellent view of the field characteristics, including black facial mask, black wings and tail, longitudinal white streak in the wings and white outer edge to the tail. The flight behaviour was also typical of the species as previously observed in California. The habitat in the area was open cutover dry scrub, typical of the species in other parts of its range. It was not possible to stop for further observations due to traffic conditions.

On 26 December 1993, c.6 km east of Celestún a bird flew out of a roadside wetland, upwards and over our car. The large size, bright yellow head and black body left no doubt in the minds of all three observers (CTC, P. H. Collins and E. A. Schreiber) that it was an adult male Yellow-headed Blackbird. The brief look precluded the noting of other field marks such as the characteristic white spot on the wings. As it was a familiar bird in characteristic habitat and we were unaware, until later, of it being unusual we did not stop to look at it more closely. It was not seen on our return later the same day.

Current information<sup>1,2,3</sup> indicates Yellow-headed Blackbird to be a rare vagrant on the islands and cays off the western and northern coast of the peninsula, and Loggerhead Shrike is unrecorded for the peninsula and

adjacent islands, although it has been recorded farther south in Mexico and northern Guatemala<sup>2</sup>. Although these observations were made by observers fully familiar with both species in California, they are sight records of single individuals. Other observers should be alert for their presence and possibly confirm their status on the peninsula.

**Acknowledgements**

I thank Steve Howell for encouraging me to place these observations on record and for commenting on an early draft.

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**Snowy-bellied Hummingbird  
*Saucerottia edward*, new to  
Colombia and South America**

Snowy-bellied Hummingbird *Saucerottia edward* occurs from south-west Costa Rica to east Panama<sup>1</sup>. The closest known locality to Colombia is around Cana on the slopes of Cerro Pirre, in Darien, 5 km from the Colombian border (G. Angehr pers. comm.). The species' presence has been expected in the Colombian Darien<sup>2</sup> but has not been previously confirmed in South America.

During September and October 2001, we monitored Nearctic songbird migration at Sasardi

Reserve (08°25'N 77°10'W), dpto. Chocó, north-west Colombia, 60 km from the Panama border. The study area possesses a mosaic of primary and second-growth forests, pastures, agricultural crops and habitations. On 1 October, while mist-netting, we caught an adult Snowy-bellied Hummingbird on a ridge 220 m above sea level, within second-growth forest surrounded by flowering *Heliconia* sp. Biometrics were: culmen—18.3 mm; wing chord—53 mm; tail—30 mm; total body length—86.6 mm; and weight—4 g. The bird was moulting almost 75% of its plumage. Mensural data and the coloration pattern (Figs. 2a–c, p.100), determined this individual to be of the nominate form, *S. e. edward*<sup>3</sup>. The record is the first for Colombia and South America.

**Acknowledgements**

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Figura 1a. *Ferminia cerverai*, Ciénaga de Zapata, Cuba (Eladio Fernández)



Figura 1b. Nido de *Ferminia cerverai*, Ciénaga de Zapata, Cuba, 22 de febrero del 2002 (Orestes Martínez)



Figure 2a. Snowy-bellied Hummingbird *Saucerottia e. edward* (Paulo C. Pulgarín)



Figura 1c. Adulto y nido de *Ferminia cerverai*, Ciénaga de Zapata, Cuba, 22 de febrero del 2002 (Orestes Martínez)



Figures 2b–2c. Snowy-bellied Hummingbird *Saucerottia e. edward* (Gabriel J. Colorado)



Figure 3. Marañón Crescentchest *Melanopareia maranonica*, El Chorro, near Zumba, Zamora-Chinchipe, Ecuador, 11 February 2002 (Andy Swash)

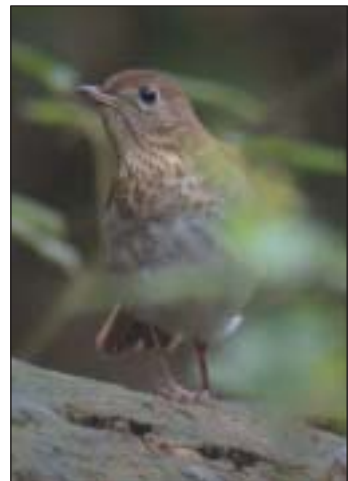


Figure 4. Veery *Catharus fuscescens*, Soroa, Pinar del Río province, Cuba, 1 January 2003 (Pete Morris)



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**Noteworthy observations of birds, including two globally threatened species, in the eastern Paria Peninsula, Venezuela**

The Paria Peninsula, located on the north-east coast of Venezuela, is an important area of endemism<sup>2,3,11,12</sup> with an impoverished element of the Andean avifauna<sup>9</sup>. At least 367 bird species have been recorded at the peninsula<sup>10</sup>, including two globally threatened species entirely restricted to Paria, Scissor-tailed Hummingbird *Hylonympha macrocerca* and Yellow-faced Redstart *Myioborus pariae*<sup>4</sup>. Three additional near-endemic, globally threatened species are also known from the nearby Cordillera de Caripe: White-tailed Sabrewing *Campylopterus ensipennis* (which also occurs in Tobago), White-throated Barbtail *Margarornis tatei* and Venezuelan Flowerpiercer *Diglossa venezuelensis*<sup>4</sup>. Here we report the most significant bird observations during a visit to the east end of the peninsula, on 6–20 January 1999, thus augmenting the data of Bond *et al.*<sup>1</sup> gained during an intensive seven-week survey of the same area in July–August 1988.

Based in Macuro on the south coast, we spent four days hiking a trail along the east flank of Cerro El Olvido to Los Chorros (the ridge connecting Cerro El Olvido and Cerro Azul, north of Bond *et al.*'s study site) and two days on a trail to a ridge east of Cerro Azul (east of Bond *et al.*'s study site), plus several days in the lowlands around Macuro. We also spent three days on Patos Island and a day visiting islands at the eastern tip by boat, and Uquire on the

north coast (reported elsewhere<sup>5</sup>). Because we lacked a topographical map, our estimates of elevation above sea level are judged from known landmarks, including a hut at c.520 m (C. J. Sharpe pers. comm.), Los Chorros at 750 m, and the summits of Cerro El Olvido, at 885 m, and Cerro Azul, at 920 m<sup>1,7</sup>.

We observed up to three White-tailed Sabrewings daily at higher elevations; our easternmost and lowest elevation record was from the east flank of Cerro Azul, at c.250 m, on 10 January. Bond *et al.*<sup>1</sup> reported the species as abundant and recorded an apparent lek of displaying males below the summit of Cerro El Olvido, which we were unable to locate. We observed five instances of males and one of a female foraging on the flowers of *Erythrina poeppigiana* (Fabaceae), and an observation of a female feeding on *Heliconia* sp. (Musaceae). Bond *et al.*<sup>1</sup> reported *Palicourea* spp. (Rubiaceae) as the only source of nectar in the area in July–August.

Although Bond *et al.*<sup>1</sup> recorded Scissor-tailed Hummingbird at a variety of altitudes in the eastern peninsula, we were unable to find any. Our lack of observations suggests that it may undertake altitudinal or longitudinal seasonal movements.

Based on previous experience by Hayes with the distinctive call of Venezuelan Flycatcher *Myiarchus venezuelensis* in Tobago, we identified one on the east flank of Cerro El Olvido, at c.250 m, on 9 January (heard only) and 18 January (seen well), and heard another at c.450 m, on 19 January. Although Lanyon<sup>6</sup> did not report any records from the Paria Peninsula, Sharpe<sup>10</sup> lists it from Parque Nacional Paria, presumably in the western peninsula, as Bond *et al.*<sup>1</sup> did not report it from the eastern peninsula.

We noted at least three adult male Crimson-hooded Manakin *Pipra aureola* at the edges of a mangrove swamp on the coast just east of Macuro on 10–11 January, representing the easternmost record from the peninsula. A male

and a female Blackburnian Warbler *Dendroica fusca* were seen several hundred metres apart by Hayes, in the vicinity of Los Chorros, on 16 January.

We observed Yellow-faced Redstart along the trail to Los Chorros on all four days, including: two individuals approximately 500 m apart, at c.400 m and c.425 m, on 9 January, and one in the same vicinity on 18 January; two pairs at 50–150 m south-west of Los Chorros, at c.700 m on 16 January, and a pair in the same vicinity on 19 January; and a pair at c.500 m, on 19 January. Collar *et al.*<sup>4</sup> cited only one specimen from Cerro Azul (in 1948) and Bond *et al.*<sup>1</sup> observed just one individual, at 685 m, on Cerro El Olvido. Our observations of several individuals at the lowest elevations known for the species suggest that a viable breeding population inhabits the region or that it seasonally disperses east from its primary breeding Range in the western Paria Peninsula.

A Summer Tanager *Piranga rubra* was heard c.20 times in an isolated tall tree at dusk, just beyond the northern outskirts of Macuro, on 12 January. Although there are numerous previous records of the species from Venezuela, none is from the north-east<sup>8</sup>. McNair briefly observed a probable immature male Scarlet Tanager *P. olivacea* among a mixed feeding flock on the south-east flank of Cerro Azul, on 11 January. It was silent. Features noted included the olive-green dorsal colour, slightly more yellow ventrally (no orange tint) and a relatively short, stout bill, which was horn-grey. There are only a few previous records of the species from Venezuela<sup>8</sup>.

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- Giant Hummingbird *Patagona gigas* feeding on cactus fruits**  
 It is well known that hummingbirds feed primarily on nectar and, to varying degrees, also hawk insects. Less frequent food sources include sap from holes in trees produced by woodpeckers<sup>3,6</sup>, excretion produced by insects<sup>1</sup> and the exudates of pathogen-induced lesions on plants<sup>4</sup>. In addition, they are known occasionally to feed on ripe fruits, from which they may remove juices, sap and insects<sup>5,7</sup>.  
 On 12 February 2003, while undertaking avian inventories near Pifo, Pichincha province, Ecuador, we observed a female Giant Hummingbird *Patagona gigas* visiting several prickly pear cacti *Opuntia* sp. with ripe fruits but no flowers. The hummingbird was observed feeding on fruits that had previously been partially eaten by another animal, possibly Southern Yellow Grosbeak *Pheucticus chrysopeplus*, which was common in the area and had previously been seen apparently feeding on the fruit, leaving holes in each. The hummingbird inserted its beak into holes in the fruits and fed, presumably on exuded juices. This appears to be the first recorded incidence of Giant Hummingbird using such a food source<sup>2</sup>. As the fruit is widely available during the dry season and probably coincides with a decline in nectar availability, it may be a periodically important food item for the species.

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**The first confirmed record of Marañón Crescentchest *Melanopareia maranonica* for Ecuador**

Marañón Crescentchest *Melanopareia maranonica* has been reported to occur in Ecuador close to the Marañón Valley<sup>1</sup>. However, the crescentchests previously recorded in this area have not been specifically identified and the status of Marañón Crescentchest in Ecuador has therefore been considered uncertain<sup>2</sup>. On 11 February 2002, close to the small village of El Chorro, near Zumba in Zamora-Chinchipec province, at 975 m, we heard a crescentchest song. Subsequently, we were able to tape-record the alarm calls and song of a male Marañón Crescentchest (Fig. 5) and were able to photograph the bird (Fig. 3, p.100), which was in

scrubby vegetation within a very degraded area that had probably been subject to burning sometime previously. This is the first documented record of the species in Ecuador; it can therefore no longer be considered a Peruvian endemic.

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**Sightings of the Great Inca-finch *Incaespiza pulchra* in the lowlands of Lima, Peru**

Great Inca-finch *Incaespiza pulchra* is endemic to the Peruvian Andes<sup>6</sup>, where it has been recorded at mid-levels on the western slope in dptos. Ancash and Lima, at 1,000–2,750 m<sup>1</sup>. There are no detailed data concerning its ecology or natural history, with the exception

of Koepcke<sup>2</sup> and Ridgely & Tudor<sup>5</sup>, who described its habitat as arid slopes and ravines. It feeds on cactus fruits of the genus *Melocactus*<sup>1,3</sup>.

On 30 January 1996, I observed two Great Inca-finches at Cieneguilla (500 m), on the outskirts of Lima. They were gleaning the foliage within a *Baccharis salicifolia* bush close to a river. Mieschler<sup>4</sup> failed to record the species at this locality, despite three years of observations. In January 1997, a group was observed in Casuarinas, a residential suburban zone close to Cieneguilla. At least three were noted, vocalising frequently, in a *Delonix regia* tree within a vegetated park. On 1 July 2000, an adult male was observed foraging on the ground in Lomas de Lachay Natural Reserve, 105 km north of Lima (420 m altitude). Subsequently, in October–December 2000, C. Veliz and P. Zelaya (pers. comm.) confirmed the species' presence in this reserve, where it had also not been previously reported<sup>7</sup>. On 7 October 2002 I observed a pair of Great Inca-finches in riparian forest at Cañete (Reserved Area Aledaño a la Bocatoma de Canal Nuevo Imperial, situated at 350 m and 150 km south of Lima) in thickets of *Tessaria integrifolia* and *Baccharis salicifolia*.

The genus *Incaespiza*, which is endemic to Peru, is very poorly known. At present, we can only speculate whether these sightings are suggestive of an overlooked population in, or recent colonization of, the lowlands, or if the species performs occasional/altitudinal migration.

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Figure 5. Sonogram of vocalisation of male Marañón Crescentchest *Melanopareia maranonica* in scrubby vegetation, El Chorro, near Zumba, Zamora-Chinchipec, Ecuador at 975 m; recorded by Lelis Navarrete.





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**First documented record of Laughing Gull *Larus atricilla* in dpto. Madre de Dios, Peru**

Laughing Gull *Larus atricilla* is a common breeding bird on Atlantic and Gulf coasts in much of the USA, the Caribbean and Mexico, where it also breeds in the Gulf of California and along the Pacific coast south to Colima<sup>1,3</sup>. During the boreal winter it occurs south to coastal Peru with at least one record in northern Chile<sup>2</sup>. Though *L. atricilla* occurs inland with some regularity in Mexico during

winter<sup>3</sup>, at the southern extremity of the species' winter range it is rarely found any distance from coastal waters. There are, however, exceptional records of *L. atricilla* from western Amazonia, with at least five documented records for eastern Ecuador<sup>4</sup> and now one from Peru.

On 8 December 2001, a *L. atricilla* in first-basic plumage was caught and photographed (Fig. 6) along the Tambopata River in the vicinity of the ecotourist lodge, Posada Amazonas. The bird was unable fly due to a wing injury but was not emaciated. After being released, it survived for at least two days but had disappeared on the third and was not seen subsequently. Franklin's Gull *L. pipixcan* has been recorded on rare occasions in Tambopata; this bird was identified as *L. atricilla* by virtue of the complete black subterminal band extending to the outer tail feathers and dark grey on breast and hindneck, such that the bird lacked a distinct hood.

This is the first documented record for *L. atricilla* from dpto. Madre de Dios, Peru, but there is at least one previous unpublished report involving a flock of eight (J. I. Rojas pers. comm.) from Tambopata. With this Peruvian record and the five from eastern Ecuador, records of *L. pipixcan* from lowland eastern Peru and the high Andes of both species<sup>4</sup>, it appears that even barriers as significant as the Andes and the Amazon cannot prevent some primarily maritime species from reaching western Amazonia.

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**Observations of Opal-crowned Tanager *Tangara callophrys* in north-west Brazil**

On 21 July 2001, I observed four tanagers near a village known as São José 2 (00 13'N 69 36'W), on the south bank of the rio Tiquié, a tributary of the rio Uaupés, which drains into the rio Negro, in north-west Brazil. All these rivers are so-called black-water. The birds were readily recognised as tanagers and were in a mixed-species group also consisting of Paradise Tanager *Tangara chilensis*, Swallow Tanager *Tersina viridis*, Yellow-bellied Dacnis *Dacnis flaviventer* and Green Honeycreeper *Chlorophanes spiza*. They were identified as Opal-crowned Tanager *Tangara callophrys* on the basis of the eyebrow above the bill being opal (as was the rump), dark wings, black crown and neck, and blue-purple body. On 4 August 2001, I saw c.10 individuals of the species in the same area. On this occasion, I noted them as being bluish-



Figure 6. Laughing Gull *Larus atricilla*, Posada Amazonas, Tambopata River, dpto. Madre de Dios, Peru, 8 December 2001 (Patrick O'Donnell)



purple tanagers, with head and mantle largely black, lower breast and belly brownish, and an opal eyebrow, forehead and rump. These birds were consorting with five Bay-headed *Tangara gyrola* and three Yellow-bellied Tanagers *T. xanthogastra* at the edge of an open, c.6 m-tall secondary forest atop a slope beside the Tiquié (Fig. 7). They were feeding in a tree of the genus *Miconia* (Melastomataceae) which produces much fruit during this period. It has small, nearly black berries low in nutrients, but rich in water and carbohydrates, and usually grows in white-sand igapó (black-water flooded forest), savannas and forest edges (Fig. 8) (M. G. M. van Roosmalen pers. comm.). Isler & Isler<sup>2</sup> and Ridgely & Tudor<sup>3</sup> report that Opal-crowned Tanager takes fruits and insects.

On 27 August 2002, I observed 4–6 tanagers of the same species, again in the same area. I noted the opal-coloured, broad eyebrow from the forehead and continuing beyond the eye on the neck-sides but not meeting on the nape; the black crown, neck and back, dark blue breast and face, dark blue or black belly to undertail-coverts (lacking any reddish-brown on the belly), opal rump and lower back, and dark blue (almost black) tail. On this occasion, the birds were feeding with Green-and-gold *Tangara schrankii* and Paradise Tanagers, Black-faced Dacnis *Dacnis lineata* and Golden-headed



Figure 8. Fruits of *Miconia* sp., São José 2, rio Tiquié, north-west Brazil (Marc de Bont)

#### Manakin *Pipra erythrocephala*.

Next day, I saw several of these tanagers in the same place. Thereafter, on 2 September 2002, I observed one Opal-rumped Tanager at Paya'dêh (00°13'N 69°35'W), a small village on the north bank of the rio Tiquié, close to São José 2. It was present in an *Inga* just prior to sunset, but I failed to obtain a clear view of this bird or of the other tanagers in the vicinity.



Figure 7. Observation site of Opal-crowned Tanager *Tangara callophrys*, São José 2, rio Tiquié, north-west Brazil (Marc de Bont)

#### Discussion

Previous authors have considered this species to be restricted, within the Brazilian Amazon, to areas south of the rio Solimões, e.g. Hilty & Brown<sup>1</sup>, Isler & Isler<sup>2</sup>, Ridgely & Tudor<sup>3</sup> and Sick<sup>5</sup>. However, Sclater<sup>4</sup> mentioned a record of the species from the rio Negro, which was questioned by Zimmer<sup>6</sup>, who stated 'The origin of the specimen is not given nor is the Rio Negro included in the range of the species by Sclater (1886, Cat. Birds Brit. Mus., XI, pg 89). The species was not collected by Pelzeln [i.e. Natterer] nor, apparently, by Wallace in their explorations of the river, nor is it represented in the extensive collections from the Rio Negro in the American Museum of Natural History'. My observations are apparently the first in 140 years of this species within the rio Negro system. Taking the nearest point mentioned in literature to the Tiquié, namely the mouth of the rio Javari, with the Solimões, near Benjamin Constant (Brazil), my observations represent a range extension of c.550 km. It was found only in small numbers and in both years was seen only between 21 July and 2 September, coinciding with the period of *Miconia* fruiting.

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### PUBLISHED RECORDS FROM THE LITERATURE

#### WEST INDIES

##### Bahamas

The second **Bullock's Oriole** *Icterus bullockii* for the West Indies was present on Grand Bahama in early February 2001, and other unusual records on the same island in this period were **Western Kingbird** *Tyrannus verticalis*, **Orange-crowned Warbler** *Vermivora celata*, **Nashville Warbler** *V. ruficapilla*, **Wilson's Warbler** *Wilsonia pusilla* and **Clay-coloured Sparrow** *Spizella pallida*<sup>44</sup>.

##### Bermuda

Up to five **Bohemian Waxwing** *Bombycilla garrulus*, the first island record, were present in late December 2001 to early January 2002<sup>15</sup>, and three more new species for the island were added in late 2002/early 2003: **American White Pelican** *Pelecanus erythrorhynchos* (photographed), **Reddish Egret** *Egretta rufescens* (photographed) and **Antillean Nighthawk** *Chordeiles gundlachi* (a specimen record from 1974 but only finally identified in November 2002)<sup>13</sup>. Also reported during the latter period was the third **Northern Lapwing** *Vanellus vanellus* for the island and about the tenth

##### Northern Rough-winged

**Swallow** *Stelgidopteryx serripennis*<sup>14</sup>.

##### Cuba

A recent paper examining the ornithological importance of the Pálpite region of the Ciénaga de Zapata includes a number of interesting records, including the first February record of **Veery** *Catharus fuscescens* in the West Indies<sup>32</sup>. As an appendix to a paper providing the results of surveys of public knowledge of the globally threatened **West Indian Whistling-duck** *Dendrocygna arborea* in the country, Mugica *et al.*<sup>45</sup> provide a complete list of localities from which the species has been reported in Cuba. The sixth record of **Pine Warbler** *Dendroica pinus* in Cuba and the first in the Oriente was observed in Holguín, on 7 April 2001<sup>57</sup>.

Detailed notes on a nest of **Zapata**

**Wren** *Ferminia cerverai*,

discovered at Peralta, on 2 May

2002, have been presented

recently<sup>38</sup> (see also p. 98). The

highest-ever count of migrating

**Ospreys** *Pandion haliaetus* in

Cuba and the insular Caribbean

involved 279 at La Gran Piedra, in

the Sierra Maestra, on 30 August

2001<sup>69</sup>. Among records of

waterbirds in recent years from

the Península de Hicacos,

Matanzas province, are a number

of relative rarities in Cuba:

**American Oystercatcher**

*Haematopus palliatus*, **American**

**Avocet** *Recurvirostra americana*,

**Snowy Plover** *Charadrius*

*alexandrinus*, **Dunlin** *Calidris*

*alpina* and **Red Knot** *C.*

*canutus*<sup>60</sup>.

##### Dominica

The second record of **Indigo**

**Bunting** *Passerina cyanea* was

made on 13 March 2002<sup>29</sup>.

##### Dominican Republic

Latta *et al.*<sup>35</sup> report a wealth of

new data on the poorly known

breeding biology of **Hispaniolan**

**Crossbill** *Loxia megaplaga*,

including the first photograph of

the nest and eggs.

##### Guadeloupe

**House Sparrow** *Passer*

*domesticus* has recently been

found in three areas of the island,

as well as on nearby island of

Saint Martin, representing the

first records for the French West

Indies and among the very few

from the Lesser Antilles<sup>36</sup>.

##### Lesser Antilles

Collier *et al.*<sup>9</sup> present information

concerning searches for seabird

colonies on several islands,

including Dominica (where they

found no firm evidence of Black-

capped Petrel *Pterodroma*

*hasitata*), Anguilla and St. Martin.

##### St. Lucia

The second island record of **Buff-**

**breasted Sandpiper** *Tryngites*

*subruficollis* and ninth of **Stilt**

**Sandpiper** *Calidris himantopus*

were present on 22 September

2001<sup>62</sup>.

#### MIDDLE AMERICA

##### Belize

Jones<sup>30</sup> has recently reviewed the

purported occurrence of 45 species

in Belize, but for which

insufficient evidence of their

presence in the country currently

exists. The nest and eggs of the

**Mangrove Vireo** *Vireo pallens*

*semiflavus* have recently been

described<sup>17</sup>.

##### Costa Rica

Among observations published

recently in the online *Gone*

*Birding Newsletter*, the following

are of particular interest. The first

**Golden-cheeked Warbler**

*Dendroica chrysoparia* for the

country was at Cerro Pata de

Gallo between San Ramón and

Palmares, on 2 September 2002.

Other rare Nearctic migrants

reported in September and

October included several **Yellow-**

**throated Warblers** *D. dominica*,

one or two **Pine Warblers** *D.*

*pinus*, two **Hermit Warblers** *D.*

*occidentalis*, a **Blackpoll**

**Warbler** *D. striata*, a **Yellow-**

**breasted Chat** *Icteria virens*, a

**Black-billed Cuckoo** *Coccyzus*

*erythrophthalmus* and a **Warbling**





**Vireo** *Vireo gilvus*<sup>21</sup>. There were several more sightings of **Southern Lapwing** *Vanellus chilensis* between August 2002 and January 2003. From November 2002 several **Magnolia Warblers** *Dendroica magnolia*, normally a rare winter visitor, were reported. Since at least 1999, there have been several reports of **Tricoloured Munia** *Lonchura malacca* in the country, and up to 100 were present at one site in late 2002<sup>22</sup>.

#### Mexico

The third part of Forcey's<sup>20</sup> contribution on birds in Oaxaca has recently been published in the online journal *Huitzil*: 112 species are included, with the first breeding data for the state being presented for 18 of these, and the first state record of **Sinaloa Martin** *Progne sinoloae* being among the other notable reports. A new locality for the globally threatened **Sierra Madre Sparrow** *Xenospiza baileyi* has recently been published<sup>50</sup>. Pitman & Balance<sup>63</sup> report losses among breeding populations of several seabirds at San Benedicto Island, but also an increase in numbers of **Masked Booby** *Sula dactylatra*, and recent colonisation by **Laysan Albatross** *Phoebastria immutabilis*, **Black-footed Albatross** *P. nigripes* and **Red-tailed Tropicbird** *Phaethon rubricauda*. A total of 235 species has recently been recorded in Yachilán Natural Monument, Chiapas, including globally threatened species such as **Harpy Eagle** *Harpia harpyja*, as well as the first country record of **Bare-crowned Antbird** *Gymnocichla nudiceps*<sup>64</sup>. Gómez de Silva<sup>23</sup> provides new elevational records of 57 species in the state of Mexico and eight in Baja California from winter. A previously overlooked specimen, taken in Jalisco in June 1990, of **White-fronted Swift** *Cypseloides storeri* has recently been identified in a Mexican collection<sup>27</sup>. The first nesting record of **American Avocet** *Recurvirostra americana* and **Black-necked Stilt** *Himantopus mexicanus* in southern Baja

California were made in May and June 1998<sup>5</sup>.

#### El Salvador

In a study of the avifauna of Montecristo National Park, Komar<sup>33</sup> reports five species new for the country list.

### SOUTH AMERICA

#### Argentina

A **White-rumped Hawk** *Buteo leucorrhous*, seen 35 km north-west of Paraná, Entre Ríos, on 13 May 1999, was the first provincial record and a southward range extension of c.500 km<sup>47</sup>. The first record for La Pampa province of **Straight-billed Earthcreeper** *Upucerthia ruficaudus* involved a pair at the intersection of national road 152 and provincial road 23, on 26 October 1999<sup>77</sup>. The status of **Andean Flamingo** *Phoenicopterus andinus* has been updated for Santa Fe, based on year-round observations between 1992 and 1999 at laguna Melincué<sup>70</sup>. A second locality has been reported for **Chestnut-throated Huet-huet** *Pterotochos castaneus*, at laguna Vaca Lauquen, Neuquén, on 8 March 2000<sup>55</sup>. The first confirmed report of **Thick-billed Saltator** *Saltator maxillosus* involves a specimen found at the Museo Argentino de Ciencias Naturales, collected by William H. Partridge at Tobunas, Misiones, on 17 July 1959<sup>56</sup>. Observations of **White-fronted Woodpecker** *Melanerpes cactorum* in July 1999, **Eastern Kingbird** *Tyrannus tyrannus* in January 2000 and **White-headed Marsh-tyrant** *Arundinicola leucocephala* in January 1999, all at Partido de Ramallo, Buenos Aires, are the first provincial records<sup>40</sup>. A **White-vented Violetear** *Colibri serrirostris* observed at Puerto Iguazú, Misiones, on 11 October 2000 was the first provincial record<sup>65</sup>. Two **Semipalmated Plovers** *Charadrius semipalmatus* at Los Valles, La Pampa, on 17 September 2000, also represented the first provincial records, while observations of **Sulphur-bearded Spinetail** *Cranioleuca*

*sulphuripera* and **Sooty Tyrannulet** *Serpophaga nigricans* at the same locality, on 20 May 2001 and 18 September 2000 respectively, are among the few known province records<sup>76</sup>. Several noteworthy observations have been reported for Neuquén province, including the northernmost record of **Austral Canastero** *Asthenes anthoides*, 12 km south of laguna Vavarco Tapia, on 31 January 1997, and the first detailed records for **Tawny-headed Swallow** *Stelgidopteryx fucata*, near Añelo on 6 January 1999, and **Double-collared Seedeater** *Sporophila caerulea*, at San Patricio del Chañar on 26 January 1997, as well as the southernmost record for **Yellow-rumped Siskin** *Carduelis uropygialis*, near Huarenchen on 15 January 2000<sup>81</sup>. The first state records of **Sand Martin** *Riparia riparia* in Río Negro and Chubut, and southernmost country record of **Little Blue Heron** *Egretta caerulea* were published recently<sup>31</sup>. Recent surveys and comparison with historical data have provided the first robust data concerning the distribution and abundance of **Buff-breasted Sandpiper** *Tryngites subruficollis* on its wintering grounds in Argentina, Brazil and Uruguay. The authors of the paper identify a total of 133 localities in South America with records of the species<sup>34</sup>. A **Giant Cowbird** *Molothrus oryzivorus* was seen at Escobar, Buenos Aires, on 15 July 2001, the first provincial record, and the southernmost for the species<sup>73</sup>. Two rare rallids were reported from Santa Fe province, **Paint-billed Crake** *Neocrex erythrops* found near Santa Fe on 28 January 2000, the first province record, and a **Speckled Crake** *Coturnicops notatus* near Esperanza on 22 September 2001, the second provincial record. Both were unexpectedly found in gardens in urban areas<sup>58</sup>.

#### Bolivia

Hennessey<sup>25</sup> reports the first nests of **Chestnut-tailed Antbird** *Myrmeciza hemimelaena*, both





discovered in dpto. La Paz, in September 1998 and March 2001.

### Brazil

The globally threatened (and almost wholly unknown) **Golden-crowned Manakin** *Pipra vilasboasi* has been rediscovered at Novo Progresso, Pará, the first record since the species was discovered by Helmut Sick in 1957 (see elsewhere in this issue)<sup>49</sup>. Raposo *et al.*<sup>67</sup> present new data and localities for the very poorly known **Minas Gerais Tyrannulet** *Phylloscartes roquettei*, and Dias & Maurício<sup>12</sup> provide the first detailed natural history data for **Saffron-cowled Blackbird** *Xanthopsar flavus* in Brazil, based on a study in southern Rio Grande do Sul. The nest of **Striated Softtail** *Thripophaga macroura* has recently been described in greater detail than was previously available<sup>37</sup>. In a review of the conservation prospects for birds on Santa Catarina Island, in the state of the same name, Naka *et al.*<sup>46</sup> draw attention to records of a number of species of global and regional conservation concern, including **Solitary Tinamou** *Tinamus solitarius*, **White-necked Hawk** *Leucopternis lacermulata* and **Black-backed Tanager** *Tangara peruviana*. Pacheco & Laps<sup>52</sup> provide specimen information for the first state records of six species of suboscines in Santa Catarina. Additionally, Pacheco & Fonseca<sup>51</sup> present the results of a trip through São Paulo, Santa Catarina and Rio Grande do Sul, with lists for Carlos Botelho, São Joaquim, Bom Jesus, Taim, Uruguaiana and Turvo. At São Joaquim, the following were, at the time (1990), new records for Santa Catarina: **Yellow-billed Pintail** *Anas georgica*, **White-winged Coot** *Fulica leucoptera*, **Straight-billed Reedhaunter** *Limnornis rectirostris*, **Ochre-breasted Pipit** *Anthus nattereri* and **Bay-winged Cowbird** *Agelaioides badius*. More recently, the first records of **Lined Seedeater** *Sporophila lineola* for Santa Catarina were made, in the

municipalities of Garuva, Pirabeiraba, Ilhota and Itapoá<sup>6</sup>. The following were first records for Pernambuco (all in June 2002): **White-cheeked Pintail** *Anas bahamensis* (near Dormentes and Salgueiro), **Spotted Piculet** *Picumnus pygmaeus* (in the Chapada do Araripe and in the municipality of Dormentes) and **White-lored Tyrannulet** *Ornithion inermis* (at Reserva Ecológica Dois Irmãos, Recife)<sup>53</sup>. A sighting of a **Harpy Eagle** *Harpia harpyja* at Serrinha do Alambari, on the east flank of the Itatiaia massif, Rio de Janeiro state, in November 2000, has recently been reported<sup>39</sup>. Olmos recently reviewed ring (band) recoveries for 23 species of non-breeding seabirds from Brazilian and nearby Uruguayan waters and coasts<sup>48</sup>.

Recent decisions of the Brazilian Ornithological Records Committee (CBRO), published in *Nattereria*, include the following: the addition of **Amazonian Parrotlet** *Nannopsittaca dachilleae*, **Buckley's Forest-falcon** *Micrastur buckleyi* and **Dot-winged Crane** *Porzana spiloptera* to the Brazilian list; the addition of **Spot-winged Falconet** *Spizapteryx circumcinctus*, **Mourning Sierra-finch** *Phrygilus fruticeti* and **European Greenfinch** *Carduelis chloris* to the secondary Brazilian list; and the recognition of the following forms as species on the Brazilian list, **Grey-breasted Parakeet** *Pyrrhura anaca* and **Pfrimer's Parakeet** *Pyrrhura pfrimeri* (both split from White-eared Parakeet *Pyrrhura leucotis*), and **Wagler's Woodcreeper** *Lepidocolaptes wagleri* (distinct from Scaled Woodcreeper *Lepidocolaptes squamatus*).

### Chile

The little-known **White-throated Hawk** *Buteo albigula* has recently been recorded south to Aysén region<sup>18</sup>. New records are reported for 35 species in the río Lluta estuary, Tarapacá, including the third country records of **Tricoloured Heron** *Egretta tricolor*, seen in April and May

2000, and **Bran-coloured Flycatcher** *Myiophobus fasciatus* seen in April 2000<sup>59</sup>. The southernmost record of **Black-throated Huet-huet** *Pterotochos tarnii* has recently been reported at Fuerte Bulnes, Magallanes, on 29 December 1998, extending its known range 640 km to the south<sup>28</sup>. A number of other new distributional records have also been reported, including new observations of **Peruvian Thick-knee** *Burhinus superciliosus* from several localities near Arica, Tarapacá<sup>43</sup>, and the northernmost country record of **Southern Lapwing** *Vanellus chilensis*, observed at Antofagasta on 27 October 2001<sup>78</sup>.

### Colombia

Salaman *et al.*<sup>72</sup> place on record a host of interesting observations from the Serranía de San Lucas and adjacent regions of the Central Cordillera, including 74 range extensions, of which 37 species were recorded in the region for the first time or involved extensions of more than 100 km and one—**Sharpbill** *Oxyruncus cristatus*—was a first country record, records of 17 species with poorly known distributions in the region, and 40 noteworthy altitudinal range extensions. Another major paper on bird distribution in the country, by Cuervo *et al.*<sup>11</sup> provides new information for 59 species, including a possible new species of *Scytalopus tapaculo*. Breeding data for 14 species in the southwest of the country were presented recently<sup>75</sup>, while the first observations of nesting behaviour for **Colombian Mountain-grackle** *Macroagelaius subalaris* suggest that it is a cooperative breeder<sup>4</sup>. Reyes-Gutiérrez *et al.*<sup>68</sup> provide a list of birds recorded at a site in Cali, while other recent short notes dealing with range and distribution of Colombian birds include an extralimital record of **Eastern Meadowlark** *Sturnella magna* (in Tolima)<sup>66</sup> and a record of *Streptopelia risoria* (the domesticated form of *S. roseogrisea*, **African Collared Dove**) from Norte de Santander<sup>16</sup>.

**Ecuador**

The second record of **Black-bellied Whistling-duck** *Dendrocygna autumnalis* in the Galápagos was present on Santa Cruz in October 1999<sup>79</sup>.

**Guyana**

Twenty-four species new to the country's avifauna since the 1960s are presented in a recent paper<sup>3</sup>, of which physical evidence is available for all but two. They are:

**Tepui Screech-owl** *Otus roraimae*, **Buff-fronted Owl** *Aegolius harrisi*, **White-tipped Swift** *Aeronautes montivagus*, **Rufous-breasted Sabrewing** *Campylopterus hyperythrus*, **Sparkling Violetear** *Colibri coruscans*, **Red-rumped Woodpecker** *Veniliornis kirkii*, **White-throated Foliage-gleaner** *Automolus roraimae*, **Slender-billed Xenops** *Xenops tenuirostris*, **Steak-backed Antshrike** *Thamnophilus insignis*, **Scaled Antpitta** *Grallaria guatemalensis*, **Tepui Antpitta** *Myrmothera simplex*, **Slate-crowned Antpitta** *Grallaricula nana*, **Chapman's Tyrannulet** *Phylloscartes chapmani*, **Black-fronted Tyrannulet** *P. nigrifrons*, **Ruddy Tody-flycatcher** *Todirostrum russatum*, **Rufous-tailed Tyrant** *Knipolegus poecilurus*, **Tepui Wren** *Troglodytes rufulus*, **Yellow-legged Thrush** *Platycichla flavipes*, **Greater Flowerpiercer** *Diglossa major*, **White-winged Tanager** *Piranga leucoptera*, **Speckled Tanager** *Tangara guttata*, **Yellow-bellied Tanager** *T. xanthogastra*, **Tepui Brush-finch** *Atlapetes personatus* and **Slaty Finch** *Haplospiza rustica*. In addition, the nest and eggs of one of these, the **Tepui Antpitta**, were recently described<sup>2</sup>.

**Paraguay**

Recent findings include several new localities for the globally threatened **Saffron-cowled Blackbird** *Xanthopsar flavus* and **Ochre-breasted Pipit** *Anthus nattereri*<sup>1</sup>. The first breeding record of **Pinnated Bittern** *Botaurus pinnatus* concerns a nest

with three eggs found at Isla Ybycu'i, Itapúa, on 12 December 2001<sup>41</sup>.

**Peru**

A 'new' specimen of **Kalinowski's Tinamou** *Nothoprocta kalinowskii* has recently been located in a Brazilian collection; the bird was taken in Otuzco, La Libertad, in December 1970<sup>80</sup>. A specimen of **Versicoloured Emerald** *Amazilia versicolor* (attributable to the form *milleri*), taken at Iquitos in August 1885, is the first confirmed country record; the specimen was only recently located in Frankfurt/Main<sup>82</sup>. On a different note, the only specimen of **Black-whiskered Vireo** *Vireo altiloquus* for the country has recently been located and reidentified as a **Yellow-green Vireo** *V. flavoviridis*<sup>74</sup>. Details of a nest of **Ash-throated Gnateater** *Conopophaga peruviana*, from Cocha Cashu Biological Station, in November 2000, were presented recently<sup>26</sup> (the second to be reported, see *Cotinga* 17: 79). A feared lost manuscript of Ted Parker, concerning the status, habitat and behaviour of the little-known **Nocturnal Curassow** *Nothocrax urumutum* has been published recently<sup>54</sup>.

**Trinidad & Tobago**

Among recent notable published observations are the first **Grey Heron** *Ardea cinerea* in Tobago<sup>19</sup>, the first **Franklin's Gulls** *Larus pipixcan*<sup>42</sup> and **Slaty Elaenia** *Elaenia strepera* in Trinidad<sup>71</sup>, the first **Wood Sandpiper** *Tringa glareola* and **White-eyed Vireo** *Vireo griseus* in the islands<sup>61</sup>. Elsewhere, Hayes *et al.* provide details and a photograph of the first records of **Wilson's Phalarope** *Phalaropus tricolor* in Trinidad<sup>24</sup>.

**Uruguay**

A specimen of **Pale-breasted Spinetail** *Synallaxis albescens* from El Espinillar, Salto, taken in October 1958, and located at Museo Nacional de Historia Natural, is the first country record and was complemented by observations made near Salto on

25–26 December 2000 and 10 February 2001<sup>7</sup>. The first country record of **Olivaceous Elaenia** *Elaenia mesoleuca* involved a specimen collected at arroyo Lunarejo, Rivera, on 9 January 2000<sup>8</sup>.

**Venezuela**

Based on recent observations and a survey in January 1995, Collins *et al.*<sup>10</sup> consider **Pygmy Palm-swift** *Micropanyptila furcata* to be widely distributed and reasonably common in the south-east Maracaibo Basin, where it may have benefited from the planting of ornamental palms.

**OTHER RECORDS RECEIVED****Brazil**

An interesting observation in the mata-de-cipó at Boa Nova was a **Rufous Casiornis** *Casiornis rufa*, on 25 October 2002 (GMK *et al.*); there are old specimen records from the region of Vitoria da Conquista, just to the south of there (JFP pers. comm. 2002). A **Hook-billed Hermit** *Glaucidis dohrnii* was well watched at Reserva Biológica de Una, on 5 November 2002, apparently a new locality for this globally threatened bird (GMK *et al.*).

**Cuba**

The fourth country record of **Orange-crowned Warbler** *Vermivora celata* was on the migrant hotspot of Cayo Coco on 26 March 2002 (D & NS). Previously unreported records of interest from 2001 include a **Nashville Warbler** *Vermivora ruficapilla* on Cayo Guillermo, on 21 November and a **Cerulean Warbler** *Dendroica cerulea* between Pálpite and Soplillar, Zapata, on 25 November (*per PG*). In late 2002, another (or the same individual as previously reported in recent years) adult **Lesser Black-backed Gull** *Larus fuscus* was photographed at the bridge between Cayo Coco and Cayo Romano, on 19 December (where still present on 21 February 2003; *per OHG*), but more spectacular

was the discovery of a **Veery** *Catharus fuscescens*, albeit with a damaged leg, which was photographed at Soroa, on 1 January 2003 (Fig. 4, p.100), the first documented record of the species in winter outside of southern Amazonia! (PM). Amazingly, another **Veery** was subsequently observed at La Turba, in the Ciénaga de Zapata, on 7 January 2003 (AK, WS). Also in Zapata, eight **American White Pelican** *Pelecanus erythrorhynchos* were present at La Salina on 7 February to at least 2 March 2003 (the ninth Cuban record and an exceptional number; AK *et al.*). Nearby, **Northern Potoo** *Nyctibius jamaicensis* was recorded again in the woodlands around Pálpite, one singing pre-dawn on 19 March 2003, and the first spring record of **Willow Flycatcher** *Empidonax traillii* in Cuba involved one seen and heard at the same locality on 23 March 2003. Among other interesting migrants at this locality was a **Blue-winged Warbler** *Vermivora pinus* on 27 March 2003 (GMK).

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# Reviews



## Special Colombian Book Reviews

**Lista de Chequeo de las Aves de Colombia** by P. Salaman, T. Cuadros, J. G. Jaramillo & W. H. Weber, 2001. Medellín, Colombia: Sociedad Antioqueña de Ornitología. 116 pages, two black-and-white maps. Softback. Available from the Sociedad Antioqueña de Ornitología. E-mail: Sergio Jaramillo sergioj@cis.net.co. c.US\$10.

It is now 15 years since Hilty & Brown's seminal *A guide to the birds of Colombia* was published. With the pace of taxonomic changes and new discoveries relating to Colombian birds since 1986, this portable and user-friendly *Lista de Chequeo* is an extremely welcome publication.

The *Lista* draws heavily on Rodner *et al.*'s *Checklist of the birds of northern South America*, both in format and content, but excludes non-Colombian species and includes additional information, particularly shorthand distributional information.

The main body of the work, the checklist itself, takes up 81 pages. A total of 1,865 species is listed, 170 more than described by Hilty & Brown. These additional species derive from a total of 14 new species for science, 70 referenced superspecies splits, 76 previously unrecorded species, nine species recorded from San Andrés and Providencia and one introduction. An addendum lists an additional 125 species considered possible or hypothetical in Colombia.

For each species, the English, Spanish and Latin name is stated. Where these differ from those used in *Birds of Colombia*, the old or alternative names are provided with full references. For each species, all subspecies known or considered possible in Colombia are also stated.

A series of four columns for each species are filled with shorthand notations categorising the form as being present or absent from Colombia's four major biogeographical zones: Caribbean, Pacific, Andean and Eastern. In these columns, various subcategories are used to define with more precision the biogeographical subregion in which each species can be found. For example, 'Caribbean' is subdivided into: Tropical zone, Guajira, Oceanic & Coastal, San Andrés & Providencia, Cauca Valley, and Magdalena Valley. The life zone (oceanic,

tropical, premontane or montane), habitat (humid forest, dry forest, savannah or aquatic) and notes on threat levels, migratory, introduced, vagrant or transitory status are presented for each species. The wealth of quick-reference biogeographical information at one's fingertips in the *Lista* is tantalising and sets a new standard for checklists globally. The condensed format should also serve as a benchmark for future field guides.

A small criticism of the *Lista* is that the biogeographical zones are not perfectly described. The 'Caribbean' zone, which extends as far south as Cali and Pitalito, would probably better be termed 'Northern lowlands and inter-Andean valleys' and the 'Andean' zone includes the geologically distinct Sierra Nevada de Santa Marta, with 'Mountains' a preferred name for the collective group in Hilty & Brown's *Birds of Colombia*.

Another small criticism is that, whereas species are classified according to their occurrence in biogeographical subregions, subspecies are treated with varying degrees of detail, sometimes with precise regions, localities or departments specified, sometimes involving the codes used for species, but commonly merely stating 'N' or 'W'. These more general labels usually make sense, but where a large number of subspecies are involved, e.g. for *Euphonia xanthogaster*, they can be confusing.

The *Lista* takes a somewhat liberal attitude towards the many splits that have appeared in recent field guides and the *Handbook of the birds of the world* series, and as such some might consider that it propagates a culture of 'taxonomy by field guide'. I am not wholly convinced of the evils of such an approach, particularly when one considers the often small amount of information upon which such decisions were justified in the past. Nonetheless, splits which have appeared without detailed study would perhaps better have been referenced as 'treated as a separate species from species X by author' rather than 'split from species X by author'.

Many bird books are criticised for missing recent information. The *Lista de chequeo* cannot be. It goes further than many other publications, including records of several unpublished new birds for





Colombia, two undescribed species and several undescribed subspecies. The completeness of information sought by this approach is commendable. But although Fjeldså & Krabbe's *Birds of the high Andes* took a comparable approach in including undescribed tapaculos, the inclusion of undescribed taxa is a novel approach for a checklist and one which may be subject to comment.

The information in this book is of enormous value in being bang up to date and fully referenced throughout. The bibliography and referencing system mean that the *Lista*, as well as constituting an extremely useful field tool, will become the first port of call for those seeking up-to-date information on the status of Colombian birds. Importantly, the *Lista* is bilingual in Spanish and English throughout.

This *Lista de chequeo* does not aspire to be categorical or definitive in the way that many North American or Western European ornithological committees' lists do—rather it takes the approach of setting a baseline of information, and highlighting areas in which more research is needed, particularly in subspecies determination. This approach is extremely appropriate, given that Colombian ornithology is still very much in an exciting discovery era. The *Lista de chequeo* has been exhaustively researched and is very expertly compiled. It is a valuable and extremely useful addition to Colombia's ornithological literature.

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**Loros de Colombia** by J. V. Rodríguez-Mahecha & J. I. Hernández-Camacho, 2002. *Conservation International Tropical Field Guide Series. Conservación Internacional Colombia, Bogotá, Colombia. 477 pages, 15 colour plates, 54 colour range maps. Softback. Ordering details at <http://www.proaves.org/LOROSCOLOMBIA.htm>. \$25,000 pesos.*

*Loros de Colombia* deals in detail with all of the parrot species present in Colombia. One might wonder why such a publication is necessary, when parrots already constitute one of the best-known groups in the Neotropics. According to the authors, the main reason for the publication of this book is for conservation purposes. Indeed, of the 53 species treated by the authors as occurring in Colombia, 11 are considered threatened with extinction by BirdLife International. This book aims to raise awareness and increase knowledge of this charismatic group. Conservation International should be commended for

giving this book a large print run. It is available in regular bookshop chains in Colombia, unlike the other three publications treated in this series of reviews, which I hope will help it achieve the conservation aims to which it aspires.

Despite claiming to be a field guide on the front cover, this book is essentially a reference work and monograph on Psittacidae in Colombia. There are, however, several sections which are of great use in the field. A 12-page section entitled *Clave para la identificación rápida* features a thumbnail plate of each parrot species occurring in Colombia. Species are grouped into similar-looking groups, mostly following genus groupings, with a short generic description at the head of each section and concise notes for rapid species identification.

The 15 plates, which illustrate all species, are beautifully and accurately drawn by Margarita Nieto, César Landazábal, Carlos Rodríguez and Stephen Nash. I would have liked to have seen subspecies illustrated here as well. In particular, the authors treat *Pyrrhura (melanura) chapmani*, *souancei*, *melanura* and *pacifica* as one species and lump *P. pantchenkoi* with *P. picta*. It would have been helpful, at least, to illustrate these forms, which some authors treat as species, and which have small but significant plumage differences.

The main section, consisting of 261 pages, features detailed descriptions of each of the parrot species occurring in Colombia, plus Hyacinth Macaw *Anodorhynchus hyacinthinus*, which the authors consider may occur, given nearby records in Brazil. A wealth of data is given for each genus: taxonomy, etymology, names in Spanish, English and many other languages, a detailed treatment of indigenous language names, details of places in Colombia named after particular birds and distributional information. For each species, further information is presented on taxonomy, etymology, common names, ethnozoology, biometrics, plumage, feeding ecology, reproduction, habitat and life-zone preferences, relations with congeners, national and global distribution and conservation. The average species account runs to five pages, with a truly mesmerising amount of information presented.

A small criticism is that the book concentrates, perhaps excessively, on the etymological aspects, which run to several pages for some species and include various obsolete names, at least in English. In such a comprehensive work, I was also disappointed not to find a short section for each species on vocalisations. A more comprehensive treatment of taxonomical chestnuts (see above), with perhaps the case put for the authors' treatment, would also have been interesting and useful.







Vying with the species accounts for the most impressive aspect of *Loros de Colombia* are the distribution maps, which are among the best I have seen for Neotropical birds. The 1,000 and 3,000 m contours are clearly shown, and subspecies ranges are depicted in different colours and labelled, with question marks inserted in regions of hypothetical occurrence or where the relevant subspecies are unknown. The beauty, simplicity, quality and utility of map produced by this approach makes one wonder why no-one has adopted it before. I advise anyone embarking on a bird guide including maps to follow this format, which sets a new benchmark for range maps in the Neotropics.

*Loros de Colombia* also contains interesting short sections about the origin of Psittaciformes, an ornithological history of the group with particular reference to Colombia, a section dealing with the history and use of plumage art among Colombia's indigenous peoples and a long section about the conservation of parrots, with particular reference to Colombia. These chapters make a thoroughly interesting read, but sit uneasily in a book which describes itself as a field guide.

Overall, this is a comprehensive, useful and interesting book. It will prove a valuable resource for those working with this group both nationally and elsewhere. Its greatest use is as a reference work and educational tool. However, due to the book's extremely reasonable price (about US\$10), I would suggest that those who work in the field in Colombia buy two copies. One can be left on the shelf at home. From the other, the quick-reference key and distribution maps make an excellent addendum to *Birds of Colombia* or *Aves de Colombia*.

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**Guía de las Aves de Colombia** by S. L. Hilty & W. L. Brown, translated by H. Alvarez-López, 2002. Medellín, Colombia: American Bird Conservancy & Sociedad Antioqueña de Ornitología. 1030 pages, 56 colour plates, eight black-and-white plates, 1475 black-and-white range maps. Softback. Price not known.

Hilty & Brown's *Birds of Colombia*, published in 1986, is an excellent book, and was one of the first practical field guides for Neotropical birds. The publication of this Spanish-language translation is a momentous event for ornithology in Colombia.

The delays in the publication of *Aves de Colombia* have apparently been due to complications in reproducing the plates, although these problems must have been surmounted eventually, as they are as good as those in the original. Praise for these plates—particularly

Tudor's work—and criticism, in that many species are not illustrated and some less accurate depictions are included, apply equally as they did to the original. Unfortunately, the line drawings within the text and the distributional maps have been less well reproduced, although not such as to confuse the reader. The typeface is a lot more attractive and clearer in *Aves de Colombia*, although at the expense of a thicker book with additional pages of text.

The main text appears to have been faithfully, succinctly and accurately translated, although as a non-native Spanish speaker, it would be inappropriate for me to comment further. Without doubt, the greatest success of *Aves de Colombia* is that a new Spanish-language vocabulary for Colombian birds has been created. This provides a solid base for the standardisation of Spanish names in Colombia and elsewhere, and is an immensely important step in bringing birdwatching and ornithology to a wider national following. It is inevitable that in such an exercise not all people will agree on the new nomenclature. Although again I will defer to those better qualified to comment, I was particularly surprised to see *Crax* and *Pauxi* described as 'Pavones'—as I have never heard them called anything other than 'Paujiles' in Colombia. Some names also verge on the derogatory: 'Cabezón' (becard = head-case) and 'Bobo' (puffbird = idiot) in particular may not please the politically correct, although they are quite fitting labels. Several of the names differ from those used in Ridgely & Greenfield's *Birds of Ecuador*, which was published contemporaneously. It is a shame that the authors of both did not collaborate to standardise the names for the entire region, as the differences will surely take years or decades to resolve.

Although *Aves de Colombia* claims to be little more than a translation, some small and subtle changes have been incorporated into the text. For example, the description next to the plate of *Neopipo cinnamomea* (formerly just 'like *Terenotriccus erythrurus* but rarer') has been expanded upon. The text which accompanies Plate 1, which was buried in the middle of the plates in the English version, is now in its correct place, and the Spanish-name index now includes references to the species number on each plate, as well as to the plate number.

Frustratingly, several formatting limitations in *Birds of Colombia* have crept through to this translated version. For example, the scientific names index does not give plate or distribution map numbers. Likewise, the maps feature only the Spanish bird name. This enforces much page-turning in using this book. I found this problem more acute in *Aves de Colombia* than when I first used *Birds of Colombia*, in that the Spanish names index is based on an entirely new bird vocabulary which will take some time to learn.

A small number of more significant mistakes have been carried through to the translation. For example, the descriptions and 'similar species' sections for *Myrmotherula schisticolor* and *M. longipennis* still inevitably lead to the identification of *M. longipennis* for both. For future revisions, both species have white tail tips and a large white carpal patch. Also, the white throat of the western form of *Automolus ochrolaemus* is not mentioned, which may lead to erroneous extralimital *A. infuscatus* records. The plate of *Piculus leucolaemus leucolaemus* remains mislabelled as *P. l. litae*. Some sections which have not stood the test of time so well include *Chaetura*, *Scytalopus* and the owls. However, despite its age and these errors, most of the text of *Aves de Colombia* is still very relevant and highly usable.

For many species, new distributional, ecological or taxonomic data has been published in the 15-year gap between publication of the original and its translation. A series of footnotes—I counted almost 40—have been added to the text, providing additional references to some recent work. This approach is a compromise between pure translation and a substantial revision of the text. Approximately 25 of these footnotes document recent records of species formerly considered hypothetical for Colombia. The remainder contain references to recent ecological articles. Publications concerning the breeding ecology of the House Wren *Troglodytes aedon*, associations between hummingbirds and Acorn Woodpeckers *Melanerpes formicivorus* and nest selection of Stout-billed Cincloides *Cinclodes excelsior*, for example, are included. The inclusion of these additional references is helpful, but due to their very small number, it is clear that only a 'things I can recall off the top of my head' approach has been applied in selecting them, rather than a thorough literature search. The low number of references (c.15) may give the false impression that little has happened in Colombian or Neotropical ornithology since 1986, or that little has happened outside of the Universidad del Valle in that period.

Three new sections are included in *Aves de Colombia* not in the original. A short preface, by Luis Germán Naranjo and Walter H. Weber, introduces the book. Two new appendices are provided: Appendix D lists newly established national parks and Appendix E includes bird species recorded or described in Colombia since 1986.

Appendix E is the most significant addition to the book and aims to bridge the long time-gap between publication of *Birds of Colombia* and this translation. The idea of including such an appendix is commendable, but its execution is disappointing. Whereas Salaman *et al.*'s *Lista de Chequeo* notes



14 new species for science, 70 superspecies splits and 76 previously unrecorded species in Colombia since 1986, Alvarez does not deal with taxonomic changes, and notes only 33 species in the other two categories. Much of the discrepancy between the number of new species treated by Alvarez and Salaman appears to be due to a much more rigorous concept of an acceptable record applied in *Aves de Colombia*. Records published secondarily, such as in Ridgely & Tudor's

*The birds of South America*, Rodner *et al.*'s *Checklist of the birds of northern South America*, Stotz *et al.*'s *Neotropical birds: ecology and conservation* or in family guides, notably Cleere & Nurney's *Nightjars*, appear to have been ignored by Alvarez. Whereas this approach to secondary records may be justifiable, some more glaring omissions are not. Incredibly, three new species for science, *Otus petersoni* (Fitzpatrick & O'Neill 1986), *Glauucidium hardyi* (Vielliard 1989) and *Scytalopus chocoensis* (Krabbe & Schulenberg 1997) are overlooked.

Appendix E takes more the form of a range extensions article than that of a field guide. For most species, an adequate description is given for identification, along with details of worldwide and national distribution. However, sections on vocalisations, ecology, nesting and similar species are given rather short shrift compared with the main text. It is hard to understand why the successful format of the rest of *Aves de Colombia* was not followed here. A final criticism of the appendix is that many of the accounts therein refer to plates in the *Handbook of the birds of the world* series for identification purposes. This may be helpful to those working in some of Colombia's academic institutions or major museums, but given that *Aves de Colombia* is intended mainly for Colombians and that there are probably fewer than five copies of *HBW* in the country, such references will be of little use to more than a handful of people. This new appendix appears to have been subject to little care, planning, consideration or peer review and lets down what would otherwise be a very impressive work.

The new material in *Aves de Colombia* and the time delays involved in its publication are disappointing. But despite this, it is an excellent book. All native Spanish speakers with an interest in South American birds *must* buy it. However, for those who are happy using the English version and are considering updating their sources, the *Lista de Chequeo* would be a better investment.

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**Libro rojo de aves de Colombia** by L. M. Renjifo, A. M. Franco-Maya, J. D. Amaya-Espinel, G. H. Kattan & B. López-Janús (eds.), 2002. *Serie Libros Rojos de Especies Amenazadas de Colombia*. Bogotá, Colombia: Instituto de Investigación de Recursos Biológicos Alexander von Humboldt y Ministerio del Medio Ambiente. Electronic version: 554 pages, 113 colour paintings, 113 colour range maps. Download free of charge at [http://www.humboldt.org.co/conservacion/libros\\_rojos/index.html](http://www.humboldt.org.co/conservacion/libros_rojos/index.html).

The *Libro Rojo de Aves de Colombia* is the first published part of an ambitious project by Instituto Alexander von Humboldt, the Colombian government's biological investigative arm, to catalogue the endangered species of all taxa in Colombia. The *Libro Rojo* is available online and can be downloaded free of charge in ten separate sections.

The main section consists of 420 pages of species accounts. For each, the basic format of Collar *et al.*'s *Threatened birds of the Americas* seems largely to have been followed. Each species is illustrated in colour by Robin Schiele or Juan Cristóbal Calle. The plates are very clear, 'sencillo', lifelike and accurate depictions of the species involved. Family, scientific and Spanish names, national threat category, geographical distribution (nationally and internationally), population, ecology, threats, conservation measures taken, current status, proposed measures and other notes (e.g. taxonomic) are presented for each species. Following the main species accounts, shorter sections dealing with Near Threatened (30 pages) and Data Deficient species (eight pages) are also presented.

An innovative new technique for distributional mapping of threatened species has been employed using the latest computer technology. The known localities for each species have been plotted on to a digital elevational map of Colombia. Regions of suitable elevation between known sites have then been extrapolated, and such regions have been mapped onto areas of extant suitable habitat for each species. This is an extremely useful technique to estimate populations and determine possible sites for future surveys. Multicoloured maps accompanying each species account provide a comprehensive snapshot of known, historic and extrapolated distribution.

One of the most impressive things about the *Libro Rojo* is the collaboration which has gone into its preparation. A total 46 authors were employed, representing many different institutions and bird groups, and the text has been moderated by five editors. The latter have done a good job in conforming the formatting and

style of each account. However, although the overall standard of species accounts is excellent, as might be expected in a work with so many collaborators, the quality of the accounts varies, particularly in the amount of detail presented. A handful of accounts are little more than an updated translation of *Threatened birds of the world* or *Threatened birds of the Americas* accounts, and several purport to be no more than this. Others contain an enormous wealth of information. I particularly commend the sections on *Crax alberti* and *Hypopyrrhus pyrohypogaster* by Andrés Cuervo, which will doubtless become the leading sources on the status, distribution and ecology of these species. Other outstanding accounts with a large amount of new or unpublished distributional and ecological information include *Rallus semiplumbeus*, *Odontophorus strophium* and *Bolborhynchus ferrugineifrons*.

The threat classifications for several species differ from those assigned by BirdLife International. In some cases, this is due to new information on population sizes (e.g. *Lipaugus weberi*, now considered Critical). In others, this reflects national threat levels of species which occur in other countries (e.g. *Chauna chavaria* and *Ortalis erythroptera*—both Vulnerable). A few examples of downgrading are evident. The endemic *Gallinula cucullata* is considered Near Threatened, not Vulnerable, and *Oryzoborus crassirostris* is considered Low Risk.

Several species are included which are not globally threatened, but for which endemic subspecies have small or endangered national populations, notably *Oxyura jamaicensis andina*, *Melanerpes chrysauchen pulcher*, *Anas cyanoptera tropicus* and *borreroi*, and *Gallinula melanops bogatensis*. I would like see this treatment extended to other threatened subspecies of Colombia. In particular, many forest-dependent Cauca and Magdalena valley subspecies are subject to high threat levels, yet due to their status as 'just' subspecies of species occurring elsewhere nationally, are not subject to serious conservation consideration.

Although I noted a handful of omissions in some of the distribution summaries, I was overall highly impressed by the complete and up-to-date nature of these sections. Especially with the advent of family guides and even with the publication of *Aves de Colombia*, one has become accustomed to finding incomplete distributional information for most species which occur in Colombia. This book will hopefully send a message to the outside world that, despite political problems, much new and exciting work has been





undertaken in Colombia in recent years, and is ongoing.

Although I must stress the high quality of this work, there is some room for improvement in future editions. Firstly, it would have been helpful if global threat levels were also stated for each species, and any reasons for variance were discussed in greater detail. Secondly, only those Near-Threatened species listed in *Threatened birds of the world* are included in the *Libro Rojo*. In future editions, consideration must be given to species and subspecies which may be nationally Near Threatened. Thirdly, the range maps, although innovative, are let down by poor presentation, with departmental boundaries included at the expense of elevation contours. Particularly for species endemic to the interior of Colombia, such as *Gallinula melanops bogatensis*, the maps will be confusing to those without an intimate knowledge of the morphology of Colombia's internal political units. Finally, in the online version, the downloadable sections are poorly divided, with genera sometimes straddling separate files.

The *Libro Rojo* provides conservation decision makers in Colombia with an excellent tool to prioritise regions for protection and projects to support. The rapidity with which this book has been produced and the high quality of the accounts are a great credit to the authors and editors, and are in stark contrast to the lengthy delays and quality of additional material found in *Aves de Colombia*. The

authors have been successful in seeking appropriate experts, who in most cases have had direct field experience of the species concerned. The information presented is accurate and complete. The *Libro Rojo* brims with the enthusiasm and expertise which typifies a new generation of Colombian ornithologists. Importantly, it is available free of charge on the Internet. It is an excellent book and I highly recommend readers to obtain a copy, either in hard copy or electronically.

As a footnote, the funding by the Colombian government of the *Libro Rojo* project is, of course, to be warmly welcomed in a climate of decreasing conservation budgets. Now that the threatened birds of Colombia are officially established, the big question is whether Colombian governmental conservation institutions will follow their apparently never-ending stream of policy-level work and publications with effective and substantial action to combat deforestation, with their own so-called national parks perhaps the first and biggest priority. The number of species in the *Libro Rojo* for which protected status is qualified with a rider relating to illegal encroachment and ineffective protection is worryingly high. At some point, the *Ministerio de Medio Ambiente* will have to get its hands dirty if it seriously wishes to conserve Colombia's forests and their threatened inhabitants.

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**Birds of Venezuela** by Steven L. Hilty, principal illustrators John A. Gwynne and Guy Tudor, 2002. Princeton, NJ: Princeton University Press (USA and Canada) & London, UK: A. & C. Black (UK and Europe). 878 pp, 67 colour and black-and-white plates, 44 colour habitat photographs and over 1380 maps. US\$55 / UK£40.

The long-awaited revision of the 1978 field guide to the birds of Venezuela<sup>4</sup> is finally in print. This should be cause for celebration in itself, yet curiously the modernising of the guide to the world's sixth largest national avifauna seems to have attracted far less publicity than the arrival of *Birds of Ecuador*<sup>6</sup> little more than a year earlier. Perhaps billing the book as a 'second edition' is the cause, detracting from the fact that this is a magnificent, ground-breaking new publication rather than a simple up-date of its predecessor.

As the first modern field guide to a South American avifauna, the original *Birds of Venezuela* was a milestone in Neotropical ornithology. Naturally, in recent years it had begun to show its age due a combination of improvements in field guide presentation, the growing number of new

species recorded in the country, and cumulative taxonomic changes. Even so, it was still a remarkably useful field guide owing to the quality of Tudor's plates and the exhaustive distributional information contributed by William H. Phelps. However, despite a second Spanish edition with an appendix of new species by Miguel Lentino, published in Caracas in 1994<sup>5</sup>, the guide was due for an overhaul.

The task was taken on by Steve Hilty, well known as a leader of tours to Venezuela and better recognised as author of the authoritative *Birds of Colombia*<sup>2</sup>, itself one of the foremost identification guides to a tropical avifauna. The product is a second edition in name only, perhaps owing to the use of many of the original plates and presumably in recognition of the tremendous contribution of the previous edition to our knowledge of Venezuelan birds. To all intents and purposes this is an entirely new field guide.

In the first place, the new guide is twice as thick as its predecessor and the text is much more closely packed. The new book weighs in at over 1.8 kg and is similar to the field guide volume of the *Birds of Ecuador*<sup>6</sup> in dimensions and format. Nearly 100 new species are treated, taking the country total to 1,381.





Far more species are illustrated and more use has been made of colour plates, though eight black and white plates have been retained to depict flying raptors and swifts. We now have a total of 67 plates compared with the previous 53—a 24.5% increase. Twenty-five of the plates are entirely new with beautiful artwork, primarily by John Gwynne. The new plates cover a range of taxa, with cracids, owls, nightjars, toucans, tanagers, Fringillidae, Emberizidae and icterids particularly well served. A further four have been adapted from *Birds of Panama*<sup>7</sup> and one from *Birds of Colombia*. The remaining 37 are Tudor plates (and one by Gwynne) from the original *Birds of Venezuela*, some of which have been slightly modified. Not all of the modifications to the old plates are appropriate. For example, the addition of a dark malar stripe to the Black-banded Woodcreeper *Dendrocolaptes picumnus* now leads to confusion with Strong-billed Woodcreeper *Xiphocolaptes promeropyrhynchus*, while the dark ear-coverts are still not depicted.

Essential plates treating groups poorly represented in the first edition include Sophie Webb's perched nightjars in colour, with thumbnail flushing birds, a new flycatcher plate which adds missing *Myiarchus* and *Elaenia*—though the elaenias, and particularly White-fronted Tyrannulet *Phyllomyias zeledoni*, are among the least successful illustrations in the book—and a nicely painted set of thrushes. The previously lifeless and inaccurate vireos and greenlets are now very helpfully laid out and the Emberizidae finch plate provides welcome comparative paintings of seedeaters. Though less of an identification challenge (except for *Euphonia*), the tanagers have been treated with five superb new plates which really do the family justice. For simple visual appeal Sophie Webb's owls and potoos (Plate 25) and John Gwynne's exotic hummingbirds (Plate 31), toucans (Plate 35) and larger cotingas (Plate 51) are hard to beat, particular because many of them replace monochrome or otherwise inferior illustrations in the first edition. It would have been beneficial to have comparative illustrations of snipes in colour and perhaps a plate of flying parrots. And, as is the case with most Neotropical field guides, boreal migrant shorebirds and warblers are still only partially depicted, so a companion field guide to North America will prove useful for those unfamiliar with birds of the Western Hemisphere.

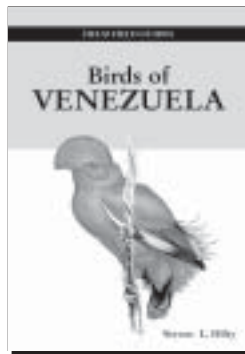
The aesthetic quality of the new plates is superlative and perhaps makes the reproduction of the 1978 Tudor plates a little drab in comparison, despite their artistic and scientific virtues. They have generally reprinted well, though acquiring a

very slight graininess and loss of colour saturation at times. Some of the dark plates from the earlier edition have been reproduced a shade paler to bring out more detail, as in the case of puffbirds and jacamars (Plate 33), woodpeckers (Plate 36) and antpittas (Plate 42) and most flycatchers. With the added brightness, the Ocellated Tapaculo *Acropternis orthonyx* now really looks to be worth all that effort! Conversely, one or two plates, such as the manakins (Plate 44), have darkened somewhat. Surprisingly, the publishers did not take the opportunity to correct some of the obvious errors on the 1978 plates in the light of current knowledge: on the Tyrannidae plates, for example, the erroneous crest on Mouse-coloured Tyrannulet *Phaeomyias murina* and the uncharacteristic postures of White-banded Tyrannulet *Mecocerculus stictopterus*, Greenish Elaenia *Myiopagis viridicata* and some of the bristle-tyrants *Pogonotriccus* and *Phylloscartes* tyrannulets. All in all though, the old plates have stood the test of time and will certainly serve the user well in the field. Indeed, some might go as far as to say that the original Tudor plates are actually superior in accuracy to the recent additions.

The page facing each plate is occupied by a legend that carries condensed identification notes. These are similar to those in the first edition, but a little more concise. In some cases, the information has been compressed to enable all, or nearly all, of the legend information to appear on the facing page, rather than being continued overleaf. This has solved the inconvenience in the 1978 edition of having to flick between pages to comprehend the three consecutive flycatcher plates, 28–30, while keeping a finger in the text at the descriptions of the species which are not illustrated.

Notwithstanding the improved illustrations, it is the text which has really benefited from this new edition. The format follows and improves on the standard set by *Birds of Mexico*<sup>3</sup> and *Birds of Ecuador*. Thinner, better quality paper has permitted nearly 20% more pages than *Birds of Ecuador* to be incorporated into a book which is still slimmer than the latter volume. In addition, the typesetting and text layout have allowed more text to be included and, on top of that, Hilty has further reduced bulk by being extraordinarily precise and economical with his words. The exemplary quality of the text will come as no surprise to those familiar with the author's earlier *Birds of Colombia*.

Compared with the first edition, the text is much more oriented towards the main requisite for a field guide—species identification in the field. The first section, entitled identification, provides a general





description of the identification characters of the species, using italics to emphasise diagnostic features. There is a wealth of distilled experience here: at last I see the characteristic and highly visible 'headlights' along the leading edge of the wing of Black-and-white Hawk-Eagle *Spizastur melanoleucus* mentioned as a field mark and a note on its 'stretched' *Buteo* appearance in flight. In perusal, I also learned that yellowish eyes are diagnostic of Plumbeous Pigeon *Columba plumbea*, something I see illustrated in *Birds of Ecuador* too. The following paragraph on similar species lists sympatric species that may cause confusion and provides further comparative text where merited. A good deal of the information is original, for example the extremely detailed treatment under Roraiman Nightjar *Caprimulgus whitelyi* of its separation from sympatric Band-winged *C. longirostris roraimae*. Among other fascinating field pointers we find that the tail of Red-and-green Macaw *Ara chloroptera* is 'steady (no wiggle) in flight' compared with the wiggling tail of Scarlet Macaw *A. macao*. Both the above sections are very succinctly written and the author's tremendous experience ensures that they are perfectly oriented to field use. The voice section is new and seems to be very well compiled with—to my taste—excellent transliterations of songs and calls. The voices of the Columbidae and Psittacidae are particularly helpfully described, with an attempt made to distinguish between calls of the larger macaws. I especially enjoyed 'like French ambulance' for the flight call of Sharp-tailed Ibis *Cercibis oxycerca*. Condensed natural history information and further aids to identification are included under a paragraph on behaviour. This section contains just enough information on basic biology to give the curious student a brief introduction to the ecology of the species and to stimulate further information gathering, but not enough that the field guide becomes cumbersome. A detailed appraisal of status and habitat preference follows. Abundance terms are biased to reflect the observer's probability of encountering the species in the favoured habitat rather than actual density. Migratory status is discussed in detail using similar terms to Hayes<sup>1</sup> with dates where relevant. Where scarcer species are easily encountered at a particular site, this is mentioned. The final discussion of range retains the custom established by the earlier edition of separating range information by subspecies, a feature which is particularly welcome in these times of ever-changing taxonomy. Sight records are clearly separated from specimen data. Additional information on taxonomy and potential new species often appears under notes. Range maps with state boundaries and contour lines are another new feature. They use different types of shading to indicate the presumed Venezuelan range, with

points to mark individual locality records for specimens (black dots) and sight records (open dots). In short, they are similar in format to those provided in *Birds of Ecuador*. The author has been very thorough in his compilation of museum records from Venezuela and elsewhere.

Taxonomy follows a number of sources and will be broadly familiar to users of *Birds of Ecuador*. The majority of the changes are supported by published evidence, for example in the case of many of the Thamnophilidae. Others, like the splitting of White-fringed Antwren into Northern *Formicivora intermedia* and Southern *F. grisea*, are intuitive and likely to be confirmed by research, while the separation of the tepui subspecies of Two-banded Warbler *Basileuterus bivittatus* as Roraiman Warbler *B. roraimae* is less clear and unexplained by the author. Equally deserving candidates for splitting, such as the distinctive arid-country forms (*phainoleucus* and *pulchellus*) of Black-crested Antshrike *Sakesphorus canadensis*, the Andean (*erythrophrys*) versus Guianan/Amazonian (*angustirostris*) forms of White-browed Antbird *Myrmoborus leucophrys* or the western form (*griseoventris*) of Black-faced Antthrush *Formicarius analis* remain unchanged. The author documents most of the major taxonomic departures from the first edition, referring the reader to the bibliography of original research.

Some of the Venezuelan names have been improved since the 1978 edition. The substitution of 'Chiriguare' for 'Caricare Sabanero', 'Pájaro Ratón' for 'Tapaculo', 'Levanta Alas' for 'Leptopogon', 'Jipato' for 'Xenopsaris', 'Paraulata Imitadora' for 'Paraulata de Lawrence' and 'Pico de Plata' for 'Sangre de Toro Apagado', and the use of 'Atrapamoscas Frutero' to denominate *Mionectes* all make good sense or coincide more closely with common local names. Less suitable are 'Tiluchi de Las Tierras Bajas' for Todd's Antwren *Herpsilochmus stictocephalus*, when three other congeners occur in the lowlands, or 'Atrapamoscas del Dosel' for Amazonian Scrub-flycatcher *Sublegatus obscurior*. While clearly outside the scope of this field guide, a large proportion of the Venezuelan names are still cumbersome or inaccurate or do not correspond with locally used names. The unenviable task of revising them should be carried out before this field guide appears in Spanish.

As befits such a thoroughly researched work, over 800 references cited in the text are included at the end of the book. They form a handy selected bibliography of Venezuelan ornithology. Introductory chapters cover the topography, climate, biogeography and vegetation of Venezuela. Bird habitats are particularly helpfully described with 44 stunning colour photographs that will make the reader want to purchase an air ticket immediately.

Further chapters are dedicated to a brief résumé of conservation and national parks (actually, even allowing for overlap, national parks and nature monuments account for about twice as much land as the author states here—some 13 million ha and 1.8 million ha respectively), discussion of migratory species (with lists) and a history of Venezuelan ornithology. A well-annotated locality map of the country is also provided together with colour relief and vegetation maps.

Any drawbacks? With a work of this magnitude there are bound to be some errors and inaccuracies, but the number is remarkably small and it seems too petty to mention them here, except to share the rather comical typo which indicates that the poor Louisiana Waterthrush 'sulks in damp shady areas'.

There are a few minor omissions though—most conspicuously in status and distributional data—that might perhaps have been reduced with some external review. Again, at the risk of appearing petty, under range I see that there is often a gap in the known distribution of a species. For example, White-rumped Hawk *Buteo leucorrhous*, Striped Owl *Asio clamator*, Common Potoo *Nyctibius griseus*, Crested Quetzal *Pharomachrus antisianus*, Variegated Bristle-tyrant *Pogonotriccus poecilotis* and Barred Becard *Pachyramphus versicolor* all occur in Yacambú National Park. Likewise, Stripe-throated Hermit *Phaethornis strigularis*, Northern (?) Scrub-flycatcher *Sublegatus arenarum*?, Piratic Flycatcher *Legatus leucophaius* and Grey-headed Tanager *Eucometis penicillata* can all be found at Hato Piñero, while Large-billed Seed-finch *Oryzoborus crassirostris* occurs in the llanos of central Apure. As for status and habitat, migratory flocks of Turkey Vulture *Cathartes aura* in the Mérida Andes can number hundreds and there are certainly more records of Swainson's Hawks *Buteo swainsoni* from the same area, often among the vulture flocks. Violaceous Quail-dove *Geotrygon violacea* and Rusty-faced Parrot *Hapalopsittaca amazonina* are somewhat commoner and easier to find than suggested, Andean Cock-of-the-Rock *Rupicola peruviana* is known from additional leks and there have been more sightings (and even published data from captures, e.g. Vereá *et al.*<sup>8</sup>) of Scallop-breasted Antpitta *Grallaria loricata*. Occasionally, vocalisations are frequently better known than indicated too. But the above shortcomings don't even amount to what one might call quibbles.

Certainly some will find the dimensions and weight of this new guide forbidding, though this is an inevitable product of the diversity of the avifauna in question. In fact, I might suggest that in terms of grams per unit of information this is actually one of the lightest field guides ever to have appeared. Plus, with the possible exception of a North American field guide for those unfamiliar with that

avifauna, one can now carry a single field guide on a trip, thus saving weight in additional literature previously required to cover those groups inadequately treated in the old edition. In any case, given a certain degree of iconoclasm and a pair of scissors it is always possible to remove the plates with their facing notes for field use and keep the main text back at lodgings.

In sum, Steve Hilty has produced a monumental work, unequalled in this hemisphere in its scope and accuracy. Its utility will extend far beyond the frontiers of Venezuela, making it invaluable for workers in neighbouring countries, especially those lacking field guides. *Birds of Venezuela* second edition is an essential buy for all who are interested in Neotropical ornithology and is exceptionally good value for money too. Not to be missed.

As a last note, I hope that the publishers have plans to produce a Spanish edition or to facilitate a local edition. The existing Spanish editions have been of vital importance in encouraging a new generation of Venezuelan birders, even though many of them are fluent in English. After all, it is only through such initiatives that we will ensure that future editions of *Birds of Venezuela* contain more and not fewer species.

Christopher J. Sharpe

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**A field guide to the birds of Peru**  
by James F. Clements and Naom Shany, illustrated by Dana Gardner and Eustace Barnes, 2001. Barcelona: Lynx Edicions. 283 pp, 127 colour plates. UK£40.



Twenty years ago there were rumours that a field guide to the birds of Peru was in the pipeline and 15 years ago such a book was purportedly imminent. It was being written by the great Ted Parker. Then, on 3 August 1993, tragedy struck as Ted Parker died in a plane crash and the original project almost went with him. Ten years on we have a field guide to the birds of Peru but not the one that was so long awaited. Nevertheless, one exists, at last! Thanks to James Clements and team.

As for Clements and Shany's guide, it has to be said from the outset that it is far from perfect. Not that there are any perfect bird books of course, but it is clearly not in the same league as, for instance, Hilty and Brown's groundbreaking *Birds of Colombia*. I suspect, however, that it was never meant to be so and was produced, at least to some degree, out of sheer exasperation that nothing like it existed. How, after so long, could a country like Peru not have a usable field guide? Perhaps the terrible years of the *Sendero Luminoso* insurgency and the latter organisation's propensity for killing all and sundry, including birders, was part of the problem. However, this is the only field guide available at present and that the book was produced in a relatively short time period is remarkable considering the vast number of species involved. That new species were being discovered throughout the book's gestation must have been problematic. All respect is due to James Clements and his colleagues for finishing this book at all, regardless of its undoubted shortcomings. It must be said that, as the book was originally intended merely as a site guide illustrating only endemics not covered in other books, any criticism could easily be claimed to be pedantic and nitpicking.

However, one of the first things that any birder will notice when flicking through the book will be the rather short species accounts and the apparent paucity of information. Indeed, many accounts do appear rather short on information. Having stated this, the book is of course described as a field guide. But, if you describe a book as a field guide, it must equally be of use in the field and I suspect that its use in this respect is actually rather limited. As an annotated, illustrated checklist it is really very good. The lack of a single identification guide for field use has always been a major problem for birders visiting Peru. Unfortunately, I don't think that this guide is the answer.

Clements and Shany have undoubtedly done a great job in collating all of the information in this book and it is difficult to imagine how any guide to the birds of Peru could be more concise. Again, I must remark that the sheer number of species involved would make many authors stop and think again (and again) about undertaking such a project.

The illustrations are very variable in their quality and style, but as an illustrator I am a little reluctant to be too critical. Most birders base their

first impressions of such a book on the plates and in this one many are very good. Others are rather simple in style but are still usable. I see few depictions that are not useful to some degree, although some extreme differences in style may confuse, e.g. the two plates of swallows. But, most importantly, they still serve a purpose. Again, given the lack of an alternative, I must hesitate in being overly critical. My main gripe is the way in which some of the plates have been computer-altered to create a composite collection of images. The Rufous Wren *Cinnycerthia unirufa* on Plate 103 appears strange to me, as the image was obviously painted by a different artist to the rest of the page. The red colours in many of the plates are too intense; the Oilbird *Steatornis caripensis* represents a good example of this problem. The Lawrence's Thrush *Turdus laurencii* doesn't appear to sport an obvious yellow eye-ring, the most obvious feature of an otherwise rather featureless bird.

Inserted into the back of the book is a corrigenda which is useful, although other mistakes remain uncorrected, e.g. on Plate 60 the figure labelled as Marañón Spinetail *Synallaxis maranonica* is actually a Plain-crowned Spinetail, *S. gujanensis*. The small vignette, no. 3, on Plate 33 is mislabelled; it is a roosting Great Potoo *Nyctibius grandis*. These errors suggest that the project was a little too rushed in production. On the plus side, the references within the text to sources for the vocalisations of many species represent one of the best features of the book. This is a novel idea, gaining increasing favour in identification guides, and is very useful.

The descriptions of status and distribution of some species are a little odd. For example, White-browed Tit-spinetail *Leptasthenura xenothorax* is described as being 'fairly regular along the Abra Malaga road'. As the book was originally conceived as a site guide, this is particularly confusing. Anyone who has travelled that road knows that you must trek into what little is left of the *Polylepis* forest to have any chance of seeing the species. Here again I might be accused of being pedantic but you will not find that bird along the Abra Malaga road itself! Elusive Antpitta *Grallaria eludens* is described as





'uncommon'. Some birders who have lived in Peru for many years have never seen this bird. It is rarely even heard and is aptly named, as even if you do hear one, you probably still won't see it! Buff-tailed Sicklebill *Eutoxeres condamini* is described as 'uncommon', as is Green Hermit *Phaethornis guy*. The latter is quite a common bird in its range, whereas the sicklebill is definitely not. Information on species status is often crucial to your chances of encountering them. It is important to know if what (you think) you are observing is a common bird or an extremely rare one. Clements and Shany have actually made a pretty good job in this respect, and I have merely highlighted a few examples that I would question. At the other extreme, the complete lack of such information was a major fault in the original *Birds of Venezuela*.

All of my comments should be taken within the context of an available reference book versus nothing! One day, I trust, there will be a guide to the birds of Peru which will be sufficient on its own, but for the time being I think we will still have to carry the two volumes of *The birds of South America*, and *Birds of Colombia*, *Birds of the high Andes*, and now this new guide too. But, for all its faults, I like this book. It's a first, and all birders like firsts. It's not a great first, but at least the book exists and is packed with information. So, now you really will need a porter. But, those guys need the work. They'll just have to carry a little extra weight. Tip them another couple of bucks!

Clive Byers

**Nightjars and their allies** by D. T. Holyoak, illustrated by Martin Woodcock, 2001. Oxford: Oxford University Press. 773 pages, 23 colour plates, many line drawings and maps. Hardback, £50.

**Toucans, barbets and honeyguides** by Lester L. Short and Jennifer F. M. Horne, illustrated by Albert Earl Gilbert, 2001. Oxford: Oxford University Press. 526 pages, 36 colour plates, 17 colour photographs, 132 distribution maps. Hardback, £60.

**Ratites and tinamous** by S. J. J. F. Davies, illustrated by Michael J. Bamford and Danika Loomes, 2002. Oxford: Oxford University Press. 310 pages, 12 colour plates, 55 distribution maps. Hardback, £49.50.

These three offerings are the most recent in Oxford University Press' Bird Families of the World series. Overall, they maintain the high production standard of the six earlier volumes in the stable, inasmuch as the texts are clear, well represented and easy on the eye, the colour artwork appears to be faithfully reproduced and the range maps are at a scale that permits ease of use. Given that no

previous review of the Bird Families series has appeared in these pages, it is worthwhile to first draw attention to the general style and presentation of these works.

In comparison to the Helm/Pica monographs (now amalgamated under the Christopher Helm/A. & C. Black umbrella), with which many readers will doubtless be familiar, there is a much greater accent within the OUP series on providing an overview of the biology and ecology of the family under review. Thus, for instance, *Nightjars and their allies* contains chapters introducing the group, then discussing evolution and classification, speciation and biogeography, habitats, migration, and hibernation, food and feeding ecology, nocturnal signalling, breeding biology, and moult. The other works explore some of the same, as well as different, themes according to the group under review, but all are considerably more expansive than the average Helm monograph introduction (with some meritorious exceptions). Thereafter follow the species accounts, with the plates sandwiched within the book's core. Again, compared to the Helm series, there are some differences, with perhaps greater attention, on average, paid to life history topics, and less accent placed on identification. Mensural data are usually tabulated, whereas they are presented as raw text within Helm monographs. All told, the accounts appear more expansive, in large part due to the liberal use of space, which generates a favourable, uncluttered impression.

However, for users the downside to such an approach is obvious: these books retail at a good 25% higher price than a typical Helm monograph, and surely many purchasers of these works are already having to more than watch their pennies to keep up with the barrage of ornithological literature currently being produced. Observant readers will also note that all of the groups treated in the works under review have also already been covered by *Handbook of the birds of the world*. (It should be noted that this is not the case for the entire series.) So, do you really need to buy these titles, especially as the toucans and relatives volume has been authored by the same pair of researchers responsible for the relevant accounts in *HBW*, and Holyoak authored the owl-nightjars and frogmouths for the latter work?

Dealing with the three in conventional taxonomic sequence, I found the ratites and tinamous volume deeply disappointing, especially for the latter group. Stephen Davies certainly knows his Australasian ratites well enough, and these are covered in exemplary detail, but one cannot help suspecting that the tinamous were a mere adjunct, included to assist sales. The plates are sadly basic and do little to convey the beauty of a live tinamou, perhaps unsurprising given that I would hazard a strong guess that the artist has next to no field

knowledge of these birds. The text for these birds appears to be largely a rehash of Cabot's work for *HBW*, amplified using generous quotations from some of the major works on Neotropical birds. The literature on tinamous is not rich, making it doubly important to access what is available; unfortunately, several very obvious works are not cited. There are a number of careless grammatical mistakes, particularly for Brazilian place names, which will engender either laughter or derogatory remarks among South American ornithologists, I know not which. Nonetheless, if you are seeking only a good sourcebook for ratites, then this work will still be worthy of a look.

*Nightjars and their allies* fared much better. The plates are attractive and much less stylised than those in the Pica Press monograph, but flight images are only available as black-and-white artwork within the species account itself, with the female partially masked by the male, in old-fashioned field guide fashion! The text is also generally very impressive, although without conducting a specific search I still noted examples of missed literature, occasionally from the same issues of journals from which Holyoak quotes other information, and a few South American place names were again consistently misspelt (I hasten to add that my remarks do not concern obscure localities, but appertain to states, major rivers and the like). On the plus side, Holyoak's style of referencing enables interested readers to immediately trace the relevant page of the paper or book he is quoting for any fact. Those with more than a passing interest in a particular species will warmly welcome such an approach. Overall, this is an attractive and largely comprehensive summation of our current knowledge of the Caprimulgidae and their close relatives. Of course, the churlish might argue that Holyoak's groundwork had already been laid, by Cleere & Nurney (1998, the Pica guide) and, in 1999, by *HBW*, of which Holyoak was one of the authors. Nonetheless, while those who merely seek a guidebook to identify the world's nightjars can probably rely solely on Cleere & Nurney, readers seeking something more will enjoy poring over the current work.

Finally, we come to my 'pick of the bunch'. Short and Horne's review of the Piciformes, other than woodpeckers, is a really super piece of work, written by two experts in the field. The artwork, at least for the South American species, is a treat and the text provides a level of detail for these three groups beyond that in *HBW*, which sections Short and Horne also authored. Nevertheless, given the virtually coincident appearance of *Toucans, barbets and honeyguides* and the relevant volume of *HBW*, I can imagine that many potential purchasers will choose the latter option alone. Given the current heavy demands on hard-pressed pockets, both

private and institutional, such a decision is difficult, nay even impossible, to criticise, but do take a peek at *Toucans*, in particular, as it is quite simply a marvellous book, on a par with my previous favourite in the Bird Families series, Frith and Beehler's *The Birds of Paradise*.

Guy M. Kirwan

**Songs of the antbirds** by Phyllis R. Isler and Bret M. Whitney, 2002. Ithaca NY: Macaulay Library of Natural Sounds, Cornell Laboratory of Ornithology. Boxed set of three CDs with booklet. US\$39.95.

These CDs come with impeccable credentials: Isler, with her husband Mort, is working on a handbook of the antbird family that is eagerly awaited, the couple having already written the definitive handbook on tanagers. Whitney has worked extensively throughout the Neotropics, the home of the antbird family, and has an encyclopedic knowledge of bird vocalisations.

More than 270 species are covered and the authors have managed to locate recordings of all but seven: two bushbirds and five antpittas. The CDs are limited to the songs of these species ('loudsongs' to use Ed Willis' terminology, which has been adopted by the Islers and Whitney) and there are no calls, rattles, scolds or alarms, except where these were recorded along with the songs. The classification of species generally follows Sibley & Monroe and is similar to that used by Ridgely & Tudor with a few recent published changes. The authors have steered clear of subspecies names but where there is geographical variation in song, of the sort that could lead to misidentification, examples of the different songs are included. For instance, there are six examples of the song of Warbling Antbird *Hypocnemis cantator*. In many of these cases, no doubt, the different forms will be shown to be species but the authors do not comment on such potential splits. Thus, two examples are included of the song of Rusty-backed Antbird *Formicivora rufa* and no mention is made that the second is by a taxon that two Brazilian ornithologists are describing as a separate species. As more work is done in Amazonia, especially, many new vocalisations will come to light and many new species. Mario Cohn-Haft has shown this to be true of *Hemitriccus* flycatchers and predicts the same for other Amazonian genera.

The geographical coverage of the CDs is somewhat skewed. Although more than half the Amazonian forest lies in Brazil, only 20% of the Amazonian cuts were recorded in Brazil, presumably because the principal contributors of recordings worked mainly in other countries. Ted Parker, for instance, did much of his work in Peru and many of his recordings are included.



The quality of the recordings is almost without exception excellent. Many of them are rare or even unique and it has been tremendously exciting for me to listen for the first time to the songs of newly described species like Northern Chestnut-tailed Antbird *Myrmeciza castanea* or others with very restricted distribution such as Yapacana Antbird *M. disjuncta* or Grey-bellied Antbird *M. pelzelni*. All ornithologists and birders working (or playing?) in the Neotropics will consider these CDs an essential tool.

Jeremy Minns

**Aves das montanhas do sudeste do Brasil (Birds of the mountains of southeastern Brazil)** by Luiz P. Gonzaga and Gloria Castiglioni, 2001. Over 100 species on a single CD. Arquivo Sonoro Prof. Elias Coelho, Departamento de Zoologia, Instituto de Biologia, Universidade Federal do Rio de Janeiro. €18/US\$16.

Featured on this CD are 141 vocalisations (songs and calls) of more than 100 bird species. The booklet gives the scientific, Brazilian and English names of each, and the vocalisation type, locality, date and recordist for each recording. Sixty-five of the selected species are endemic to the Atlantic Forest region. Among the more widespread species are those that are commonly heard in the mountains or have distinctive voices, such as the Rufous-browed Peppershrike *Cyclarhis gujanensis* (which indeed sounds quite different from Bolivian birds), Rufous-bellied Thrush *Turdus rufiventris* and Rufous-collared Sparrow *Zonotrichia capensis*.

For many species on this CD, knowing the voice is essential to locate them (nightbirds, antpittas) or to differentiate them from similar species (e.g.,

Cryptic *Chamaeza meruloides* and Rufous-tailed Antthrushes *C. ruficauda*, which are both presented on the CD).

All recordings are of very good quality. I found no looping, and the technical editing is good in other aspects as well. In a few cases, the lower frequencies are too rigorously removed for my taste (for example on tracks 33, 37, 41 and 70), making them sound rather thin and unnatural.

The booklet is a jewel to the eye: the watercolour painting on the cover by Gustavo Marigo, of a calling Black-and-gold Cotinga *Tijuca atra* on a mossy branch against misty montane forest, is very evocative, and the centrefold photograph of forest and mountains makes one yearn to walk around there, and listen to the birds!

A minor gripe is that the booklet never mentions if playback was used. This may of course indicate that playback was never used, but I find that a bit hard to believe in some cases. Two other remarks: there is a call of Sharpbill *Oxyruncus cristatus* on track 44 (a recording of Cherry-throated Tanager *Nemosia rourei*, now there's a special bird!) that is unfortunately not mentioned in the text, which is a pity because Sharpbill is not otherwise included on the CD; and the vocalisations of Yellow-olive Flycatcher *Tolmomyias sulphurescens* are very different from what one hears from this species in Bolivia, providing another indication, I think, that this 'species' really consists of a number of lookalike species.

The authors write in the foreword: 'Many other interesting species, which could not be included, may be featured in a future volume'. I hope the 'may' has already become a 'will', and that we will not have to wait long!

Sjoerd Mayer



# Bulletin Board



## Information needed on Cerulean Warbler *Dendroica cerulea* south of the USA border

Cerulean Warbler *Dendroica cerulea* populations have declined substantially in the past 35 years. Stimulated in part by consideration of listing the Cerulean Warbler as threatened in the USA under the Endangered Species Act, a group of ornithologists from South and North America has begun exploring the possibility that the population size of this species may be partially or largely limited by conditions in its wintering range or during migration. This consideration will hopefully lead to conservation measures beneficial to Cerulean Warbler and the many other species with which it shares habitat in South and Central America. El Grupo Cerúleo, the Cerulean Warbler Conservation Initiative, is a large and diverse group, including representatives from the five northern Andean nations, Canada, various international NGOs, the academic community, the forest products industry, and federal and state agencies in the USA. The group is reasonably confident that it has reviewed existing specimen data and published information on wintering records from the northern Andes and in transit records from South and Central America, Mexico and the Caribbean. These data are scanty, however. Convinced that unpublished observations can significantly increase our understanding of the non-breeding distribution of this bird, and thus opportunities to undertake conservation measures, we request interested people to send us details on Cerulean Warbler sightings outside of the USA and Canada. Please include the following information for each observation: observer, date, precise locality (country, province, and as much detailed information on locality as possible, hopefully including coordinates), elevation, time of day, conditions or quality of observation, number of warblers observed (with age and sex if possible), habitat description, and any other potentially useful comments (nature of flocks and associated species with which Cerulean Warbler co-occurs, etc.). All information will be properly acknowledged. Please submit your records to: Paul Hamel, Center for

Bottomland Hardwoods Research, P.O. Box 227, 432 Stoneville Rd, Stoneville, MS 38776, USA. Phone: (662) 6863167. Fax: (662) 6863195. E-mail: phamel@fs.fed.us.

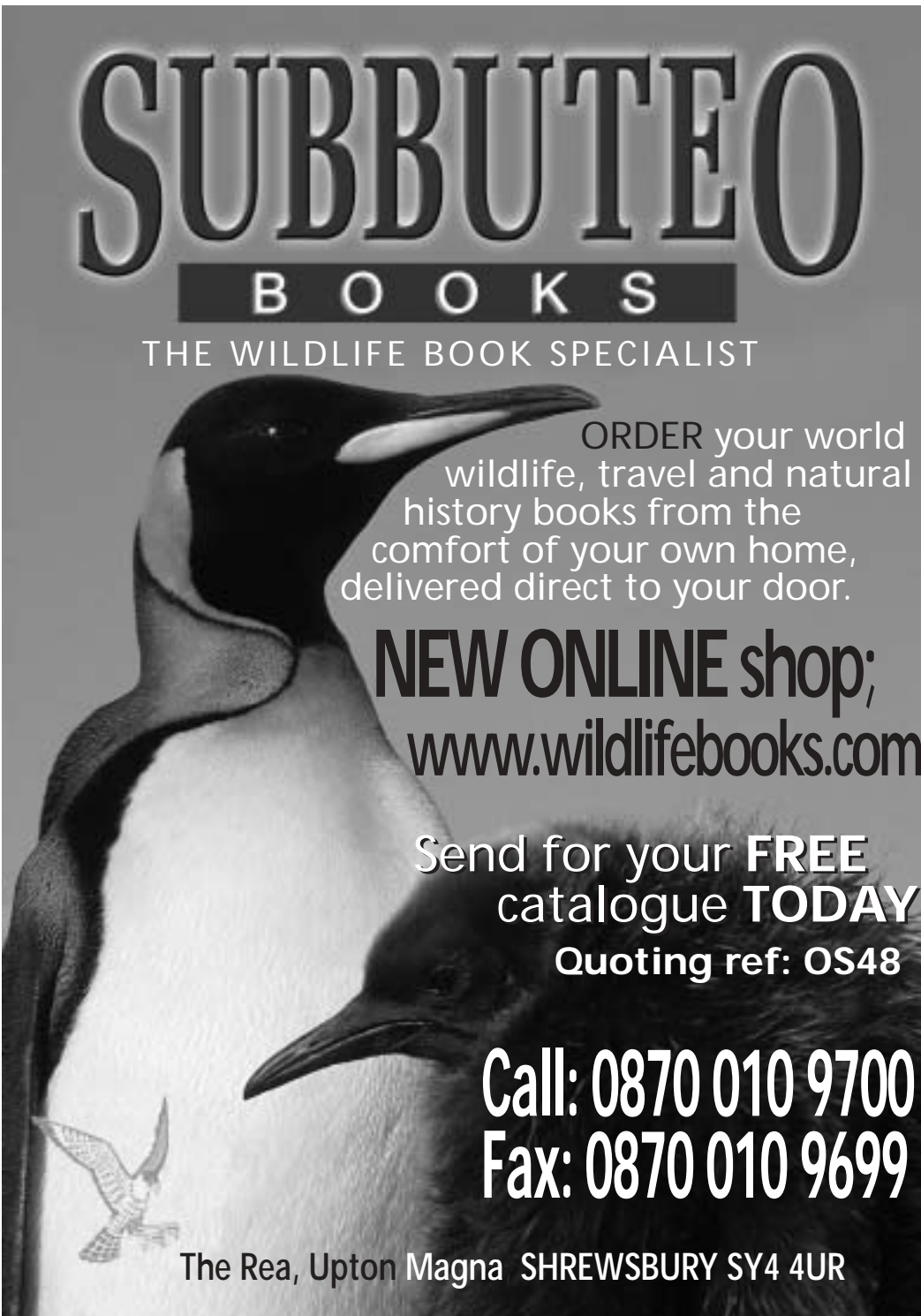
## New Internet resource

Birders or ornithologists with a serious interest in taxonomy, distribution and nomenclature may wish to view a new website, put together by John Penhallurick. The site enables you to search for any species of bird and view its English name (with species endemic to a particular country clearly denoted), scientific name, French name, German name, Spanish name, English synonyms, Peters family name, Sibley & Monroe family name, Gill (second edn.) family name, as used by Clements, habitat, distribution, threat status (for those species listed in the BirdLife International Red Data Books), criteria for threat status, and annotated synonymy for every generic, subgeneric, species and subspecies name. The author advises that there are a number of explanatory documents on the site that explain what he is doing and why, and he urges readers to view these first. The site should be considered as work in progress and is being expanded working through the Peters order. Updates should be available on a monthly basis. The site can be viewed at either: <http://www.worldbirdinfo.net> or <http://www.worldbirdinfo.bribieisland.net>. Contributed by John Penhallurick *in litt.* to NEO-ORN Listserv, March 2003.

## Nightjar photographs wanted

Photographs of nightjars and related families are urgently required for a new, high-quality, comprehensive photographic guide currently in preparation. This title is to be published by WILDGuides Ltd., with profits benefitting BirdLife International. Slides are preferred and all photographs used will be fully acknowledged. If you are able to assist, please contact Nigel Cleere, 2 Hawthorn House, Roundfields, Upper Bucklebury, Berks. RG7 6RQ, UK. E-mail: [cleere@churr.freeserve.co.uk](mailto:cleere@churr.freeserve.co.uk).





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- foster an interest in the birds of the Neotropics amongst birdwatchers throughout the world
- increase awareness of the importance of support for conservation in the region
- mobilise the increasing number of enthusiastic birdwatchers active in the region to contribute to the conservation of Neotropical birds
- provide a forum for the publication of articles and notes about Neotropical birds, their identification and conservation and thus enhance information exchange in this subject area
- channel efforts towards priority species and sites, drawing attention to conservation needs
- publicise the activities of local groups and individuals, and improve liaison and collaboration between these same people and other birdwatchers

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### Cover illustration and artwork for this issue

Moustached Woodcreeper *Xiphocolaptes falcirostris* by David Beadle

Please direct correspondence to: Neotropical Bird Club, c/o The Lodge, Sandy, Beds. SG19 2DL, U.K.

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## Editorial Guidelines

The **NEOTROPICAL BIRD CLUB'S** biannual journal *Cotinga* provides a forum for news, notices, recent publications, expedition results, reviews and publication of studies on Neotropical birds by contributors from all parts of the world. The accent of papers and short notes is on new distributional and temporal information, including new country records, new data concerning biology, particularly breeding, and novel interpretations concerning taxonomy, particularly descriptions of new taxa. Studies of particular localities are welcomed. Contributions in English, Spanish or Portuguese are considered by the Senior Editor, Managing Editor and an Editorial Committee, and accepted subject to editing and refereeing. Copies of new journals, books or reports for mention or reviewing are always welcomed. All contributions or enquiries should be sent to the Managing Editor *Cotinga*, Neotropical Bird Club, c/o The Lodge, Sandy, Bedfordshire, SG19 2DL, U.K.

### Guidelines for contributors

**Papers** These should be written clearly, scientific and vernacular names should appear together at the first mention of a species, after which either can be used alone, and names should where possible follow Sibley & Monroe (1990, 1993), American Ornithologists' Union (1998 and subsequent updates; for Middle American and Caribbean birds) or Meyer de Schauensee (1970). For all papers, a summary, usually Spanish (but Portuguese for papers concerned with Brazil, and French for those dealing with relevant islands in the Lesser Antilles and French Guiana) is required. Authors unable to provide a summary in the alternate language should prepare text in English and apply to the editors for assistance.

Contributors of papers describing the avifauna of a particular region/locality that includes a species list should provide an evidence category denoting whether a species was recorded on the basis of the following: sight record, tape-recording, photograph or specimen. References should be cited in alphabetical order at the end of the paper in the same style as the current edition of *Cotinga*. Internet sites/pages, academic theses and unpublished reports are acceptable as references, but should only be cited *in extremis*. Submissions are preferred by e-mail to: Cotingaman@aol.com. Large graphics files are best submitted on CD to the Club's UK address. Please note that the editors reserve the right to reject any submissions that do not conform to the guidelines presented here.

All contributions, including Short Notes, are subject to peer review by one or more independent referees. The Editorial Committee reserves the right to make changes that it deems necessary, and, in the minimum of cases, without prior reference to the author. Maps are welcome, but we cannot accept copyrighted material. Authors will receive an electronic proof to check. It is assumed that all contributors submitting material understand and accept these conditions.

Material for **Neotropical News/Notebook** should follow the format in the current edition of *Cotinga*.

For **Neotropical News**, **Neotropical Notebook** and **Reviews**, the deadline for submission of material is 1 December (February *Cotinga*) and 1 May (August *Cotinga*). The deadlines do not apply to main papers and notes, which will be published as soon as possible after acceptance by the Editorial Committee.

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