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Editorial

After 22 issues and ten years as Senior Editor of *Cotinga,* the time has come to pass on the mantle to someone with fresh ideas so that the journal continues to evolve and maintains its rightful position as the most widely read journal on Neotropical birds. The first issue of *Cotinga*, published in February 1994, was dedicated to the memory of a friend and colleague, Ted Parker. Ted was an inspirational birder, ornithologist and conservation advocate. He was an enthusiastic supporter of the aims and ideals of the Neotropical Bird Club, and would have been proud and happy had he witnessed the revolution that has occurred in Neotropical birding and conservation. This revolution has been effectively documented in the pages of this journal. *Cotinga* has summarised the descriptions of almost 100 new taxa, and highlighted the rediscovery of others, including such enigmatic species as Kinglet Calyptura *Calyptura cristata* and Cherry-throated Tanager *Nemosia rourei.* Importantly, some of these species are being described and rediscovered by birders, and certainly it is the advances in birding, and what birding/birders can offer the ornithological and conservation community that are being reflected in *Cotinga's* pages. The first issue of *Cotinga* contained a short piece about the rediscovery of the Black-breasted Puffleg *Eriocnemis nigrivestis* from the slopes of Pichincha volcano, Ecuador. This Critically Endangered species is now protected within a privately owned reserve at Yanacocha, bought specifically for it. The recently described and Vulnerable Pink-legged Graveteiro *Acrobatornis fonsecai* is now similarly protected within a private nature reserve in the Serra das Lontras of Bahia, Brazil. These success stories, that are increasingly being driven by birders and bird conservationists, must be tempered by the fact that habitats, and thus the birds that we so covet, are being destroyed at an alarming rate right across the Neotropics. Our challenge is to ensure that some of the time we spend watching and studying birds can benefit their conservation: new distributional records, insights into a species' ecology, evidence of habitat loss at an important site, rediscoveries, new species, confirmation that a species still survives at a site, or simply just visiting a site that might be reliant on your entry fee to ensure its protection—these are all important contributions that we can make and that can be communicated through the pages of *Cotinga*.

Wishing you all the very best of Neotropical birds and birding.

David C. Wege
Senior Editor *Cotinga*
Americas Program Manager,
BirdLife International

Club News

Urgent: please consider helping NBC

Following the decision of a number of long-standing members to retire from NBC Council, there is now an urgent need to recruit new members onto the Club's Council. In particular we are looking for individuals to assume the following roles:

Secretary—to coordinate Club activities and respond to member enquiries.

Bookkeeper—to maintain the Club's financial books, bank receipts etc.

Council meetings take place 3–4 times per annum and are generally held in close proximity to central London. The current council have a wide range of professional backgrounds (being a 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 its officers, either by e-mail or the UK mailing address.

Other assistance sought

The Club also wishes to hear from members who might be able to help in other ways, for example:

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

Rutland—the Rutland Bird Fair is one of the Club's most important fundraising events (see below) and Council would be grateful for any help and assistance ín running the stand.

Subscription rates

Due to increased costs, the Club has reluctantly decided that subscription rates will be increased with effect from 2005. Details of the new rates can be found on the enclosed renewal form.

Change in the Senior Editor of *Cotinga*

At the end of 2004, David Wege is standing down as Senior Editor of *Cotinga*, a role he has held since the Club's inception. Council would like to thank David for the vital contribution he has made to NBC. David also deserves much of the credit for helping to ensure that *Cotinga* is now such a widely respected journal. With Jeff Blincow, David produced the first issue of *Cotinga* in 1994, a very different process to the efficient methods used today. He was also instrumental in soliciting many contributions for the early issues of *Cotinga*, something which is now no longer necessary. At the same time, Council also takes the opportunity to welcome George Wallace (Vice President for International Programs at the American Bird Conservancy), who is taking over from David as Senior Editor. Council looks forward to working with George over the next few years and wishes both him and David well.

Questionnaire

NBC is undertaking a survey to establish your views of the Club and *Cotinga*, and to assist us in identifying potential improvements that could be made. Your contribution is very important to us, as it will help us understand what members want from *Cotinga* and how we can best provide that. The questionnaire is also open to non-members to complete, as all opinions are welcome. Please complete the questionnaire within the next two months. If you have access to the Internet, please complete the questionnaire online (follow the links from www.neotropicalbirdclub.org), as this will permit the results to be more readily analysed. The questionnaire is available in English, Spanish and Portugese, and can be requested by e-mail from webmaster@neotropicalbird-club.org. If you return the questionnaire by post please send it to the address at the end of the questionnaire. The results of the questionnaire will be published in *Cotinga*.

Nota de importancia para todos los miembros

El Comité del Club de Aves Neotropical está llevando a cabo una prospección para establecer qué mejoras se le pueden hacer a *Cotinga*. Su contribución a la misma nos es muy importante, ya que nos ayudará a comprender mejor lo que los miembros esperan de *Cotinga*, y cómo podemos proveerlo. En este número de *Cotinga* usted encontrará un cuestionario. Por favor complételo durante los próximos dos meses. El cuestionario está abierto también para ser completado por aquellos que no son miembros, ya que todas las opiniones son bienvenidas.

Si tiene acceso a internet, por favor complete el cuestionario en línea

(www. neotropicalbirdclub.org), dado que ésto ayudará al Comité a analizar los reusltados. El cuestionario se encuentra disponible en Inglés, Español y Portugués, y se puede pedir una versión electrónica a webmaster@neotropicalbirdclub.org. Si está devolviendo el cuestionario por correo convencional, por favor envíelo a la dirección que se encuentra al final del mismo. Los resultados del cuestionario serán publicados en *Cotinga*.

Anúncio importante para todos os membros

O Comitê do Neotropical Bird Club está realizando uma pesquisa para estabelecer quais as melhorias que podem ser feitas na *Cotinga*. Sua contribuição é muito importante para nós, pois ela nos ajudará a compreender o que os membros querem na *Cotinga*, e como nos poderemos atendê-los da melhor maneira possível. Neste número da *Cotinga* você encontrará um questionário. Por favor, preencha-o dentro do prazo máximo de dois meses. Este questionário também está aberto para os não associados, uma vez que todas as opiniões serão bem vindas.

Se você tem acesso a Internet, então por favor, preencha o questionário on-line (www.neotropicalbirdclub.org), já que isto ajudará o comitê a analisar os resultados. O questionário está disponível em inglês, português e espanhol, e uma versão em correio eletrônico pode ser solicitada ao webmaster@neotropicalbirdclub.org. Se você foi enviar o questionário pelo correio convencional, então por favor, utilize o endereço listado ao fim do questionário. Os resultados serão publicados na *Cotinga*.

NBC website

The Club is pleased to announce the introduction of a new feature on the NBC website that permits visitors view video sequences of birds from across the Neotropics. Species featured to date include Scarlet-banded Barbet *Capito wallacei*, Crescent-faced Antpitta *Gralliricula lineifrons*, Ocellated Tapaculo *Acropternis orthonyx* and Harpy Eagle *Harpia harpyja*. Follow the links from the home page (www.neotropicalbirdclub.org). The Club is keen to expand this part of the website and members with relevant footage are encouraged to send this to the Club's UK address. We can currently accept footage either in electronic format (i.e. on a CD or DVD) or on Digital 8 or Hi 8 tapes.

Payments by credit card

Members who wish to renew their subscription by credit card are requested to do so via the Club's website, as this considerably reduces administration time and the Club's bank charges are also lower.

Gift Aid

Members who pay UK tax can ensure their membership is worth an additional 28% to the Club by completing a gift aid form. The Club would be grateful if members who have *Cotinga* sent to an address outside the UK but pay UK tax would request a copy of this form.

Donations

We would like to acknowledge the following members who have made separate donations since the publication of *Cotinga* 21: Paul Bryant, Mitchell A. Byrd, John Caddick, Lionel Cartlidge, Matthew Cassetta, D. G. Chelmick, Terence Cooper, Shaun P. Coyle, Christian Dietzen, Dick Filby, Miss E. Forbes, Alberto Garcia Rios, Tony Gibbs, Malcolm Green, Alan Hands, Matthew Hiron, Ole Lemming, Christine Lynn, Allan Mee, Mike Milton, Martyn Overton, Dr Clive Peat, Dennis Vrettos, Dr Bruno Walther, M. J. Whitehouse, Andrew Whittaker and Jeanie B. Wright.

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.

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 Club address. Please state clearly which colours and sizes are required. More details can be found on

the Club's 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.

New NBC Checklist for Venezuela

The Club's new Venezuela checklist was published in 2003 and follows the style of the Trinidad & Tobago checklist published several years ago. This lists all species in Hilty (2003) in a 56-page, 15-column format and 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 second in a series of lists for Neotropical countries that the Club plans to produce over the next few years. The list sells for UK£5.00 or US$8.00 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. The Trinidad & Tobago list is still available (UK£4.00 or US$6.00, and postage rates as above).

Trip reports

The Club has an archive of trip reports generously provided by members. It will be possible to download many of these from the Club website shortly. 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 should write to one of the NBC addresses. Please note that postage is additional.

Birding Venezuela 1995...UK£11/US$16.50 (A)
Birding Costa Rica 1996..UK£11/US$16.50 (A)
Birding Bolivia 1997 .....UK£13/US$21 (B)
Birding Ecuador 1998–99 ....UK£20/US$30 (B)
Birding Peru 2000.....UK£15/US$22.50 (B)
Birding Dominican Republic
& Puerto Rico 1999.....UK£5/US$7.50 (A)
Birding Eastern Brazil
(update to Birding Brazil)..UK£10/US$15 (B)

Postage rates
UK.....Rate A: £1.00, Rate B: £2.00
Europe.....Rate A: £2.50, Rate B: £4.00
RoW .....Rate A: US$5.00, Rate B: US$8.00
.....(or sterling equivalent)

Corporate Members

NBC wishes to thank the following Corporate Members for 2004: Birdquest, Bird Songs International, Canopy Tower, Limosa Holidays, Lynx Edicions, Sierra Llorona, Sunbird, Subbuteo, The Travelling Naturalist, WildSounds and Wildwings.

E-mail addresses

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

Advance notice of the 2005 AGM

The Club AGM will be held on 29 May 2005 at Cley Village Hall, Cley, Norfolk, UK. Details of the meeting will be included with *Cotinga* 23 and on the website.

Adverts on the Club website

Visitors to the Club website may notice a number of discrete adverts. This is a source of funds for the Club, as every time the links are followed the Club receives a payment from Google.

Advertise with NBC in Cotinga

Black-and-white advertising rates:

Full page	$165	£100	14.5	x	20.5	cm
Half page	$100	£60	14.5	x	10	cm
Quarter page	$65	£40	7	x	10	cm

Colour advertising is also available in conjunction with fully acknowledged colour sponsorship. Space is also available for short classified advertisements at $5 (£3) per line (average 6 words) with boxed entries (minimum 2cm2) at $16 (£10) per cm2, $2 (£1) extra per insertion. Copy deadlines are 15 December (February issue) and 15 June (August issue). Please post early to avoid disappointment.

All advertisements must be sent prepaid (cheques made payable to the Neotropical Bird Club) as camera-ready copy or film to:

Advertising Officer, The Neotropical Bird Club,
c/o The Lodge, Sandy, Bedfordshire, SG19 2DL, UK

Neotropical Bird Club
Conservation Awards

New Awards • Nuevos Premios • Novos Prêmios

Council is delighted to announce five new Conservation Awards for the first part of 2004. Other potentially suitable applications remain under consideration, and successful candidates will be announced in the next *Cotinga*. Council continues to seek collaborative ventures with co-sponsors—to the benefit of bird conservation in the Neotropics. We particularly thank Swarovski Optik plc for their generous sponsorship of the 2004 NBC–Swarovski Conservation Award, which we announce here.

El Consejo se complace en anunciar cinco nuevos Premios de Conservación otorgados durante la primera parte de 2004. Aún están siendo consideradas otras solicitudes que pueden ser apropiadas, y los candidatos que resulten elegidos serán anunciados en la próxima *Cotinga*. El Consejo está procurando expandir estas colaboraciones en asociación—para el beneficio de la conservación de las aves en el Neotrópico. Estamos muy agradecidos a Swarovski Optik plc por el generoso patrocinio del Premio de Conservación CAN–Swarovski 2004, que es anunciado aquí.

Conservation assessment of extant habitat for Bolivian Spinetail *Cranioleuca henricae*

Council has allocated the 2004 NBC–Swarovski Conservation Award, of US$2,400, to Ebert Rocha and Juan Carlos Crespo, who are working with Armonía (BirdLife Partner in Bolivia) to further the conservation of Bolivian Spinetail *Cranioleuca henricae* through the investigation and prioritisation of potential reserve sites. This Endangered species, only recently discovered and known from three river basins, occurs in a vulnerable habitat, of which none is currently protected. Ebert and Juan have been undertaking survey work to locate extant populations and suitable habitat with the greatest potential as reserves for conserving the species.

Preliminary results suggest that Bolivian Spinetail is more widespread than previously thought, with populations throughout the río Cotacajes basin (where it was often among the commonest species, with almost two singing males per ha). However, the species was not found at two sites within the río La Paz and río Consata basins where it had been recorded previously. Little remaining dry inter-Andean forest was found in these catchments, and it seems unlikely that they support viable populations of Bolivian Spinetail. This means that although the population is somewhat larger than thought previously, the range is considerably smaller, possibly only some 200 km^2. Conservation recommendations are currently being prepared, and are expected to include the creation of a reserve in the Cotacajes Valley and the implementation of a community programme to promote sustainable forest use in the area.

Evaluación de la conservación del hábitat existente para el Trepadorcito Boliviano *Cranioleuca henricae*

El Consejo les otorgó el Premio de Conservación CAN–Swarovski 2004, de $2.400 a Ebert Rocha y Juan Carlos Crespo, quienes están trabajando con Armonía (el socio de BirdLife en Bolivia), para avanzar en la conservación del Trepadorcito Boliviano *Cranioleuca henricae* a través de la investigación y evaluación de prioridad de sitios potenciales para una reserva. Esta especie En Peligro, recientemente descubierta y registrada en tres cuencas, habita una región vulnerable, donde no se encuentra protegida. Ebert y Juan han estado realizando prospecciones para localizar poblaciones actuales y hábitat apropiado para identificar sitios con el mayor potencial como reservas para la conservación de la especie.

Los resultados preliminares sugieren que *C. henricae* está más ampliamente distribuido de lo que se creía, con poblaciones a lo largo de la cuenca del río Cotacajes (donde regularmente resultó una de las especies más comunes, con apenas menos de dos machos cantando por ha). De todas maneras, la especie no pudo ser re-localizada en dos sitios en las cuencas de los ríos La Paz y Consata donde había sido registrada. Se encontró poco bosque seco interandino remanente en estas cuencas, y parece improbable que sustenten poblaciones viables de la especie. Esto significa que si bien la población es algo mayor de lo que se creía, el rango de distribución de la especie es bastante menor, posiblemente de apenas unos 200 km^2. Actualmente se están preparando recomendaciones de conservación, y se espera que contengan recomendaciones para la creación de una reserva en el valle de Cotacajes, y la implementación de un programa comunitario para promover el uso sustentable del bosque en el área.

Genetic structure and distribution of the Sierra Madre Sparrow

Council has made a Conservation Award of US$800 to Adán Oliveras de Ita for his work on the Sierra Madre Sparrow *Xenospiza baileyi*, an Endangered Mexican endemic. Adán will complement his earlier work on this species, which was also supported by NBC and reported in *Cotinga* (15: 43–47, 2001). He will assess the species' distribution in Jalisco and Durango, where it has not been recorded since 1951. Adán will then determine the genetic structure of the remnant populations of the species, on the basis of DNA analysis. Finally, he will use these data to develop recommendations for conservation action for the species.

Estructura genética y distribución del Gorrión Serrano

El Consejo ha otorgado un Premio de Conservación de $800 a Adán Oliveras de Ita, para su trabajo sobre el Gorrión Serrano *Xenospiza baileyi*, un endemismo mexicano En Peligro. Adán va a complementar su trabajo previo sobre esta especie, que había sido patrocinado por el CAN y publicado en *Cotinga* (15: 43–47, 2001). El evaluará la distribución de la especie en Jalisco y Durango, donde no ha sido registrado desde 1951. Adán determinará entonces la estructura genética de las poblaciones remanentes de la especie, con base en el análisis de ADN. Finalmente, tomará los datos que junte sobre genética, población y ecología, para desarrollar recomendaciones para acciones conservacionistas para la especie.

Community ecology and conservation of bird assemblages in arid zones of northern Venezuela

Council has given a Conservation Award of US$700 to Adriana Rodríguez-Ferraro, a Venezuelan ornithologist at the University of Missouri–St Louis, who will compare species-richness, community composition and abundance of birds in Venezuelan arid zones. The associated Endemic Bird Area is poorly known and very inadequately represented in the country's protected areas system. Target species include one Vulnerable (Yellow-shouldered Amazon *Amazona barbadensis*) and one Near-Threatened (Maracaibo Tody-flycatcher *Todirostrum viridanum*) species. Adriana will also examine patterns of genetic diversity within and between populations of restricted-range and habitat-specialist birds across their distributional range in Venezuela. Finally, she will identify habitat characteristics that determine habitat use by restricted-range and habitat-specialist species.

Ecología de comunidades y conservación de ensambles de aves en las zonas áridas del norte de Venezuela

El Consejo otorgó un Premio de Conservación de $700 a Adriana Rodríguez-Ferraro, una ornitóloga venezolana de la Universidad de Missouri–St Louis, quien va a comparar la riqueza de especies, composición de las comunidades y abundancia de aves en las zonas áridas del norte de Venezuela. El Area de Endemismo para Aves asociada a esta zona es poco conocida e inadecuadamente representada en el sistema nacional de áreas protegidas. Las especies foco del estudio incluyen una Vulnerable (Cotorra Cabeciamarilla *Amazona barbadensis*) y una Casi-amenazada (Titirijí de Maracaibo *Todirostrum viridanum*). Adriana también examinará los patrones de diversidad genética entre y dentro de las poblaciones de aves de distribución restringida y especialistas de hábitat a lo largo de la región. Finalmente, ela identificará las características del hábitat que determinan el uso de hábitat por las mismas.

Birds of north-east Manabí, Ecuador

Council has made a Conservation Award of US$580 to Luis Alberto Madrid Jiménez for his work to locate nests of Grey-backed Hawk *Leucopternis occidentalis*. This species is an Endangered raptor, endemic to Tumbesia—the region to be sponsored by the British Birdwatching Fair 2004. The nest of *L. occidentalis* has yet to be described; Luis will also gather data on the species' behaviour and ecology.

Aves del nordeste de Manabí, Ecuador

El Consejo le ha otorgado un Premio de Conservación de $580 a Luis Alberto Madrid Jiménez para su trabajo de localización de nidos de Gavilán Dorsigris *Leucopternis occidentalis*. Esta especie de rapaz se encuentra En Peligro, y es endémica de Tumbes—la región que será patrocinada por la British Birdwatching Fair 2004. El nido de *L. occidentalis* aún no ha sido descrito; Luis también recabará datos sobre la ecología y comportamiento de la especie.

Conservation status of the Andean Condor in extreme southern Patagonian Chile

Council has given a Conservation Award of US$370 to Alejandro Kusch Schwarzenberg for field work on the Near-Threatened (and increasingly scarce) Andean Condor *Vultur gryphus*. Alejandro aims to locate and map roosting sites in the Magallanes region of Chile, to assess its ecological requirements in the area, and to determine the species' population status in the region.

Estatus de conservación del Cóndor Andino en el extremo sur de la Patagonia chilena
El Consejo premió a Alejandro Kusch Schwarzenberg con un Premio de Conservación de $370 para realizar su trabajo de campo sobre el Cóndor Andino *Vultur gryphus*, una especie Casi-amenazada y cada vez más escasa. Alejandro pretende localizar y mapear los sitios de descanso en la Región de Magallanes, Chile, para estimar sus requerimientos ecológicos en estas áreas, y determinar el estatus de la población de la especie en la región.

Updates • Novedades • Atualidades

Great Green Macaw workshop, Ecuador
NBC Council awarded a grant to Eric von Horstman of the Fundación Pro-Bosque to organise a workshop to assist conservation of the threatened Great Green Macaw *Ara ambigua* in Ecuador. Just 20–30 pairs of the critically endangered subspecies *A. a. guayaquilensis* remain in two separate populations in Ecuador's coastal forests. The Workshop for the Elaboration of the National Conservation Strategy for the Great Green Macaw was held on 25–26 September 2003. The primary objective was to bring together Ecuadorian and international experts to review advances in investigations and regional conservation programmes, as well as identify gaps and ultimately prepare recommendations for the species' conservation. The workshop, deemed a success by its participants, brought together, for the first time, researchers working with *Ara ambigua* in Ecuador and Costa Rica. Follow-up work will commence in early 2004 to establish the Great Green Macaw Working Group in Ecuador and to implement recommendations contained in the action plan.

Taller sobre el Guacamayo Verde Mayor, Ecuador
El Consejo del CAN premió con una beca a Eric von Horstman de la Fundacion Pro-Bosque, para organizar un taller para asistir en la conservación del Guacamayo Verde Mayor *Ara ambigua*, una especie amenazada en Ecuador. Apenas 20–30 parejas de la subespecie *A. a. guayaquilensis*, críticamente amenazada, restan en dos poblaciones separadas en los bosques costeros secos y húmedos del Ecuador. El Taller para la Elaboración de la Estrategia Nacional de Conservación del Guacamayo Verde Mayor fue llevado a cabo el 25–26 septiembre 2003. El objetivo principal fue juntar a 22 expertos ecuatorianos e internacionales para revisar las investigaciones y programas de conservación regionales, así como identificar los vacíos existentes, para preparar recomendaciones para la conservación de la especie. El taller, que fue considerado un éxito por los participantes, reunió por primera vez a los investigadores de Ecuador y Costa Rica que trabajan con *Ara ambigua*. Se comenzarán trabajos que continúen éste a comienzos de 2004 para establecer el Grupo de Trabajo de Guacamayo Verde Mayor en Ecuador, para implementar las recomendaciones contenidas en el plan de acción.

James Lowen
E-mail: awards@neotropicalbirdclub.org

Neotropical News

GENERAL

Threatened birds update

BirdLife International, with the assistance of their international network of contacts, has completed their update of the conservation status of the world's bird species. *Threatened birds of the world 2004* builds on the book of the same name, developing a number of the themes initiated in 2000. The information should be available on BirdLife's website (http://www.birdlife.net/datazone/index.html) by the time this volume of *Cotinga* is published.

- BirdLife International *in litt*. June 2004

Threatened birds of the Americas on CD-ROM

BirdLife International has launched a CD-ROM version of *Threatened birds of the Americas*, in Spanish. The CDs are available upon request, providing postage is covered, which on average, works out to US$10 for 1–3 CDs and US$15 for 4–5. Limited copies (400) are still available, on a strictly first-come, first-served basis. Copies can be requested by writing to BirdLife International in Cambridge (visit www.birdlife.org.uk) or through birdlife@birdlife.org.ec.

- Ian Davidson *in litt*. June 2004

CARIBBEAN

DOMINICAN REPUBLIC

National Parks system threatened by new law

A new law, awaiting signature by the government and the president of the Dominican Republic, would open the country's national parks up to development. Not only will the law lead to the destruction of endangered ecosystems, especially coastal wetlands, but also it seems that the development initiatives concerned possess little support amongst local people. Protected areas affected are the Parque del Este and Jaragua National Park (part of a UNESCO Biosphere Reserve), which harbours ten endemic birds, the largest breeding colony of White-crowned Pigeon *Columba leucocephala* and the Caribbean's largest Sooty Tern *Sterna fuscata* colony. In addition, Important Bird Areas and globally important sites for Hawksbill Turtle (Critically Endangered) and West Indian Manatee are directly threatened. For more information or to help, please contact: Yvonne Arias, Grupo Jaragua (jaragua@tricom.net) or Rosa Lamelas, Consorcio Ambiental Dominicano (cad@verizon.net.do).

- BirdLife International, 28 May 04
- http://www.birdlife.org/news/news/2004/04/dominican_pa.html

SOUTH AMERICA

BOLIVIA

Blue-throated Macaw project

New surveys conducted in the Llanos de Mojos, Beni, have found small numbers of the Critically Endangered Blue-throated Macaw *Ara glaucogularis*. Other threatened species encountered were Crowned Eagle *Harpyhaliaetus coronatus*, Rufous-faced Crake *Laterallus xenopterus*, Cock-tailed Tyrant *Alectrurus tricolor* and Black-masked Finch *Coryphaspiza melanotis*. The project, a joint initiative of Asociación Armonía and Fundación Loro Parque, is continuing with the strategy of population monitoring, working with landowners and international campaigning to save the macaw from capture for the illegal cagebird trade, but has also taken on a new direction in opening an office in Trinidad to improve public awareness and widen the scope of the project's educational programme. As part of the 2003 Species Recovery Plan, further conservation NGOs are being included in the project and will help in identifying specific sites in need of protection actions (private reserves, departmental parks, conservation concessions); a nest site creation programme; direct actions to stop illegal macaw traffickers; habitat improvement projects; nest site monitoring and ecological student research projects.

- *Asociación Armonía Update* (February 2004)
- *World Birdwatch* 26 (1): 10 (March 2004)

Ash-breasted Tit-tyrant and Royal Cinclodes conservation programme

New sites have been discovered for Royal Cinclodes *Cinclodes aricomae* (Critically Endangered) and Ash-breasted Tit-tyrant *Anairetes alpinus* (Endangered), and a conservation effort is seeking to build local support for *Polylepis* forest conservation. Meanwhile, the previously known location for these species of Choquetonga has been listed as an Important Bird Area, and plans are being elaborated for site-specific actions there.

- *Asociación Armonía Update* (February 2004)

First-ever biological expedition to the Cordillera Mosetenes

An international team of 11 biologists became the first people to survey the 130-km-long lower Yungas cordillera in Cochabamba. The cordillera is isolated from the rest of the Andes, and is uninhabited and inhospitable. Work was conducted at 1,200–1,600 m, although the highest peaks reach 2,050 m. The unique plant and animal communities differed markedly from expectations, based on geographically similar parts of Cochabamba, with some taxa rare

or absent and others exceptionally common, including the Vulnerable Bolivian Recurvebill *Simoxenops striatus* and Yungas Antwren *Myrmotherula grisea*, or diverse.
• *Asociación Armonía Update* (February 2004)

Other Asociación Armonía species projects

Armonía (the BirdLife partner in Bolivia) is undertaking or planning a range of projects on threatened species and their habitats, all of which aim to strengthen local, national and international support for their conservation. Projects include: a study of the Titicaca Flightless Grebe *Rollandia microptera* on Lake Titicaca, in Peru and Bolivia, which has confirmed threats previously identified (see *Cotinga* 21: 10), but produced higher than expected population estimates; a habitat and population assessment of Wattled Curassow *Crax globulosa* on the lower río Beni, and its conservation through development of local support for a hunting ban and protected area; a community-based education, exchange and ecotourism development programme, together with population, behavioural, feeding and migration studies of Red-fronted Macaw *Ara rubrogenys*; a conservation assessment of Bolivian Spinetail *Cranioleuca henricae* (see Conservation Awards); surveys seeking new localities for an undescribed *Phyllomyias* tyrannulet in the lower Yungas of dpto. La Paz; population and habitat preferences of Cochabamba Mountain-finch *Poospiza garleppi*; designation of 23 Important Bird Areas (IBAs) and 22 potential IBAs, with further field assessments of the potential IBAs planned. Contact Armonía at armonia@scbbs-bo.com for more information.
• *Asociación Armonía Update* (February 2004)

BRAZIL

Murici pact

A new pact, signed by conservation NGOs in Brazil, including BirdLife International, is an important step in the bid to save the remaining 61 km² of Atlantic Forest at Murici, and the 15 globally threatened birds inhabiting the area.
• *World Birdwatch* 26 (2): 4 (June 2004)

FALKLAND ISLANDS

Rockhopper Penguin population crash

Surveys of the Steeple Jason Island population of Rockhopper Penguin *Eudyptes chrysocome* (Vulnerable) in 2003 revealed that the population has declined to 30,000 breeding pairs from 89,000 in 2000. Algal poisoning and possibly changes in ocean currents and food availability are thought to be to blame.
• *World Birdwatch* 26 (2): 5 (June 2004)

UK ratification of the ACAP

The UK has ratified the Agreement on the Conservation of Albatrosses and Petrels (ACAP), which, because the Falkland Islands, British Antarctic Territory, South Georgia and South Sandwich Islands are covered, will help to protect seabirds in the Southern Ocean, although Tristan da Cunha has not been included. Furthermore, the Falkland's Islands government has formally adopted National Plans of Action to reduce the seabird by-catch of fishing in its waters.
• *World Birdwatch* 26 (2): 8 (June 2004)

VENEZUELA

Venezuelan Audubon Society reactivated

Traditionally the country's most active bird conservation organisation and national partner of BirdLife International, the Venezuelan Audubon Society (SCAV) had been relatively inactive for over a year. The Society's Extraordinary General Assembly of 20 November 2003, in Caracas, voted in a new Board of Directors. The new board hopes to revive SCAV through field outings, projects, courses for beginning birders and by assisting visiting birdwatchers. SCAV can be contacted by e-mail at audubon@cantv.net or by telephone on +58-212-9922812 and 9923268.
• Chris Sharpe *in litt*. March 2004

Second Venezuelan Important Bird Areas (IBAs) workshop

The Second Venezuelan Important Bird Areas (IBAs) workshop took place in mid-2003 with support from BirdLife International and Conservation International. The workshop sought to build on the first IBA workshop (November 2000) by confirming the sites that had been proposed and producing preliminary lists of their avifauna. According to Miguel Lentino, the Venezuelan Audubon Society's IBA Project Director, the IBA Programme is focusing on areas where IBAs would coincide with existing protected areas. Most of Venezuela's endemic or restricted-range species occur within at least one protected area, with only three species—Barred Tinamou *Crypturellus casiquiare*, Orinoco Softtail *Thripophaga cherriei* and Táchira Emerald *Amazilia distans*—found entirely outside protected areas. The proposed IBAs cover most of Venezuela's biomes with 18 in the Guyana region, 16 in coastal systems, nine in the Andean Cordillera, 11 in the Central Coastal Cordillera, three in the Caripe–Paria Highlands, 11 in the llanos and Orinoco Delta, and five in the Maracaibo basin.
• Chris Sharpe *in litt*. March 2004

Venezuelan Audubon Society Avethón (Birdathon / Bird Race)

The seventh annual Venezuelan Audubon Society Avethón took place on 26 October 2003 as part of BirdLife International's World Bird Festival. Twenty-two people took part and the five teams spent the morning birding at sites around Caracas. The winning team racked up a total of 89 species.
• Chris Sharpe *in litt*. March 2004

Training workshop for bird guides

The first Training Course for Wildlife Guides has been held in the Rancho Grande Biological Station, Henri Pittier National Park. The course was sponsored by Fundacite Aragua, Rancho Grande Biological Station, the Museum of

the Institute for Agricultural Zoology of the Universidad Central de Venezuela (MIZA-UCV), and the Venezuelan Parks Institute (Inparques). The emphasis of this course was on promoting birdwatching as an activity within Henri Pittier National Park and its surroundings. Some 30 local participants attended courses given by Carlos Verea of the UCV and Chris Sharpe of Provita.

• Chris Sharpe *in litt*. March 2004

Paria Peninsula threatened by deforestation after road completed…

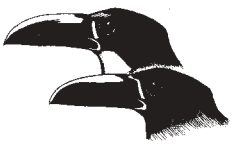
The Paria Peninsula, home to five endemic species, at least 13 endemic subspecies and four globally threatened species, is in further trouble. By mid-2003 the new road connecting Güiria, at the base of the peninsula, to Macuro, at its tip, was complete and partially surfaced. The road is expected to increase shifting cultivation of cash crops and therefore increase the already worrying rate of deforestation.

… and by liquefied natural gas extraction

At the same time the Marsical Sucre (formerly Cristóbal Colón) liquefied natural gas (LNG) project was reactivated through a framework agreement signed on 9 June 2003. The $2.7 billion project is a partnership between PDV Gas (60% ownership), Shell (30%), Mitsubishi (8%) and other Venezuelan organisations (2%). Marsical Sucre is projected to produce 4.7 million tonnes of LNG per year, mostly for export to the USA. Shell say the project involves the extraction of 10 trillion cubic feet of gas resources in the Norte de Paria fields, in the Caribbean north of the peninsula, which will be piped over the mountains to a plant on its south shore. Conservationists are concerned that the project may try to pass the pipeline through the already highly threatened Paria Peninsula National Park. So far oil companies have not disclosed their plans, nor has an Environmental Impact Assessment been carried out. The project is scheduled to begin production in 2007.

• Chris Sharpe *in litt*. March 2004

Taxonomic Round-up



Using Wedge-billed Woodcreeper to establish area relationships for Neotropical birds

Studies of the distribution of South American taxa have identified several areas of endemism that may have contributed to historical diversification in the region. A recent attempt to construct a phylogeny of Wedge-billed Woodcreeper *Glyphorynchus spirurus* populations, using mtDNA sequence data, has been used to evaluate hypotheses concerning area-relationships, two based on phylogenetic studies of morphological characters in birds and three based on parsimony analysis of endemism in birds and primates. The analyses recovered two phylogenetic hypotheses that differed in the placement of one of the areas. Within each of the areas of endemism, the two analyses support the same clades. Neither of the phylogenetic hypotheses for *Glyphorynchus* exactly matches any of the five previous hypotheses of area-relationships, although ambiguous support exists for one of them. Five areas—Central America, Inambari, Napo, Pará and Rondonia—are supported as composites with component taxa having phylogenetic affinities with more than one area. The data reported by Marks *et al*. also indicated high levels of sequence divergence within *Glyphorynchus*. Genetic breaks within *Glyphorynchus* are only partially congruent with subspecific taxonomy. The regional sampling design ensured that this study was the largest-scale genetic assay of a widespread Neotropical avian taxon thus far published to date.

- Marks, B. D., Hackett, S. J. & Capparella, A. P. (2002) Historical relationships among Neotropical lowland forest areas of endemism as determined by mitochondrial DNA sequence variation within the Wedge-billed Woodcreeper (Aves: Dendrocolaptidae: *Glyphorynchus spirurus*) *Mol. Phyl. & Evol*. 24: 153–167.

Whither lies the Saw-billed Hermit?

Saw-billed Hermit *Ramphodon naevius* is a distinctive and attractive endemic hummingbird to south-east Brazil. Its affinities have long been pondered. A recent analysis of the cytochrome-*b* gene of this species and 11 other hummingbirds suggests that *Ramphodon* is a sister taxon of the hermit subfamily (Phaethornithinae), which evolved fairly recently. It is most closely related to the genera *Glaucis* and *Threnetes*, and given the presence of another, similar, species endemic to eastern Brazil, Hook-billed Hermit *Glaucis dohrnii*, the authors suggest that this region might have been an important locus for radiation within this group of hummingbirds.

- Bleiweiss, R., Hendrickson, S. L., Berres, M. E., Willis, Y. O. & Willis, E. O. (2003) Affinities of the Saw-billed Hermit (*Ramphodon naevius*) determined by cytochrome-*b* sequence data. *Wilson Bull*. 115: 1–10.

A 'new' phylogeny for the Anseriformes

An mtDNA study of the phylogenetic relationships among Anseriformes has sequenced data from 45 waterfowl representing 24 genera, permitting the construction of an apparently robust phylogeny of the group and comparing it with existing phylogenies based on morphological or molecular data. *Chauna* and *Dendrocygna* were identified as early offshoots of the Anseriformes. All of the remaining taxa fell into two clades that correspond to the subfamilies Anatinae and Anserinae. Within Anserinae, *Branta* and *Anser* clustered together, whereas *Coscoroba*, *Cygnus* and *Cereopsis* formed a relatively weak clade, of which *Cygnus* diverged first. Five clades were clearly recognisable among the Anatinae: (i) the Anatini, with *Anas* and *Lophonetta*; (ii) the Aythyini, with *Aythya* and *Netta*; (iii) the Cairinini, with *Cairina* and *Aix*; (iv) the Mergini, with *Mergus*, *Bucephala*, *Melanitta*, *Callonetta*, *Somateria* and *Clangula*; and (v) the Tadornini, with *Tadorna*, *Chloephaga* and *Alopochen*. The Tadornini apparently diverged early from the Anatinae, then the Mergini, and thereafter a large group comprising the Anatini, Aythyini, Cairinini, and two isolated genera, *Chenonetta* and *Marmaronetta*. Whereas morphological analysis had effectively resolved the split between Anatinae and Anserinae, and had defined some of the clades, the precise composition of the clades is different when morphological and molecular data are compared.

- Donne-Gousse, C., Laudet, V. & Hanni, C. (2002) A molecular phylogeny of Anseriformes based on mitochondrial DNA analysis. *Mol. Phyl. & Evol*. 23: 339–356.

Further perspectives on the relationship between Red-backed and Puna Hawks

Red-backed *Buteo polyosoma* and Puna Hawks *B. poecilochrous* have enjoyed a somewhat chequered taxonomic history, with the most recently published analysis, by Farquhar (in 1998), concluding that the two are conspecific under the name *polyosoma*. A new study, however, has now re-emphasised the differences between the taxa,

namely in plumage morphs, use of habitats, diet, hunting techniques, movements and breeding behaviour, and concluded that the two represent different species under the Biological Species Concept.

- Cabot, J. & de Vries, J. (2003) *Buteo polyosoma* and *Buteo poecilochrous* are two distinct species. *Bull. Brit. Orn. Club* 123: 190–207.

New World Fringillidae under the phylogenetic spotlight

Systematic studies of Fringillidae have long been problematic due to their apparent recent and explosive diversification. The authors of a recent study have presented phylogenetic hypotheses of 44 fringillids that represent the overall diversity of the family. Monophyly of Fringillidae and its two constituent subfamilies, Fringillinae and Emberizinae, was consistently supported with the exceptions of *Peucedramus* being placed outside of Fringillinae and *Euphonia* being placed within Fringillinae instead of within Emberizinae. Within Emberizinae, Thraupini (tanagers), Cardinalini (cardinals and grosbeaks) and Emberizini (New World sparrows) did not form separate monophyletic groups. The results of the study indicated that Emberizinae consists of three clades, each with a different overall geographical distribution. Several taxa traditionally considered members of Thraupini fall outside of the thraupine clade, including the only North American genus, *Piranga*. Consequently, the Thraupine clade includes only Neotropical species. Increasing evidence suggests that Fringillidae does not actually possess a New World origin.

- Yuri, T. & Mindell, D. P. (2002) Molecular phylogenetic analysis of Fringillidae, "New World nine-primaried oscines" (Aves: Passeriformes). *Mol. Phyl. & Evol*. 23: 229–243.

Reconstructing a phylogeny for the tree swallows

The nine members of the genus *Tachycineta* have recently been compared using DNA sequences of six mitochondrial genes. The authors of the study were able to reconstruct a phylogeny for the genus consisting of two main clades: South American (Tumbes Swallow *T. stolzmanni*, White-winged Swallow *T. albiventris*, White-rumped Swallow *T. leucorrhoa*, Chilean Swallow *T. meyeni*) and Central American species (Mangrove Swallow *T. albilinea*), and North American and Caribbean species (Tree Swallow *T. bicolor*, Violet-green Swallow *T. thalassina*, Golden Swallow *T. euchrysea*, Bahama Swallow *T. cyaneoviridis*). Genetic distances between species suggested that *Tachycineta* is a relatively old group compared to other New World swallow genera. The most interesting biogeographic discovery was the close relationship between Caribbean and western North American taxa, a connection that occurs in other groups of swallows and swifts.

- Whittingham, L. A., Slikas, B., Winkler, D. W. & Sheldon, F. H. (2002) Phylogeny of the tree swallow genus, *Tachycineta* (Aves: Hirundinidae), by Bayesian analysis of mitochondrial DNA sequences. *Mol. Phyl. & Evol*. 22: 430–441.

DNA sequencing techniques used to test earlier hypotheses concerning relationships among different tyrant-flycatcher genera

Carlo Cicero and the late Ned Johnson sequenced mitochondrial DNA for 26 taxa to test W. E. Lanyon's hypothesis of intergeneric relationships and character evolution in the *Empidonax* group of tyrant-flycatchers. Of these, three genera (*Empidonax*, *Contopus* and *Sayornis*) occupy north temperate habitats for breeding, while the remaining genera (*Mitrephanes*, *Cnemotriccus*, *Aphanotriccus*, *Lathrotriccus* and *Xenotriccus*) are restricted to Neotropical latitudes. Lanyon hypothesised two major clades in the group based on differences in syringeal morphology and proposed relationships among genera using a combination of morphological, behavioural, and allozyme characters. The mtDNA data strongly supported Lanyon's division of genera into two clades. In addition, the molecular and non-molecular data both suggested that *Aphanotriccus* and *Lathrotriccus* are sister taxa, with *Cnemotriccus* basal to these genera. Species of *Aphanotriccus*, *Lathrotriccus* and *Cnemotriccus* form a clade that exploits a distinctive nesting niche relative to other members of the *Empidonax* group. Within the second major clade, the mtDNA sequences supported a reconstruction based on allozymes that places *Contopus* and *Empidonax* as sister taxa. This hypothesis contradicts that of Lanyon, who allied *Contopus* with *Mitrephanes* on the basis of similarity in foraging mode. Genera in the *Empidonax* group are members of a larger assemblage that radiated in South America.

- Cicero, C. & Johnson, N. K. (2002) Phylogeny and character evolution in the *Empidonax* group of tyrant flycatchers (Aves: Tyrannidae): a test of W. E. Lanyon's hypothesis using mtDNA sequences. *Mol. Phyl. & Evol*. 22: 289–302.

An update on status of birds from Isla Cozumel, Mexico

Steve N. G. Howell

Cotinga 22 (2004): 15–19

Este artículo se basa en 20 días de trabajo de campo (entre octubre y enero, 1993–2003) en la Isla Cozumel, Quintana Roo, México. Se discute el estatus de 29 especies, incluyendo varias que no habían sido reportadas previamente en la isla. Cuatro taxa endémicos han sufrido reducciones marcadas en sus poblaciones desde comienzos de los 1990s: *Buteo magnirostris gracilis*, *Centurus p. pygmaeus*, *Centurus aurifrons leei* y *Piranga roseogularis cozumelae*. Se discuten las posibles razones de estos declinios. La lista de aves de Cozumel ahora suma 224 especies.

The island of Cozumel lies only c.20 km off the north-east coast of Mexico's Yucatán Peninsula but has a distinctive avifauna, including several endemic species and subspecies plus a number of Caribbean birds rare on the Mexican mainland. Howell & Webb[8] listed 203 species recorded from Cozumel and noted another 35 species of hypothetical occurrence, mainly those known from specimens with doubtful locality data. Subsequent observations have confirmed the occurrence of four hypotheticals—Ruby-throated Hummingbird *Archilochus colubris*, Louisiana Waterthrush *Seiurus motacilla*, Dickcissel *Spiza americana*, and Bobolink *Dolichonyx oryzivorus*[2,10]. Recent documented additions to the Cozumel avifauna are American White Pelican *Pelecanus erythrorhynchos*, Mourning Warbler *Oporornis philadelphia* and Blue-black Grassquit *Volatinia jacarina*[2,11,13]. Macouzet & Escalante[11] also reported Orange-crowned Warbler *Vermivora celata*, Nashville Warbler *V. ruficapilla*, Canada Warbler *Wilsonia canadensis*, and Red-throated Ant-tanager *Habia fuscicauda*, but I question the identification of at least the first (23 September would be a notably early date for an Orange-crowned Warbler in eastern Mexico—and even in the eastern USA[3]) and last of these species (a sedentary resident on the mainland). Howell[6] also listed recent records of Rose-throated Becard *Pachyramphus aglaiae*, Warbling Vireo *Vireo gilvus*, Grey-crowned Yellowthroat *Chamaethlypis poliocephala* and Lesser Goldfinch *Carduelis psaltria*, and most recently Gómez de Silva[4] reported two species not listed by Howell & Webb[8]: Couch's Kingbird *Tyrannus couchii* and Grey Kingbird *T. dominicensis*.

This paper is based on 20 days of fieldwork during autumn and winter: 14–16 October 1993, 3–5 December 1996, 3–4 December 1998, 2–3 December 1999 (with Dan Lane), 30 November–1 December 2000 (with Rich Hoyer), 5–8 December 2001, 24–25 January 2002 (with David Yee) and 4–5 December 2003. Additional records of several species were contributed by Héctor Gómez de Silva (HGS) based on visits in 1998–2001, and by Rich Hoyer from a visit on 5–6 December 2002. I discuss the status of 29 species (12 not listed by Howell & Webb[8]), as well as migration timing and the occurrence of non-breeding landbirds whose status on Cozumel is unresolved.

Black-bellied Whistling-Duck *Dendrocygna autumnalis*

Seven at a pond on the east side of the island on 24 January 2002 were unmistakeable: large reddish-brown ducks with long necks, bright red bills, grey faces with white eye-rings, and black bellies to undertail-coverts. In addition, HGS and M. Pérez Villafaña observed seven on Cozumel on 30 April 2001, and D. Klauber (pers. comm.) saw two families on 8 August 2001 (one with two young, the other with 5–6 young).

American Wigeon *Anas americana*

A female with a flock of 65 Blue-winged Teal *A. discors* on 1 December 2000. The wigeon was an overall reddish-brown dabbling duck, larger and stockier than the teal with a steep forehead, relatively short, black-tipped bluish bill, and a greyish head and upper neck.

Roadside Hawk *Buteo magnirostris gracilis*

This very distinctive endemic subspecies (or species?) was fairly common on Cozumel in the 1980s and at least through October 1993, but it has since undergone a marked decline. I have seen none in seven visits, 1996–2003, and Gómez de Silva[4] (pers. comm.) detected only one in four days of intensive birding during late April 2001 and none in annual mid-November visits (of 2–5 days' duration) in 1998–2001. Reasons for the recent declines of this taxon and the two woodpeckers (see below) are unclear.

Short-tailed Hawk *Buteo brachypterus*

Although noted as resident by Howell & Webb[8], this species may simply be a wanderer from the mainland (as appears true of other raptors such as Hook-billed Kite *Chondrohierax uncinatus* and Bat Falcon *Falco rufigularis*). I have seen none in recent trips and the only records known to me are single light-morph birds on 15 February 1982 (pers. obs.), 3 November 1983[16] and 12 May 1986 (pers. obs.).

Mangrove Cuckoo *Coccyzus minor*
Whilst perhaps a breeding resident, as listed by Howell & Webb[8], my only records from Cozumel are from mid-October to early December, during which time they are often conspicuous and fairly common.

Northern Potoo *Nyctibius jamaicensis*
One observed at night on 24 January 2002. This unmistakeable bird was found while spotlighting for nightjars. It was observed at 30-m range, with binoculars and telescope, perched on a bare snag from which it made flycatching sallies. Although known from the Greater Antilles and the Honduras Bay Islands[1], potoos have not been reported previously from Cozumel.

Green-breasted Mango *Anthracothorax prevostii*
Listed as resident in Appendix D of Howell & Webb[8], but correctly described as a summer resident in the species accounts. Mangos arrive on Cozumel in mid to late January and are common through at least mid-July, but I have not seen any on the island in October–December.

Yucatán Woodpecker *Centurus p. pygmaeus* and **Golden-fronted Woodpecker** *Centurus aurifrons leei*
These endemic subspecies appear to have undergone a marked decline on Cozumel in the 1990s (cf. Roadside Hawk). In the 1980s and early 1990s (at least through October 1993) both were common and conspicuous (with 5–10 of each seen easily in a morning). However, in 1996–2003 I found both uncommon to rare, recording only 2–10 Yucatán Woodpeckers and 0–2 Golden-fronted Woodpeckers in 2–3 days birding. The experience of HGS with these species on Cozumel in recent years is similar, and he has detected no Golden-fronted Woodpeckers (pers. comm.).

Yellow-bellied Elaenia *Elaenia flavogaster*
This distinctive species were heard (but not seen) near El Cedral on 7 December 2001. On 5 December 2003, one was studied carefully and heard in brushy fields near El Cedral: a typical *Elaenia*, small bill dull flesh-pink below and tipped dark; bushy crest with conspicuous whitish base; and overall paler than Caribbean Elaenia, with paler wingbars and brighter yellow belly. Calls heard were a burry *breahr* and bickering chatters, quite distinct from those of Caribbean Elaenia *E. martinica*. This species exhibits some winter withdrawal from the Atlantic slope of Mexico in winter[8], and the Cozumel records may represent wanderers from the mainland, although habitat on the island appears suitable for a breeding population.

Eastern Pewee *Contopus virens*
An abundant transient on Cozumel, at least in autumn, with a notably late record of an immature studied on 4 December 1997 (J. Dunn pers. comm.). This bird was an obvious *Contopus* with a long primary projection, fresh plumage (indicating an immature) and an orange-based mandible tipped dark. The upperparts were washed greenish, the wingbars rather bold and whitish, and the underparts whitish with a greyish wash across the breast and onto the flanks. Relative to Tropical Pewee it was greener dorsally and paler ventrally, with long wings. Relative to Western Pewee *C. sordidulus* (unknown in the Yucatán Peninsula) it was greener dorsally and whiter ventrally.

Tropical Pewee *Contopus cinereus*
This species, partially migratory on the mainland[8], is a rare visitor to Cozumel: my only record is one seen and heard on 1 December 2000.

Yucatán Flycatcher *Myiarchus yucatanensis lanyoni*
Although described as a resident taxon[15], I have not found Yucatán Flycatchers on Cozumel during late November to January visits, and Gómez de Silva[4] (pers. comm.) detected none in four days of intensive birding during late April 2001 or in annual mid-November visits in 1998–2001. Further work is needed to elucidate the present status on Cozumel.

Dusky-capped Flycatcher *Myiarchus tuberculifer platyrhynchus*
Although described as an endemic taxon absent in winter[15], I saw and heard small numbers on Cozumel in early-December 1996, 2001 and 2003 (but detected none in 1998, 1999, 2000, or 2002). These may have been lingering migrants (see Discussion). Brown-crested Flycatchers *M. tyrannulus* are common summer residents on Cozumel but absent in winter, as reported by Parkes[15].

Couch's Kingbird *Tyrannus couchii*
Two seen and heard (including calls and dawn song tape-recorded by Dan Lane, deposited at Louisiana State University) on the south side of San Miguel, on 2–3 December 1999, one giving dawn song at the airport, on 8 December 2001, and one calling near El Cedral, on 5 December 2003. These records and small numbers in April 2001[4] suggest this vocally conspicuous species may have recently colonised Cozumel.

Grey-collared Becard *Pachyramphus major*
A female found by Dan Lane at El Cedral, on 3 December 1999, was presumably a vagrant. This uncommon species appears to be an altitudinal migrant in montane Mexico[8] and it may be that the

lowland Yucatán population is also prone to wandering in the non-breeding season.

Rose-throated Becard *Pachyramphus aglaiae*
I observed an adult male and female associating at a fruiting tree on the south side of San Miguel, on 4 December 1996. Presumably these were wanderers from the mainland and they constitute a first island record. They were large-headed and thick-billed birds slightly smaller and more compact than nearby Tropical Kingbirds *Tyrannus melancholicus*. The male was overall medium-pale grey, darker above, with a rose throat patch; the female was greyish above with a darker cap, and pale buff collar and underparts.

Warbling Vireo *Vireo gilvus*
One studied in a fruiting tree on the south side of San Miguel, on 16 October 1993, is a first island record, and appears to be the first record for the Yucatán Peninsula[8,9]. It was smaller and smaller billed than a nearby Yucatán Vireo *V. magister* (but longer billed and longer tailed than Philadelphia Vireo *V. philadelphia*) with a more diffuse face pattern lacking any distinct dark eyestripe. The crown and upperparts were fairly uniform olive-grey with a broad pale supercilium and large dark eye; the underparts were dingy whitish with a faint lemon wash on the flanks; the bill was mostly pale fleshy grey with a dark culmen, the legs blue-grey. This is a drab but distinctive bird with which I am very familiar. The relatively long and mostly pale bill together with the diffuse face pattern suggested an Eastern Warbling Vireo *V. g. gilvus*[17].

Blue-grey Gnatcatcher *Polioptila caerulea cozumelae*
This endemic taxon remains common on the island. It differs in appearance and voice from mainland Blue-grey Gnatcatchers (looking more like Bahama birds) and may be specifically distinct.

Swainson's Thrush *Catharus ustulatus*
Singles at El Cedral on 7 December 2001 and 5 December 2002 were presumably late migrants, as this species does not winter in the Yucatán Peninsula[8].

Palm Warbler *Dendroica palmarum*
A Yellow Palm Warbler *D. p. paludicola* was at the sewage treatment plant on 3 December 1998. Whilst the nominate race of Palm Warbler is a common winter visitor to coastal Yucatán and Cozumel, the striking race *paludicola* is notably rare in Mexico, with only one previous record: from Isla Holbox on 15 April 1987[7].

Grey-crowned Yellowthroat *Chamaethlypis poliocephala*
Howell & Webb[8] considered this species' occurrence on Cozumel unconfirmed but its presence has since been verified (first recorded on 5 October 1991; HGS). It is, in fact, locally fairly common in suitable habitat, e.g. up to ten (singing and calling) seen in a morning in scrubby fields near El Cedral on numerous occasions (pers. obs., HGS). That Grey-crowned Yellowthroats were unrecorded by earlier visitors suggests the species may have colonised Cozumel as a result of increased forest clearing.

Wilson's Warbler *Wilsonia pusilla*
Singles at the sewage treatment plant on 30 November 2000 and El Cedral on 6 December 2001 are the first records from Cozumel. Both were dull-coloured individuals typical of the nominate eastern race, which is a rare winter visitor to the Yucatán Peninsula. They were olive above (with no wingbars or tail-spots) and dull yellow below with a large dark beady eye, cocked tail and dry *chek* call. The 2000 bird was a female, the 2001 bird a male with a black cap.

Rose-throated Tanager *Piranga roseogularis*
This is another species that was fairly common on Cozumel in the 1980s and early 1990s but which HGS and I have not found in 1996–2003 visits. However, Hoyer reported one on 5 December 2002. More work is needed to determine its present status on Cozumel.

Blue-black Grassquit *Volatinia jacarina*
Overlooked by Howell & Webb[8], small numbers occur locally (perhaps irregularly?) on Cozumel. Recent records at El Cedral include five on 4 December 1996, 20+ on 2 December 1999, 4–5 on 29 April 2001 (HGS), 2–3 on 6 December 2001, 4–5 on 24 January 2002, and one on 5 December 2003.

Grasshopper Sparrow *Ammodramus savannarum*
Recent records from Cozumel are few and suggest it may be a transient migrant rather than a winter visitor, *contra* Howell & Webb[8]: 2–3 at El Cedral on 1 December 2000 (pers. obs.), one in an abandoned field beside the cross-island highway on 4 December 1998 (HGS), and one at the sewage treatment plant on 30 April 2001[4].

Savannah Sparrow *Passerculus sandwichensis*
Singles were at San Gervasio, on 4 December 1998 (HGS) and at El Cedral, on 3 December 1999. The latter was a small sparrow with a small pinkish bill, slightly cleft tail, faint yellow supraloral wash and high *tsip* call note; the brownish upperparts and whitish underparts were strongly dark-streaked. Savannah Sparrows are regular winter

migrants to the Yucatán Peninsula but there appear to be no previous records from Cozumel.

Lincoln's Sparrow *Melospiza lincolnii*
Two were at El Cedral, on 3 December 1999, and one there on 1 December 2000. These were fairly small, slender sparrows with a relatively slender greyish bill, fairly long, slightly graduated tail and 'smacking' *tsk!* call. The grey-brown upperparts were dark-streaked with no distinct wingbars, and a grey supercilium, and the malar and finely dark-streaked chest were washed buff. These were probably transients and represent the first records from Cozumel.

Lesser Goldfinch *Carduelis psaltria*
Although not reported prior to the 1990s[8], small numbers of Lesser Goldfinches are now seen regularly around El Cedral. Most adult males are black-backed but an occasional green-backed male is seen, which suggests that some (all?) may have derived from escaped cage birds. Recent records include 15 on 15 October 1993, six on 3 December 1996, 8+ on 3 December 1998, eight on 2 December 1999, 15+ on 30 November 2000, 15 on 6 December 2001, six on 24 January 2002 and 4–5 December 2003.

Discussion

The species accounts here include ten breeding residents or presumed residents, two breeding species of irregular or seasonal occurrence (Black-bellied Whistling-Duck and Green-breasted Mango), nine Neotropical migrants and eight species of uncertain status. Of the residents, four endemic taxa appear to have undergone marked population declines since the early 1990s: Roadside Hawk, Yucatán Woodpecker, Golden-fronted Woodpecker and Rose-throated Tanager. The present status of Yucatán Flycatcher is also uncertain. Whilst Cozumel Thrasher *Toxostoma guttatum* numbers declined abruptly following Hurricane Gilbert in September 1998[8,12], the above species remained fairly numerous through at least October 1993, and only appear to have declined since then. Of possible relevance is that the *Boa constrictor*, apparently introduced to Cozumel in 1971, has become common on the island and could be impacting native bird populations[14].

The nine Neotropical migrants occurred mostly during migration, although some may have been wintering on the island. Of note were the markedly larger numbers of migrants during early-December visits than during late January (with comparable field coverage of sites). For example, mean daily maxima for selected warblers around El Cedral in early December (over five years) were 19 Northern Parulas *Parula americana*, 12 Magnolia *Dendroica magnolia*, 17 Black-throated Green *D. virens* and 15 Palm Warblers, 30 American Redstarts *Setophaga ruticilla*, six Black-and-white Warblers *Mniotilta varia*, ten Ovenbirds *Seiurus aurocapilla*, and 20 Common Yellowthroats *Geothlypis trichas*. In late-January 2002, numbers over the entire island were notably lower: at El Cedral I noted seven Northern Parulas, one Magnolia, five Black-throated Green and six Palm Warblers, 15 American Redstarts, three Black-and-white Warblers, one Ovenbird and five Common Yellowthroats—only 10–50% of early-December numbers. This suggests that migration on Cozumel extends regularly into early December. Records of species that do not winter in the region from Cozumel (Eastern Pewee and Swainson's Thrush) and from the Yucatán mainland (Yellow-billed Cuckoo *Coccyzus americanus* at Río Lagartos, Yucatán, on 1 December 1998; Chimney Swift *Chaetura pelagica* at Felipe Carrillo Puerto, Quintana Roo, on 27 November 2000; pers. obs.) support the premise that birds are still on passage at this season.

The eight species of uncertain status are an interesting mix. Yellow-bellied Elaenia and Tropical Pewee are partial migrants on the mainland, and as such they could be expected to wander to Cozumel occasionally, as occurs with Red-legged Honeycreeper *Cyanerpes cyaneus*. The same may be true for Couch's Kingbird and the two becards, which are frugivores that wander in search of food. Mangrove Cuckoo is an enigmatic species in much of its range and more data are needed for Cozumel, where it may breed. Short-tailed Hawk and Northern Potoo may be irregular (non-breeding?) visitors, but again more data are needed.

The Cozumel list stood at 160 species in 1926, when Griscom[5] noted that 'our knowledge of the avifauna of Cozumel Island is fairly complete.' The Cozumel list is now at least 224 species but much remains to be learned about the breeding status, seasonal occurrence, migration timing and inter-annual abundance of most species recorded from this interesting island. Observers visiting Cozumel can assist by keeping careful notes of species recorded. Studies are needed to ascertain the breeding status and possible causes for decline of a number of species formerly common on the island.

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I thank the observers listed in the introduction, Jon L. Dunn, Héctor Gómez de Silva, Rich Hoyer, Dave Klauber, and numerous tour participants for sharing their observations and for company in the field; and Will Russell and WINGS for enabling me to visit Cozumel. Dan Lane kindly furnished documentary sketches included here. The manuscript benefited from thoughtful review by Héctor Gómez de Silva.

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First report of cavity-nesting in Elfin-woods Warbler *Dendroica angelae* at Maricao State Forest, Puerto Rico

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Se reporta sobre un nido de Reinita de Bosque Enano *Dendrioca angelae* hallado dentro de una cavidad natural de árbol Colorado *Cyrilla recemiflora* en 21 de mayo de 2003 en el bosque de Maricao, región oeste-central de Puerto Rico. La Reinita de Bosque Enano es considerada Vulnerable a extinción y solo se han estudiado con detenimiento dos nidos previamente hallados en el 1992 en Maricao. Las implicaciones de un anidaje en una cavidad en la biología reproductiva de esta especie necesita de mas futuras observaciones en sus hábitos de anidaje. No se conocen de otras *Dendroica* que hayan usado este sustrato para anidar, por lo que el hallazgo es significativo.

The Elfin-woods Warbler *Dendroica angelae* is endemic to Puerto Rico, where it inhabits wet forest, rain forest and lower montane zones in the Cordillera Central[4]. Discovered in 1971 at Luquillo Forest in northern Puerto Rico by Cameron & Angela Kepler[8], a second disjunct population was discovered a year later at Maricao State Forest in the west-central region of the island[7]. The population was estimated at no more than 300 pairs and is classified as Vulnerable by BirdLife International[3].

The only published detailed observations on the nesting biology of the Elfins-wood Warbler were made by Arroyo-Vazquez on two nests found in aerial leaf litter at Maricao State Forest in 1992[1]. Raffaele *et al*.[9] describe the nest of the species as 'a

Figures 1–2. Elfin Woods Warbler *Dendoica angelae,* Maricao State Forest, Puerto Rico, 24 May 2003 (Rafael Rodríguez-Mojica)

Figures 3–4. Nest of Elfin Woods Warbler *Dendoica angelae,* Maricao State Forest, Puerto Rico, 24 May 2003 (Rafael Rodríguez-Mojica)

compact cup, usually close to trunk and well-hidden among epiphytes of a small tree.' It lays 2–3 dull white eggs, moderately to heavily spotted reddish brown, concentrated at the broad end, in March–June. There are no other publications on the breeding biology of the species[10].

Observations

On 24 May 2003 at 10h00 in an abandoned camping area at Maricao State Forest (18º09'N 66º59'W; 742 m), I observed a pair of Elfin-woods Warblers carrying insects to a vertical rotten stump of a *Cyrilla racemiflora*. The begging calls of the nestlings were heard immediately the warblers entered the cavity, confirming the presence of an active nest. I stayed in the area from 10h00 to 15h00 documenting the new discovery with photographs and video. Both members of the pair brought insects to the nest at intervals of 3–5 minutes and, twice, at intervals of c.10 minutes. In 36 minutes I observed a total of 12 deliveries of prey to the nest, or one item per three minutes. On several occasions, one or both warblers vocalised with contact *chip* notes on arriving in the area, circling the tree stump in the branches of nearby trees, approached furtively and then flew to the rim of the stump before entering the cavity. On departing the nest the warblers remained in the area for c.1 minute, maintaining close proximity to each other and at times singing. On a few occasions one bird waited for the other to deliver food at the rim before entering with prey, which consisted of arthropods gathered in nearby forest or from the immediately adjacent trees. Once, I observed two prey items carried simultaneously by a member of the pair.

To examine the nest interior and document clutch status and size I mounted my video camera to the end of a c.10 m-long dry bamboo stick. With this and the remote control of the camera I managed to record that there were four fledglings in the rotten wood cavity.

I visited the area three days later and found no activity at the nest. Again using the camera I was able to confirm that the fledglings had left the nest. I found neither member of the pair and nor could I detect the begging calls of the young in the immediate area. The rotten tree stump and the nest were collected for further study.

The size of the area where the nest was found is 0.5 ha[2] and is separated from nearby forest by a 2 m-wide trail. The area is reforested, mainly with *Pinus caribaea* on its west side but also with native trees such as *Callophylum brasiliense*, *Cyrilla racemiflora* and *Magnolia portoricensis*. Trees had been planted c.1–2 m and there is no understorey vegetation. The trees provide sparse canopy cover. Mean diameter at breast height averaged 7 cm and the mean height was c.8 m. The nest was 7 m above ground and 6 cm deep from the lower border of the irregular rim of the stump. The inside diameter of the cavity at the level of the nest was 6.5 cm. The nest structure consisted of a tightly woven cup of fine plant fibres with dry leaves on its outside.

Discussion

Previously described nests of Elfin-woods Warbler at Maricao State Forest were two cup nests placed in aerial leaf litter within a *Podocarpus*-mixed hardwood association in the subtropical lower montane zone during April and May[1]. Climate at the site is dry and cool in December–May and humid and hot for the rest of the year, with mean annual precipitation of 2,326 mm and temperature of 21.7°C. Aerial leaf litter consists of dead *Cecropia peltata* leaves that fall from canopy trees and become entangled or caught among vegetation or vines. Reasons for the concealed location were hypothesised to be: reduced exposure to predation and reduced exposure to rain and sun, as the *Cecropia* leaves provided cover for the nests. Among well-known avian nest predators at Maricao State Forest include Sharp-shinned Hawk *Accipiter striatus*, Pearly-eyed Thrasher *Margarops fuscatus* and two species of endemic snakes[2,5]. Because of the location of the nests described by Arroyo-Vazquez[1] it was impossible to gather data on clutch size and the number of fledglings.

The nesting event described here differs from previous data in several important aspects. First, the nest was placed inside a rotten tree stump, quite different from the others. No other *Dendroica* species are known to nest in cavities, either in the tropics or in North America[6,9]. Second, the tree was in man-modified habitat with no ground cover and a sparse canopy, therefore making the nest highly visible and exposed to the elements. Third, the brood size of four nestlings was unexpected as usually other West Indian *Dendroica* have clutch sizes of 2–3[9].

Factors that may have played in the selection of nest location are speculative, given the extreme paucity of previous data, but one factor may have been avoidance of forest predators. Additional factors may have been the result of intraspecific territorial competition for nesting sites in nearby forest or a previously unknown tendency for cavity-nesting when appropriate opportunities are available.

Conclusions

Further observations of the species' breeding ecology are required in order to determine the significance of the present report. The perceived plasticity in respect to nest-site selection may be indicative of the Elfin-woods Warbler's adaptability to different habitat conditions within its range, where nest concealment is of paramount

importance. In this respect cavity-nesting may be considered a strategy for avoiding predation. It is also noteworthy that four fledglings were found within such a closely confined space. The discovery of a *Dendroica* nest in a tree cavity is significant as no congeners have been reported using such a site.

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Observations on the vocalisations and behaviour of Black-chested Tyrant *Taeniotriccus andrei* from the Serra dos Carajás, Pará, Brazil

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Apresentamos as primeiras observações detalhadas da utilização de habitat e comportamento de forrageamento de *Taeniotriccus andrei*, acompanhadas pelos primeiros sonogramas publicados de suas vocalizações, com base em observações de dez casais na Floresta Nacional de Carajás, Pará, Brasil. Examinamos a escassa literatura sobre *Taeniotriccus* e fizemos um resumo de sua área de distribuição a partir dos registros anteriores. Constatamos que localmente *Taeniotriccus andrei* é razoavelmente comum, mas facilmente escapa a detecção, no sub-bosque rico em cipós da região de Carajás. Nossas gravações de sua voz e as observações de suas caraterísticas morfológicas apoiam a retenção do gênero monotípico *Taeniotriccus* e fornecem argumentos contra sua fusão com *Poecilotriccus*.

The Black-chested Tyrant *Taeniotriccus andrei* is a distinctive and strikingly plumaged tyrannid that has remained an enigma to Neotropical ornithologists and birders. It occurs locally in eastern Venezuela and northern and south-east Amazonian Brazil, with one record (published without details) from Suriname[4]. The holotype was collected at La Prisión, on the right bank of the lower río Caura

Figure 1. Male Black-chested Tyrant *Taeniotriccus andrei* with its crest erected. Floresta Nacional de Carajás, Pará, Brazil (Kevin J. Zimmer)

Figure 2. Male Black-chested Tyrant *Taeniotriccus andrei*, Floresta Nacional de Carajás, Pará, Brazil (Kevin J. Zimmer)

Figure 3. Male Black-chested Tyrant *Taeniotriccus andrei*, Floresta Nacional de Carajás, Pará, Brazil (Kevin J. Zimmer).

Figure 4. Male Black-chested Tyrant *Taeniotriccus andrei*, Floresta Nacional de Carajás, Pará, Brazil (Kevin J. Zimmer).

(Bolívar, Venezuela) near Trincheras[2], but most Venezuelan records are from swampy mangrove-and-palm-dominated tidal forests in the Orinoco Delta of Delta Amacuro[7]. There are additional Venezuelan specimens from the middle río Caura and the upper río Paragua, and a 13 March 1995 sight record from Caño Colorado, Monagas[8]. North of the Amazon in Brazil, the species is known from northern Amazonas and Roraima, and south of the Amazon from various sites in Pará and northern Maranhão[12,14]. Specimens at the Museu Paraense Emílio Goeldi, Belém, Brazil (MPEG), are from the left bank of the rio Tocantins at Tucurui, Pará (MPEG 32814); the right bank of the Tocantins at Igarape Saude, 20 km from Jacundá, Pará (MPEG 36108), Peixe-Boi, Pará (MPEG 50995, 50996), Ananindeua, Pará (MPEG 29628, 29629) and the rio Gurupi, Maranhão (MPEG 34823); the right bank of the Tapajós at Novo Fazenda, Jaburu, Santarém, Pará (MPEG 49278); and from the Serra dos Carajás, in the highlands of southeastern Pará, on the left bank of the Rio Xingu (MPEG 37287). We know of published specimen records from the following additional sites south of the Amazon: Belém[14], the left bank of the rio Tapajós at Itaituba, Pará[14,15]; and the right bank of the lower rio Xingu, upriver from Altamira, Pará[5].

Despite the number of localities from which the species has been collected, *Taeniotriccus* has proven remarkably elusive in life. Aside from the aforementioned specimen records, we are aware of only a few additional sight records from Brazil: a female seen in 1996 by A. Aleixo at Pinkaiti, within the Kayapó Indigenous Reserve, between the rio Xingu and the rio Araguaia, Pará[1]; and a male seen by J. Minns, G. M. Kirwan and D. Beadle along the rio Parauapebas in the Serra dos Carajás, Pará in February 2001 (J. Minns pers. comm.). J. F. Pacheco (in Sick 1997) stated, without elaboration, that the species 'also exists in the region of the Serra dos Carajás in the formations of the lowlands of the rivers Parauapebas and Itacaiúnas'.[14] Graves & Zusi[12] also reported occasional encounters at their aforementioned collecting site near Altamira. Almost nothing is known of the natural history of the species, and there has been only a single published qualitative description of any of its vocalisations[7,8].

In February 2003, we conducted a ten-day avifaunal survey in the Floresta Nacional de Carajás, Pará, Brazil. We were aware of two previous records of *Taeniotriccus* from the Carajás region: the specimen collected at 'Carajás Serra Norte, Manganes' and housed at the MPEG (MPEG 37287); and the aforementioned sight record from the rio Parauapebas. Given this precedent, finding *Taeniotriccus* was high on our list of objectives in our exploration of the Carajás region.

On the morning of 1 February, and again on the afternoon of 5 February, we worked the floodplain forest along the rio Parauapebas (elevation 190 m), near the locality of the previous sight record by Minns *et al*., but without success. We returned to the area at dawn on 7 February and, this time, split up to cover more ground. Shortly after 07h00, KJZ followed an unfamiliar, frog-like note through the *várzea* understorey to near the river edge, and soon succeeded in locating a pair of *Taeniotriccus*, and in tape-recording the male. We believe this to represent the first tape-recording of the species. He immediately radioed AW, and upon his arrival on the scene, we continued to follow the birds, obtaining extensive video and audio recordings in the process. Continued search, this time using tape playback, yielded a second territory of *Taeniotriccus* along the river.

Now familiar with the voice, on the following day, whilst working *terra firme* forest (267 m elevation) more than 35 km from the rio Parauapebas, we encountered another *Taeniotriccus*, this one in a completely different habitat. Over the next few days we conducted systematic searches of several km of roadside forest, and succeeded in locating an additional seven territories, bringing our total for the region to ten. In the process, we obtained audio and video recordings of several individuals, made extensive observations on habitat, and more limited observations of foraging behaviour.

Habitat

Published information on habitat utilised by Brazilian populations of *Taeniotriccus* is limited. Novaes[10] cited a mist-netted pair of *Taeniotriccus* taken from secondary woodland near Belém, Brazil. G. Graves and R. Zusi, whilst working the east bank of the lower rio Xingu, reported (in Ridgely & Tudor[12]) that *Taeniotriccus* was 'occasionally observed in bamboo-dominated understory in *terra firme* forest, and in rank understory of *Cecropia*-dominated second-growth near the river'. The Monagas, Venezuela, sight record was of an individual 'in bamboo within *várzea* forest, below the canopy in an area where bamboo was admixed with a small, former banana plantation'[8].

The first two territories that we found were in *várzea* forest along the rio Parauapebas. In each case, the birds were never more than 20 m from the river edge, and remained mostly within shaded, dense cover. The first pair foraged mostly within dense vine thickets and tangles in a partially flooded area adjacent to the riverbank. They did not venture into the more open *várzea* understorey. All subsequent territories that we located were in low-lying *terra firme* forest many km from any major river. This forest was not typical upland forest: portions of it were somewhat swampy, and the

canopy was broken and fairly low, with an abundance of *Cecropia*, palms and small leguminous trees and shrubs, with trees of the family Lecythidaceae (seemingly mostly Brazil nut *Bertholletia excelsa* trees) as the primary scattered emergents. This forest is probably best characterised as vine forest[11]. The broken canopy and general absence of large trees are probably anthropogenic in origin. The remainder of the forest is in a seemingly arrested state of perpetual second growth, perhaps partially maintained by the lush blanket of vines that overtop most of the smaller trees. Within this forest, *Taeniotriccus* was found almost exclusively in dense, shrubby borders with abundant vines and often with bamboo intermixed. The species seemed to prefer settings in which light penetration allowed dense foliage and vine tangles to form a fairly solid canopy that shaded open perches below. In several cases, territories of *Taeniotriccus* coincided with those of Peruvian Recurvebill *Simoxenops ucayalae*, Chestnut-crowned Foliage-gleaner *Automolus rufipileatus*, Black-and-white Tody-tyrant *Poecilotriccus capitalis*, and/or Rose-breasted Chat *Granatellus pelzelni*.

Morphology and geographic variation

We noted some aspects of morphology that have not attracted comment in the popular (i.e. field guide) literature. Most noteworthy is the nature of the crest. KJZ observed and videotaped a male that momentarily erected its crest following tape playback (Fig. 1). The feathers involved were the elongate black and rufous feathers of the median crown, and these were erected to a near-vertical position. Aside from this single instance, we did not see another individual with its crest erected. We suspect however, that during intraspecific displays, males may erect their crest in much more dramatic fashion than that witnessed by KJZ. The black feathers of the nape and neck-sides, and to a lesser extent the rufous feathers comprising the ear-coverts, were all clearly elongate compared to surrounding feathers, and appeared as a lax ruff or mane surrounding the back and sides of the head (slight indication of this can be seen in Figs. 2–3). These feathers clearly had some erectile capability, as evidenced by individuals that would partially elevate the feathers, momentarily lifting and separating them from the feathers of the back and lower neck. It is not hard to imagine that these feathers, along with those of the median crown, could be erected as a ruff that encircles the face.

We also noted that the feathers immediately above and in front of the eyes appeared to be longer and somewhat bristly compared to surrounding feathers, and that they seemed to project outward somewhat, almost like an eye comb. This had the effect of making the relatively large eyes appear even larger (Figs. 1–4). At our request, R. Restall examined ten specimens of *Taeniotriccus* held in the Colección Ornitologia Phelps, Caracas, Venezuela (COP), and found the feathers above the eyes of all specimens to be as described here. Restall described the effect as 'if you splayed the fingers of your hand as widely as you could, with the tips forming a three-quarter circle [= around the eye].' Similar bristly feathers in the loral region of some other sally-gleaning species (e.g. *Thamnomanes* antshrikes, Speckled Antshrike *Xenornis setifrons* and Pale-faced Antbird *Skutchia borbae*) have been hypothesised as protecting the eye of the bird as it makes darting sallies into dense vegetation[13,18,20]. We can find no mention of these unique feathers in any of the scant literature on *Taeniotriccus*. Hellmayr[6], in comparing *Taeniotriccus* to *Poecilotriccus*, did note that the rictal bristles of the former were 'much more numerous, less rigid and longer, reaching to about the middle of the bill', but did not mention any stiffened feathers above the eye. Hellmayr, however, was working with only two specimens (an adult female and an immature male), and it is

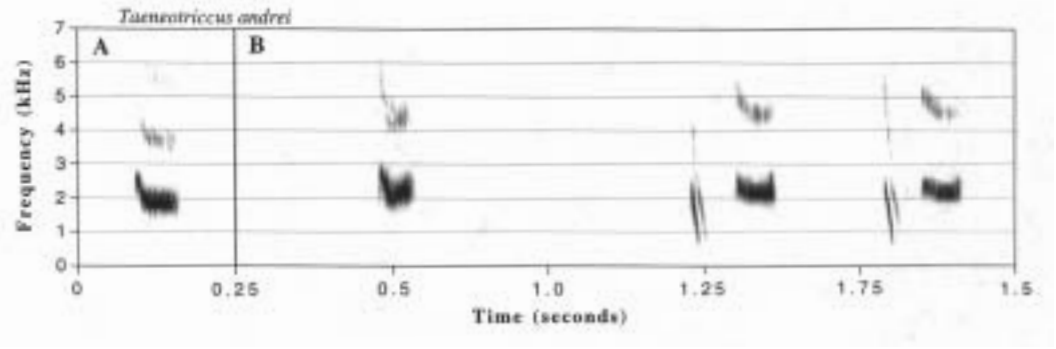

Figure 5. Sonograms of vocalisations of Black-chested Tyrant *Taeniotriccus andrei* from Floresta Nacional de Carajás, Pará, Brazil: (a) single-noted *CHEWP* call, and (b) single-noted *CHEWP* followed by *K'DINK K'DINK* call (recordings by Kevin J. Zimmer)

possible that specimen preparation could have affected the prominence of the feathers above the eye. Restall (pers. comm.) noted that preparation had apparently flattened these feathers on some of the COP specimens.

No mention is made of geographic variation in the popular literature[7,12], but there are two described subspecies of *Taeniotriccus*. Nominate *andrei* was formally described from a single immature male, collected in Venezuela[2]. This holotype was essentially female-plumaged, but with a number of black feathers scattered throughout the chest, indicating it was in transition to adult male plumage[6]. Todd[15] described *Taeniotriccus klagesi* on the basis of an adult female collected from Itaituba, on the left bank of the rio Tapajós (Pará, Brazil). This individual was considered similar to the immature male of *andrei* (minus the scattered black feathers), except for the coloration of the breast (olive-grey versus medal bronze) and abdomen (whitish versus pale yellowish with olivaceous flanks). Hellmayr[6] expressed doubts about the validity of *klagesi*, stating 'I have hardly any doubt that this will prove to be the female of the preceding species [=*andrei*].' J. T. Zimmer subsequently examined 13 specimens of nominate *andrei* from various localities in Venezuela and north-west Brazil[19]. After comparing the female specimens in the series to Todd's type description of *klagesi*, it was Zimmer's opinion that the two were conspecific and possibly even identical. However, he opted to retain subspecific recognition for the two forms, in part because of an absence of male specimens of *klagesi*, and also because of the geographic separation between the known ranges of the two. Subsequent authors[3,17] have typically maintained *klagesi* as a subspecies of *T. andrei*.

If *klagesi* is a valid subspecies, then our birds from Carajás would presumably be assignable to that form. The few females that we observed were all olive-backed, with a conspicuously contrasting grey nape. The latter feature is not mentioned in any field guide literature that we have seen, nor is it mentioned in the type descriptions of *andrei* or *klagesi*, or in Hellmayr's[6] comparison of the two forms. J. T. Zimmer's analysis[19] of the plumage of nominate *andrei* did not mention nape colour in the female specimens, but he described the males as having a rufous nape and a black crest, whilst later describing the adult females as having 'the head pattern of the males but the black crest is a little shorter.' This implies that nape colour in female *andrei* is rufous. In three of four females in the COP (all without subspecific designation, but from Venezuela, and therefore presumably nominate *andrei*), nape colour was considered indeterminate due to poor specimen preparation (but probably not contrastingly grey) and definitely was not grey in the remaining specimen from Bolívar (R. Restall pers. comm.). R. Panza of the Carnegie Museum of Natural History (Pittsburg, Pennsylvania, USA) examined the type specimen of *klagesi*, and found it difficult to determine the nape colour due to specimen preparation, but related that it appeared to be 'sooty' (pers. comm.). This suggests that the contrasting grey nape may be a distinguishing character of females of *klagesi*; one that was overlooked due to nuances of preparation of the holotype. Females that we observed also varied in the degree of colour saturation of the rufous head and face. Some individuals were notably pallid and dull, whereas others were nearly as bright rufous in these areas as were the males.

Observed bare-part colours for both sexes were as follows: iris dark brown, possibly with reddish tint; bill black; tarsi and toes pale grey. We did note some variation in bill colour. The maxilla of all individuals was black. In most males the entire mandible was black as well, but in some individuals the basal portion of the mandible was contrastingly pinkish. Whether this simply reflects individual variation or is age-related is unknown.

Vocalisations

We heard only two types of vocalisations from *Taeniotriccus*, both of which were given spontaneously and in response to tape playback. The most commonly heard vocalisation (particularly among spontaneously calling individuals) was a reedy, single-noted *CHEWP* or *CHERT*, repeated at regular intervals of c.3–4 seconds for up to five minutes or more at a time (Fig. 5a). Much less frequently heard was a pair of couplets (Fig. 5b), the components of which were not distinctly two-syllabled, but sounded more diphthongal, with the first part of the couplet sounding sharper, the second part sounding clearer but with some of the reedy, wood-on-wood quality of the single-noted call. This vocalisation could be transcribed as *K'DINK K'DINK*. These paired couplets were rarely delivered consecutively in sequences, but rather, were inserted into sequences of the single-noted *CHEWP* calls (Fig. 5b). They were given more frequently by individuals responding to tape playback, and were only occasionally given by spontaneously vocalising birds. Functional differences between the two types of vocalizations (i.e. song versus call) were not obvious. Males responded to tape playback by approaching the sound source and delivering one or both types of vocalisations. Females only occasionally approached in response to tape playback, and usually remained silent when doing so. A few responded to persistent calls of their presumed mates with occasional single-note calls similar to the *CHEWP* calls of the males, but never persisted in vocalising, and were not heard to deliver the paired couplet vocalisation.

The only spontaneously vocalising bird that was seen without tape playback was the first male found by KJZ along the rio Parauapebas. It was on a bare, angled stem c.1 m above the ground and shaded by overtopping foliage. The bird remained on this perch and called continuously for c.3 minutes, giving only the single-noted vocalisation. Other individuals called from perches up to 7 m above ground, but these song-perch heights may have been influenced by tape playback.

The only previously published description of vocalisations for *Taeniotriccus* was from Venezuela[8]. The observers were unable to tape-record any vocalisations, but described a 'contact call' as 'reminiscent of a *Hemitriccus* tyrant or *Pipra* manakin, being moderately loud, short and high-pitched'[8]. This description appears to us to be consistent with the single-noted call described above.

Behaviour

All individuals selected open, shaded perches, usually on bare horizontal or diagonal branches or vines. Typical posture was three-quarters upright, with the back slightly hunched and the tail somewhat drooped. Birds remained on a single perch anywhere from five seconds to more than one minute before flying to another perch. During this time, they actively scanned for prey by constantly turning the head. Most individuals periodically shallowly flicked both wings simultaneously, although this was not done habitually. Wing-flicks were sometimes accompanied by a shallow up-and-down twitch of the tail. Vocalising birds gave a slight upward jerk of the head with each note; this was accompanied by a slight visible twitch of the entire body and by a more noticeable slight twitch of the tail.

Birds foraged mostly from 1–3 m above ground, but occasionally ascended to 12 m. Most of our observations of birds more than 3 m above ground were of individuals that initially responded to tape playback by flying in above our heads, but then settled down to forage, remaining at greater heights for several minutes after ceasing to vocalise. The 1995 sighting of *Taeniotriccus* by G. M. Kirwan *et al*., from Caño Colorado (Monagas, Venezuela), was of an individual that was 4–5 m above ground[8].

All attack manoeuvres that we witnessed were sally-gleans, mostly to bare branches, stems or vines, but also to live foliage. Sallies varied from 30 cm to 2.5 m, and included upward-and-downward-directed diagonal sallies, horizontal sallies and occasional looping sallies, in which the bird returned to near its original perch. In most instances, sallying birds followed through to a new perch, where smaller prey were swallowed immediately, and larger prey were bashed against a branch several times prior to swallowing. The first female observed by KJZ sallied from 2 m down to the ground and returned to its original perch with a medium-sized, unidentified arthropod. Rather than immediately consuming the prey, the female engaged in the practice known as 'anting', by holding the arthropod in the bill, and rubbing it vigorously through various feather groups, notably those under each wing, on the flanks and belly, and on the crissum. These motions were repeated several times over the course of perhaps two minutes, before the bird eventually consumed the arthropod. We were unable to identify most prey items; those that were identified were small orthopterans. Perch changes were typically accompanied by an audible wing-whirr sound that was comparable to sounds made by many species of tody-tyrants *Hemitriccus* spp. Most prey captures were accompanied by an audible bill snap.

Discussion

The apparent rarity of *Taeniotriccus* throughout its range is no doubt a partial artefact of the behavioural inconspicuousness of the species. In our experience, the species vocalises only intermittently and the most commonly given vocalisation (single-noted) is neither far carrying nor particularly distinctive; it could be easily overlooked as the call of a frog. Although the species tends to select open perches, these are typically beneath the 'umbrella' of dense, vine-covered thickets, a tendency that further contributes to it being overlooked. We know of several experienced and highly capable Brazilian and North American birders, tour leaders and ornithologists who have spent considerable time in the Carajás region (even at the same season) without finding *Taeniotriccus*, and yet the species is at least locally not uncommon. However, we believe that it must have a very patchy distribution within its range. Were it uniformly distributed, we would expect researchers and birders to at least stumble onto it with some regularity. This would seem particularly true with respect to its distribution in *várzea* forests, which are often the most readily surveyed habitats in Amazonia. Our own survey of the avifauna of Carajás covered many roads and stretches of river in which no *Taeniotriccus* were found, even after we were familiar with its voice and habits. It seems likely that as-yet-unidentified specific microhabitat requirements of the species restrict its presence to habitats which are themselves patchily distributed through Venezuela and Brazil.

Our tape-recordings have taxonomic implications. *Taeniotriccus* was subsumed within *Poecilotriccus* by Traylor[16,17]; a move supported by subsequent research on internal morphology[9]. However, Ridgely & Tudor[12] argued for retention of *Taeniotriccus* on the basis of its crest, different bill

shape, larger size, and distinctive wing and facial patterns. Our data on vocalisations would further support the distinctiveness of *Taeniotriccus*. For comparison, KJZ listened to his recordings of Black-and-white Tody-tyrant *Poecilotriccus capitalis*, White-cheeked Tody-tyrant *P. albifacies*, Rufous-crowned Tody-tyrant *P. ruficeps* and Lulu's Tody-tyrant *P. lulae*, as well as recordings of all species in the *sylvia*-group of *Todirostrum* (placed in *Poecilotriccus* by Lanyon based on morphology of the syrinx[9]). Excluding *Taeniotriccus*, which is not similar vocally to any of the others, the aforementioned species form a cohesive grouping with obvious vocal similarities. The distinctiveness of *Taeniotriccus* is further supported by the unusual comb-like feathers above the eyes, and by the ruff-like nature of the feathers of the head and nape, features not present in members of *Poecilotriccus*. Tape-recordings of nominate *Taeniotriccus andrei*, along with a thorough morphological analysis of existing specimens from throughout the species' range, will allow a more informed assessment of the validity of *klagesi* as a distinct taxon, and of the nature of its relationship to *andrei*.

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First record of Yellow-cheeked Becard *Pachyramphus xanthogenys* in Madre de Dios, Peru, and notes on birds from the same locality

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Cotinga 22 (2004): 30–33

Este artículo informa sobre las observaciones de pájaros dentro de un derrumbe encima del Amazonia Lodge en el sudeste de Perú. Una pareja de Cabezón Cachetiamarillo *Pachyramphus xanthogenys* se observó cuatro veces en este sitio. Estas observaciones y una espécimen de museo no publicada representan los registros del extremo sur para ésta especie, y los primeros registros en el dpto. Madre de Dios. Un Alirrufa Gargantilistada *Myiotheretes striaticollis* se observó también varias veces en este sitio que, a 888 m, es más bajo que la elevación típica de esta especie en Perú. Los orígenes de las aves en el derrumbe se discuten también.

Study site

Amazonia Lodge in south-east Peru is a popular tourist destination for birdwatchers and eco-tourists. The lodge (12º52'S 71º22'W) is situated between the río Alto Madre de Dios and the Pini Pini Ridge, at km 192 on the Cuzco–Shintuya road, in dpto. Madre de Dios. This location is inside the Cultural Zone of the Manu Biosphere Reserve, at 514 m. Atop the Pini Pini ridge, just above the lodge, is a large landslide (12º52'S 71º23'W) that has cleared an area from the top of the mountain to the river below (Fig. 1). Although present since at least 1978 (R. Yábar pers. comm.), it has only a few spots of young secondary vegetation and is mostly bare due to continuing erosion. Birds were observed from the top of the landslide, at 888 m.

Observations

In June–July 2002, I made seven trips to the landslide. All birds seen and heard were recorded (Appendix). Yellow-cheeked Becard *Pachyramphus xanthogenys* and Streak-throated Bush-tyrant *Myiotheretes striaticollis* were observed and photographed on multiple occasions. *P. xanthogenys* has not been recorded previously in dpto. Madre de Dios or this far south. *M. striaticollis* is not typically found at elevations this low. Neither had been previously recorded at Amazonia Lodge[10] and these records bring the list of birds known from Manu Biosphere Reserve to 999 (B. Walker pers. comm.).

Yellow-cheeked Becard *Pachyramphus xanthogenys*

A pair observed in scrubby vegetation within the landslide. The female was seen 27 June, the pair on 2 July, a male (and possibly a female) on 8 July, and the pair on 11 July. Photographs were taken on 2 and 11 July (Fig. 2), and I tape-recorded the male on 11 July. The female was first observed briefly at close range. Field marks included a rounded, grey head with yellow eye-ring surrounding a dark eye, yellow breast-band, white belly, and solid olive-green back, wings and tail. Further details, such as the chestnut shoulder patch, were seen during subsequent observations. Field marks observed on the male included a black cap, white lores, unbarred yellow cheeks, throat and breast, white belly, and solid olive-green back, wings and tail.

Streak-throated Bush-tyrant *Myiotheretes striaticollis*

One photographed at the landslide on 18 and 27 June, and 1, 2, 8 and 11 July (Fig. 3). It sallied from rocks or low perches, and sometimes beat captured insect prey against rocks. In flight, this species and Cliff Flycatcher *Hirundinea ferruginea* both reveal bright cinnamon-rufous patches in the wings and tail. Both were present at the landslide, often for side-by-side comparison. *M. striaticollis* was distinguished from *H. ferruginea* based on its larger size, streaked throat, proportionately larger head and stronger bill. Also, the belly of *M. striaticollis* is a paler or brighter rufous than the more chestnut-coloured belly of *H. ferruginea*. *M. striaticollis* had faint wingbars and pale edging to tertials, whereas *H. ferruginea* did not possess any sign of wingbars.

Table 1. Published[1,7-8] altitude distributions for five species found at 888 m, at Amazonia Lodge.

Cliff Flycatcher *Hirundinea ferruginea*	Mostly below 2,000 m
Streak-throated Bush-tyrant *Myiotheretes striaticollis*	2,000–3,500 m, lower to 500–1,000 m perhaps seasonally
Rufous-tailed Tyrant *Knipolegus poecilurus*	900–2,200 m
Yellow-cheeked Becard *Pachyramphus xanthogenys*	800–1,400 m; 650–1,700 m in Ecuador
Black-and-white Seedeater *Sporophila luctuosa*	1,200–3,500 m, lower to 100–300 m perhaps seasonally

Figure 1. Landslide above Amazonia Lodge, 888 m elevation.

Figure 2. Male Yellow-cheeked Becard *Pachyramphus xanthogenys* within the landslide above Amazonia Lodge, July 2002.

Figure 3. Streak-throated Bush-Tyrant *Myiotheretes striaticollis* within the landslide above Amazonia Lodge, July 2002.

Figure 4. Cliff Flycatcher *Hirundinea ferruginea* within the landslide above Amazonia Lodge, July 2002.

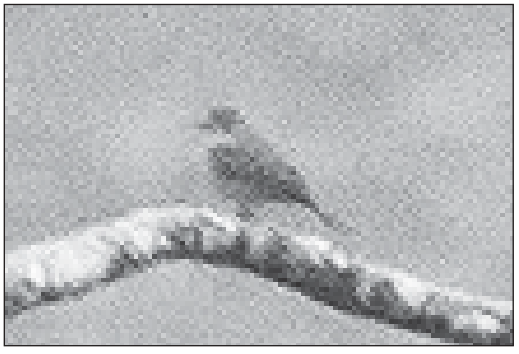

Figure 5. Rufous-tailed Tyrant *Knipolegus poecilurus* within the landslide above Amazonia Lodge, July 2002.

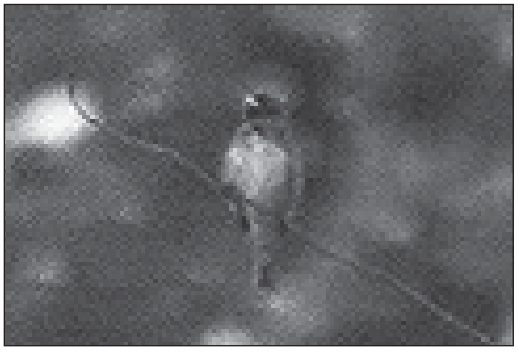

Figure 6. Black-and-white Seedeater *Sporophila luctuosa* within the landslide above Amazonia Lodge, July 2002.

Discussion

The landslide is certainly a younger landscape feature than the forests surrounding it. Therefore, hill forest surrounding the landslide, and riparian habitats at the bottom of the landslide, provide two local sources of potential colonists. Of the 47 species recorded at the landslide, I observed 35 (75%) of these within adjacent hill forest. Seven (15%) of the remaining 12 were not observed within hill forest but are typical of more disturbed vegetation, like that of the floodplain below the landslide, which ends at a river channel, where river dynamics create naturally disturbed habitats characterised by more open vegetation (e.g. *Gynerium* cane, *Tessaria* shrubs). All seven species were observed near the river or in disturbed habitats within 1 km

of Amazonia Lodge. Therefore, these could probably colonise the landslide without ever having to cross dense forest. One of these, Silver-beaked Tanager *Ramphocelus carbo*, has been previously recorded in *terra firme* forest in the east Andean foothills of Peru and Bolivia[5]. The remaining five (representing 11% of the total 47 species) were observed neither in hill forest nor in disturbed habitats at lower elevations. These are all typically found in more open habitats at higher elevations[1,6–8] than the river floodplain at c.500 m (Table 1), but Black-and-white Seedeater *Sporophila luctuosa* has also been recorded in riparian matorral at c.600 m in the Apurímac Valley[11].

Hirundinea ferruginea, Rufous-tailed Tyrant *Knipolegus poecilurus* and *Sporophila luctuosa* have previously been recorded at Amazonia Lodge[11], but *Pachyramphus xanthogenys* and *Myiotheretes striaticollis* have not. Where could these two species have originated? It would be unsurprising to find *M. striaticollis* at an 888-m landslide if they migrate to lower elevations, but Amazonia Lodge's landslide is located on a ridge, which reaches a maximum altitude of c.1,200 m and is not connected to the main Andean chain. The ridge above Amazonia Lodge does connect to the Pantiacolla ridge, but *P. xanthogenys* and *M. striaticollis* are unknown from there[2]. Therefore, birds making altitudinal or latitudinal migrations from the Andes must have crossed low-elevation valleys to reach the ridge above Amazonia Lodge. This is particularly the case with *P. xanthogenys*, which is known from as far south as the San Juan and Perené[4], in the Chanchamayo region, in dpto. Junín, Peru[9]. The Chanchamayo region is centred on the towns of La Merced and San Ramón[9], and the landslide at Amazonia Lodge is c.480 km south-east of San Ramón. The Field Museum of Natural History has an unpublished specimen of a male *P. xanthogenys* (FMNH 320306) collected at Hacienda Cadena, on 20 October 1963 (T. Schulenberg pers. comm.). Hacienda Cadena is located in the Marcapata Valley, dpto. Cuzco, Peru. The town of Marcapata is c.545 km south-east of San Ramón and c.77 km south-east of Amazonia Lodge. The Amazonia Lodge and Hacienda Cadena records of *P. xanthogenys* probably represent a resident local population or populations, expanding the known range by more than 500 km. It is unclear if this population is continuous or not with populations in Junín. Perhaps more *P. xanthogenys* will be subsequently found at sites between Hacienda Cadena and Amazonia Lodge within the appropriate elevational band.

Exceptionally cold *friajes* occurred in south-east Peru in July 2002, creating a humanitarian crisis in the Andean highlands[3]. Inclement weather may have forced species such as *M. striaticollis* to move large distances to more northern latitudes or to lower elevations. Alternatively, the *M. striaticollis* at Amazonia Lodge could represent post-breeding dispersal. I consider weather to be a more likely cause, given that the site has been well surveyed by highly skilled ornithologists since the 1980s and the species had not been previously recorded.

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Appendix

All birds recorded in the landslide are listed in the table below. The first to seventh columns under the 'Date recorded' heading show if each species was seen (X) or heard (H) that day. A question mark (?) indicates that the species may have been seen or heard, but that identification could not be confirmed. The eighth to tenth columns under the 'Use of landslide' heading indicate where each species was seen. If a species was seen perched within the open centre of the landslide, then a 1 is assigned to it in the 'Open centre' category. If a species was not seen perched within the open centre of the landslide, but was seen flying over it, a 1 was placed in the 'Overhead aerial' category for that species. Finally, if a species was not recorded perched within or flying over the landslide, but was recorded from the landslide as seen or heard in the forest bordering the landslide, then a 1 was assigned to that species in the 'Forest edge' category. Under 'Probable origins' heading, the potential source of colonisation for individual species were postulated based on where each species had been recorded near the landslide and published[7,8] habitat preferences. Species typical of vegetation occurring in low elevation clearings or riparian disturbances were assigned a 1 under the 'Lowland disturbed/Riparian origin' category. Species seen in and typical of forest habitats were assigned a 1 under the 'Forest origin' category. All remaining species were assigned a 1 under the 'Highland disturbed/Long-distance origin' because these species are typical of either open areas of higher altitudes or clearings within montane forests of similar altitude.

Bird species list	Date recorded							Use of landslide			Probable origins		
	18 Jun	25 Jun	27 Jun	1 Jul	2 Jul	8 Jul	11 Jul	Open centre	Overhead aerial	Forest edge	Lowland disturbed/ Riparian origin	Forest origin	Highland disturbed/ Long-distance origin
Turkey Vulture *Cathartes aura*							X	1				1	
King Vulture *Sacroramphus papa*		X							1			1	
Swallow-tailed Kite *Elanoides forficatus*		X								1		1	
White Hawk *Leucopternis albicollis*		X					X	1				1	
Solitary Eagle *Harpyhaliaetus solitarius*					X				1			1	
Military Macaw *Ara militaris*						X				1		1	
Blue-and-yellow Macaw *Ara ararauna*							X		1			1	
Red-and-green Macaw *Ara chloroptera*				X	X					1		1	
Blue-headed Macaw *Primolius couloni*				X		H				1		1	
White-eyed Parakeet *Aratinga leucophthalmus*	X						1		1				
Blue-headed Parrot *Pionus menstruus*	X			X	X					1		1	
Mealy Parrot *Amazona farinosa*						H	X?			1		1	
Squirrel Cuckoo *Piaya cayana*				H	X	H	H			1		1	
White-collared Swift *Streptoprocne zonaris*	X						X		1			1	
Grey-rumped Swift *Chaetura cinereiventris*	X?		1			1							
Sparkling Violetear *Colibri coruscans*			X		X					1		1	
Fork-tailed Woodnymph *Thalurania furcata*			X		X					1		1	
Golden-tailed Sapphire *Chrysuronia oenone*					X			1				1	
Piculet sp. (Bar-breasted?) *Picumnus* sp. (*aurifrons*?)						X				1		1	
White-throated Woodpecker *Piculus leucolaemus*			X		H					1		1	
Lineated Woodpecker *Dryocopus lineatus*	X									1		1	
Cliff Flycatcher *Hirundinea ferruginea*		X	X	X	X	X	X	1					1
Streak-throated Bush-tyrant *Myiotheretes striaticollis*	X		X	X	X	X	X	1					1
Rufous-tailed Tyrant *Knipolegus poecilurus*			X	X	X	X	X	1					1
Long-tailed Tyrant *Colonia colonus*										1	1		
Social Flycatcher *Myiozetetes similis*			X	X	X	X		1				1	
Streaked Flycatcher *Myiodynastes maculatus*				X				1				1	
Tropical Kingbird *Tyrannus melancholicus*		X	X	X			X	1			1		
Yellow-cheeked Becard *Pachyramphus xanthogenys*			X		X	X	X	1					1
White-winged Becard *Pachyramphus polychopterus*		X								1		1	
Masked Tityra *Tityra semifasciata*				X			H			1		1	
Southern Rough-winged Swallow *Stelgidopteryx ruficollis*			X	X			X	1			1		
Scaly-breasted (Southern Nightingale) Wren *Microcerculus marginatus*										1		1	
Rufous-browed Peppershrike *Cyclarhis gujanensis*			H	H	H	X				1		1	
Bananaquit *Coereba flaveola*			X	X	X		X	1				1	
Magpie Tanager *Cissopis leveriana*		X		X	X		X	1				1	
Silver-beaked Tanager *Ramphocelus carbo*		X		X	X			1			1		
Palm Tanager Thraupis palmarum	X		X	X						1		1	
Paradise Tanager *Tangara chilensis*				X						1		1	
Blue-necked Tanager *Tangara cyanicollis*	X				X	X	X	1				1	
Turquouise Tanager *Tangara mexicana*						X				1		1	
Opal-crowned Tanager *Tangara callophrys*				X						1		1	
Blue Dacnis *Dacnis cayana*			X							?		1	
Yellow-bellied Dacnis *Dacnis flaviventer*					X			1			1		
Black-and-white Seedeater *Sporophila luctuosa*					X			1					1
Chestnut-bellied (Lesser) Seed-finch *Oryzoborus angolensis*			X	X	X	H	X	1			1		
Yellow-browed Sparrow *Ammodramus aurifrons*			X	X	X	X		1			1		
TOTALS								19	5	22	7	35	5

New localities for the Austral Rail *Rallus antarcticus* in Argentina, and first record from the Falkland Islands

Germán Pugnali, Mark Pearman, Graciela Escudero, Daniel Vaquero and Tony Chater

Cotinga 22 (2004): 35–37

La Gallineta Chica *Rallus antarcticus* es conocida principalmente para el sur de la provincia de Santa Cruz, en el sur de la Patagonia Argentina, donde ha sido re-descubierta en Enero de 1998[5] y subsecuentemente hallada en un área adyacente, aunque menor, en Chile[4]. Estudios posteriores han revelado varias localidades nuevas, contándose hasta 125 individuos en Santa Cruz, y descubriéndose dos nidos en Chile, lo cual permitió reevaluar el estatus de conservación de la especie, pasando de En peligro/Extinta[2] a Vulnerable[1]. Se reportan dos nuevas localidades para la Gallineta chica *Rallus antarcticus*, donde se presume reproducción, en el noreste de la provincia de Santa Cruz y nordeste de la provincia del Chubut, Argentina. Los registros fueron realizados cerca de la costa Atlántica, extendiéndose el rango de distribución de la especie por aproximadamente 825 km al nordeste, desde 48°37'S hasta 42°45'S. También reportamos dos vagrantes, uno de la costa del Chubut y otro de las Malvinas, siendo este el primero para las islas.

The Austral Rail *Rallus antarcticus* is known primarily from southern Santa Cruz province in southern Patagonia, Argentina, where it was rediscovered in January 1998[5], being subsequently found in an adjacent, but smaller, area of Chile[4]. Additional surveys have revealed several new localities and up to 125 individuals in Santa Cruz (Mazar Barnett & Imberti unpubl.), plus the discovery of two nests in Chile (A. Jaramillo *et al*. *in litt*.), permitting a re-evaluation of the species' conservation status from Endangered/Extinct[2] to Vulnerable[1].

This contribution reports on new, presumed breeding, localities in extreme north-east Santa Cruz and extreme north-east Chubut provinces, which extend the known modern-day range from 48°37'S to 42°45'S or by 825 km north-east. We also report vagrant records from coastal Chubut and the first from the Falkland Islands.

Observations

Estancia La Estrella, Santa Cruz province (47°19'S 65°57'W). In the late afternoon of 12 May 1998, MP and Richard Johnson tape-recorded an Austral Rail regularly singing from a small (c.40 m-radius) and notably tall (c.2.2 m) *Schoenoplectus* rushbed irrigated by continuous flowing water from a wind pump 35 m away. All attempts to view the bird, using direct playback and playback of other birds recorded in Santa Cruz, on 12–13 May, when it sang regularly throughout daylight hours, were inhibited by the tall dense nature of the rushes, except that twice the passage of a moving bird could be traced by the moving tips of young lower peripheral rushes. On playing the voice to estancia workers and asking if they knew anything of the bird, one farmhand immediately used the name Pidén Chico, which is the Chilean name applied to Austral Rail, and went on to describe a small rail with a "narrow red bill" which sang "year after year" in the same marsh. When asked if more than one bird was ever heard, the reply was negative.

Rada Tilly, Chubut province (45°55'S 67°33'W). On the evening of 6 March 2001, an Austral Rail was observed and photographed (archived in the Aves Argentinas library, Buenos Aires) by DV and Lis Medina. The bird was found in an urban area, 500 m from the Atlantic Ocean and close to a permanent brackish pond (700 m from the coast) in which several species of aquatic birds occur. It was first seen at dusk, at c.21h30, when it landed close to the observers. The bird flew with difficulty, occasionally losing control, against the strong westerly wind (estimated at 70–80 km/h). After a very low flight, it landed in front of a house and then moved to a grassier area in a garden, permitting approach to within 1 m. After being photographed, the bird moved away and remained under a large parked truck. The observers returned to the area the following day but the bird could not be relocated.

Peninsula Valdés, Chubut Province (42°52'S 63°37'W). At midday on 27 November 2002, an Austral Rail was heard by GP at an undisclosed locality on the peninsula. It was calling from a shallow, brackish pond created by permanent overflow from a watermill. This small wetland was narrower than 10 m at its widest point and c.60 m long. A dense stand of rushes (Cyperaceae) covered most of the wetland, with only a few patches of open water, preventing any observations, although the bird responded to playback. Its voice was recorded using a video camera. On 22 December 2002, GP, Hernán Rodriguez Goñi and Miguel Castelino returned to the same site at midday, when at least two birds responded to playback, and tape-recordings were made. Although the birds approached closer on playback, it was only possible

to see them by entering the marsh, when two birds were flushed.

On 13 January 2003, MP, Frank Lambert, Alan Eardley and Barry Scampion were able to obtain repeated views, at close range, of two birds at the same locality. One walked or ran between the legs of MP on three occasions, and one was also seen in flight, when the tarsus clearly protruded beyond the tail. Both were of a similar size, neither vocalised and there was no evidence that the birds were breeding or had bred, although this seems possible.

On 4 June 2003, Luis Segura and Carlos Saibene returned to the same lagoon but failed to find the species, despite using the same techniques as previous observers. However, by August 2003, a pair was again present, with one vocalising, and both were observed by Joe Tobias, Nat Seddon and Stuart Butchart (pers. comm.). Thereafter, on 3 October 2003, one was observed by MP *et al*. at distances down to 1 m. During these observations, rush cover was naturally low after dying back in winter, making the birds more visible, but the only bird found in October was not vocalising, did not audibly respond to a pre-recorded tape, repeatedly returned to a specific area of the marsh and appeared unusually nervous. It is conceivable that it was undertaking distraction behaviour for an incubating mate, but this was not investigated in order to minimise the risk of nest desertion.

Ship Harbour, New Island North Nature Reserve, Falkland Islands (c.51°47'S 61°09'W). An Austral Rail was observed during the early afternoon of 10, 18 and 25 May 2002. It possibly had arrived in the area earlier, but it was not seen after 25 May. The observations were made in a small pool beside a ditch draining water from a carrot garden. During the first encounter, TC was able to approach to within 2 m and the bird was highly visible, but flew off when he attempted to obtain an even closer view. The flight was sudden, explosive, with an almost vertical take-off and rapid wingbeats, the legs dangling slightly. The short low flight ended in some long grass c.20 m distant. Once on the ground, it ran very quickly in bursts, looking somewhat like a rat *Rattus* until lost in the gloom. Throughout the observation it was silent. During the second and third encounters, photographs were obtained and the bird was very tame, and was even briefly picked up. Once, it was observed walking in the stream (8–10 cm deep and about the same width) with only its head and shoulders above the waterline. Swimming behaviour, with a similarly submerged body, has been also observed in Río Chico, Santa Cruz province[5] and at El Zurdo, Santa Cruz (MP pers. obs.). This individual probably arrived from the South American mainland during a northerly to north-easterly gale on 6–7 May.

Discussion

The records presented here clearly fall into two categories. Austral Rail has not been previously recorded in the Falkland Islands[9]. Whilst habitat for this and another of our sightings is not that previously considered typical for the species[5], several Austral Rails were reported to have overwintered in a garden at Cayutué, Chile[2]. There are relatively few reports of rallid vagrancy in South America and related offshore areas[6,7,8], but the birds at Rada Tilly and the Falklands were undoubtedly vagrants blown off course by strong westerly winds, which are common in the area, possibly while undertaking seasonal movements. Although gardens are not 'normal' habitat for Austral Rails, such relatively wet, green areas could represent a last option of suitable habitat for a vagrant, either in the Patagonian desert or the Atlantic Ocean.

In contrast, the other records reported here clearly involve potential, if not regular, breeders, although they seemingly involved isolated pairs, which appears unusual in the species. The only previous record of Austral Rail in Chubut province was made by Koslowsky, who collected one in 1901, at Lago Blanco[3], in the extreme south-west of the province, a waterbody now half its former size and lacking the rush habitat of 40 years ago (S. Imberti pers. comm.). Nevertheless, this historical record comes from that part of the province closest to the Andes, and therefore has little relevance to the coastal sightings from the other extreme of the province, especially when one considers that Chubut covers 224,686 km^2, and thus a truly vast area must be surveyed for other Austral Rail populations.

Both of the novel 'resident' records mentioned here come from extremely isolated rushbeds, which remain wet only through sustained water flow from wind pumps. Our information suggests that these marshes have been extant for several, if not many, years. The habitat at Estancia La Estrella, combined with sound-recordings of a territorial bird and reports from an estancia worker there, strongly points to the existence of a hitherto unknown breeding site. Likewise, five records in different months over two breeding seasons from the marsh on Peninsula Valdés, along with possible distraction display after territorial song had been recorded and two birds seen a month earlier, also suggests a far-removed, disjunct breeding site. It is possible that other rushbeds of a similar nature may offer isolated pockets of breeding habitat close to the Patagonian coast, unlike the extensive rushbeds densely populated by the species in extreme southern Patagonia.

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A Brazilian Merganser *Mergus octosetaceus* nest in a rock crevice, with reproductive notes

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Um ninho de pato-mergulhão *Mergus octosetaceus* foi encontrado em fenda de paredão rochoso no Parque Nacional da Serra da Canastra, estado de Minas Gerais, Brasil. Cerca de 20 dias após sua descoberta, o ninho foi visitado para medição e pesagem dos ovos e acompanhamento do comportamento parental. Nesta ocasião, os sete ovos estavam muito frios e a fêmea não foi localizada. A presença do macho chamando por ela toda manhã nos faz acreditar que ela possa ter morrido, e não abandonado o ninho. Até o presente, havia registro de apenas um ninho desta espécie, encontrado em cavidade de árvore na mata ciliar em Misiones, Argentina, em 1956. Sendo o único registro de ninho para a espécie, acreditava-se que o pato-mergulhão fosse dependente de mata ciliar com árvores de grande porte para sua reprodução. O registro aqui apresentado é de fundamental importância para a conservação e manejo da espécie.

Brazilian Merganser *Mergus octosetaceus* is one of the most endangered bird species in Brazil and the world[5,7,12]. In Paraguay, it was last recorded in 1984, and there appears to be little suitable extant habitat[5]. Only singles have recently been reported in Argentina[4,10].

In Brazil the known distribution of *M. octosetaceus* formerly encompassed the states of Goiás, Minas Gerais, Mato Grosso do Sul, São Paulo, Rio de Janeiro, Paraná and Santa Catarina[1,13]. In recent decades, it has been found in only a few regions, principally protected areas, such as Chapada dos Veadeiros National Park, Emas National Park and Serra da Canastra National Park and its surroundings[7,16,17] (Fig. 1). The species' presence was recently confirmed in western Bahia[15], and Jalapão State Park, Tocantins[6], thus broadening its known distribution.

Brazilian Merganser naturally occurs at low densities and its rarity is not only a consequence of human threat. By the 1940s it was already considered one of the rarest birds in South America[10]. There is very little biological information for the species[2,14,16]. The only documented record of a *M. octosetaceus* nest is from 1954, by Partridge, who found one in a tree hole beside the Arroyo Urugua-í, in Misiones, Argentina[14]. Giai[8] claimed that the species nests on rocks or aquatic vegetation, without providing details. Thus, it was believed that *M. octosetaceus* was dependent on gallery forests for nest sites.

Observations

While conducting a Brazilian Merganser survey in and around the Serra da Canastra National Park, Minas Gerais, we were fortunate to find a nest of the species on 27 June 2002, beside the Matinha watercourse. We initially observed a female landing on a rocky wall a few metres above the stream. As we already suspected this habitat could be used for nesting, we searched several crevices and soon found the female incubating. The eggs were laid in a depression in the rock, and the female did not leave the nest while we were close to the crevice.

Only the female incubated, leaving the nest at least once per day to feed. The male spent most time feeding or resting nearby, constantly vigilant, but sometimes flew off, departing the area for several hours. Once, the female left the nest, flew to a nearby river pool calling and was joined immediately by the male. They vocalised for several minutes. When leaving the nest, the female covered the eggs with down feathers, apparently from its own body.

The region surrounding the nest was dominated by open grassland, grassland with scattered shrubs and fields. The stream has a number of waterfalls and pools of different sizes and depths. Immediately in front of the nest, the stream flows through a small, narrow canyon. A few metres upstream is a large pool, where the male frequently swam, sometimes calling the female. The canyon opened into other smaller pools where the pair fed (Fig. 2).

The rock wall harbouring the nest was c.13 m high (Fig. 3) and the crevice used for nesting was 10.5 m above water level. The opening faced east, but sunlight did not enter the crevice, at least at this season. Minimum temperatures within the crevice were 13ºC and 14ºC on two consecutive nights. Maximum daytime temperature was 22ºC. The crevice measured as follows: maximum height at entrance, 30 cm; minimum height at entrance, 18cm; maximum internal width (c.0.60 m near the opening), 0.7 m; maximum depth, 2.1 m; distance between the nest and entrance, 1.5 m; crevice height at the nest, c.0.5 m.

In July, c.20 days later, a visit was made to monitor the nest and observe parental behaviour. Only the male was observed on this occasion. On visiting the nest, we found seven eggs (Fig. 4), laid on a thin layer of sand and soil. They were oval in shape and pale beige, almost white, in coloration.

Mean mensural data were as follows: 61.7 mm (length), 42.5 mm (width) and 59.86 g (weight). Data for each egg were as follows: egg 1: 62.0 mm x 42.1 mm, 55 g; egg 2: 60.2 mm x 42.7 mm, 57.0 g; egg 3: 61.4 mm x 43.2 mm, 59.0 g; egg 4: 61.7 mm x 41.3 mm, 63.0 g; egg 5: 60.8 mm x 43.6 mm, 63.0 g; egg 6: 62.0 mm x 42.6 mm, 61.0 g; egg 7: 64.0 mm x 42.2 mm, 61.0 g.

For three days we watched the nest, but the female was not seen and the eggs were cold. Each morning, at c.06h50, the male called close to the nest. Thus, we believe that either the female abandoned the nest or died. Although nest abandonment is not rare among birds[9], we believe that the most likely reason for the female's absence was predation, as the male continued to solicit for her. Giai[8] reported a male returning on 20 consecutive days to the same pool where a female had been collected.

Discussion

Many potential predators of Brazilian Merganser exist. Recent surveys have been conducted in Serra da Canastra National Park with the aim of revising its management plan. It has been speculated that several mammals and birds recorded in the area might prey on Brazilian Merganser, based on their diet, size and habitat. Among mammals, Rogério de Paula (pers. comm. 2002) cites Puma *Puma concolor*, Ocelot *Leopardus pardalis*, Margay *Leopardus wiedii*, Jaguarundi *Herpailurus yagouaroundi*, Maned Wolf *Chrysocyon brachyurus*, Crab-eating Fox *Cerdocyon thous*, Tayra *Eira barbara* and Neotropical River Otter *Lontra longicaudis*. For birds, Dante Buzzetti (pers. comm. 2002) highlights Black-chested Buzzard-eagle *Geranoaetus melanoleucus*, Crowned Eagle *Harpyhaliaetus coronatus*, Aplomado Falcon *Falco femoralis*, Grey-headed Kite *Leptodon cayanensis*, Black-and-white Hawk-eagle *Spizastur melanoleucus*, Collared Forest-falcon *Micrastur semitorquatus* and Great Horned Owl *Bubo virginianus*. Partridge[14] also drew attention to the Black-and-white Hawk-eagle as being amongst the most dangerous predators of *M. octosetaceus* in Argentina.

After verifying that the nest had been abandoned, and with authorisation from the Brazilian Environment Agency (IBAMA), the eggs were collected. Three eggs with embryos still in good condition had the DNA extracted and this is stored in the Laboratory of Biodiversity & Molecular Evolution at the Universidade Federal de Minas Gerais. The other four eggs, which were in an advanced stage of decomposition, had their shells preserved and have been deposited at the Museu de Zoologia da Universidade de São Paulo.

Among *Mergus* spp., Chinese Merganser *M. squamatus* has similar reproductive traits to *M. octosetaceus*. *M. squamatus* nests in tree holes along creeks in forests of north-east China[18]. Other *Mergus* lay their eggs in cavities beside pools, lakes and rivers. The eggs of *M. squamatus*, like those of *M. octosetaceus*, are incubated by the female alone, and are covered with feathers when it leaves the nest. Egg size is similar to *M. octosetaceus*: 63.3 mm x 45.9 mm and 61.9 g. Incubation apparently lasts 35 days[18].

Chinese Merganser was observed using the same tree hole, in China, for three consecutive years[18]. We subsequently visited the nest site on Matinha stream on 25 July 2003, but found no evidence of recent use.

Brazilian Mergansers are estimated to breed in June–August[5]. We observed adults with young in August–December. The large size of some young observed in August demonstrates that hatching occurred, at the latest, in mid-June, thus eggs were probably laid in mid-May. Therefore, we believe the breeding season, at least in the Serra da Canastra, extends more than six months.

In another family group, medium-sized young were seen with their parents in November–January. In February we observed three individuals in another stream. It is probable that this observation involved a pair with their young from the previous season. If so, parental care extends to February and young can remain with the adults for more than three months before dispersing. In many instances young stay with the parents until December–January, prior to the next breeding season[3]. Age of sexual maturity is two years or more in the Mergini tribe, apparently a derived condition shared by all members of the grouping[11].

No mergansers were observed in March–May 2002. The moulting period of the species is poorly known, but may occur at the end of the rainy season[16], which coincides, in southern Brazil, with March-April. That the birds are moulting may explain the lack of records at this season[16]. Because they temporarily lose their capacity to fly, the birds are shyer and more difficult to locate.

Our discovery is significant for conservation and management, as it demonstrates that the absence of large trees is not a crucially limiting factor on the species' breeding ecology. The availability of rock walls with crevices may represent a far more abundant nesting resource than tree holes in our study region.

Conservation of watercourses and their margins is essential for the Brazilian Merganser's survival. Besides being naturally rare, *M. octosetaceus* populations suffer many pressures that have contributed to their decline. In the Serra da Canastra, the main threats appear to be degradation and destruction of the species' favoured habitats, and intensifying ecotourism. All

human activities that impact the quality and integrity of rivers and their margins potentially threaten the species. Unfortunately, the destruction of gallery forests, although prohibited by law, is still common practice on many properties. Erosion and the silting-up of streams appears to be a consequence of the exploitation of marginal vegetation. *Mergus octosetaceus* conservation depends on the restoration and preservation of streams, their riverheads and margins, including gallery forests, although we have proved that these forests are not the exclusive site for their nests.

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Figure 1. Brazilian Merganser *Mergus octosetaceus* in Santo Antônio stream, at the border of Serra da Canastra National Park, Brazil (Carlos E. A. Carvalho)

Figure 2. One of the feeding areas used by the nesting pair of Brazilian Mergansers (Ivana R. Lamas)

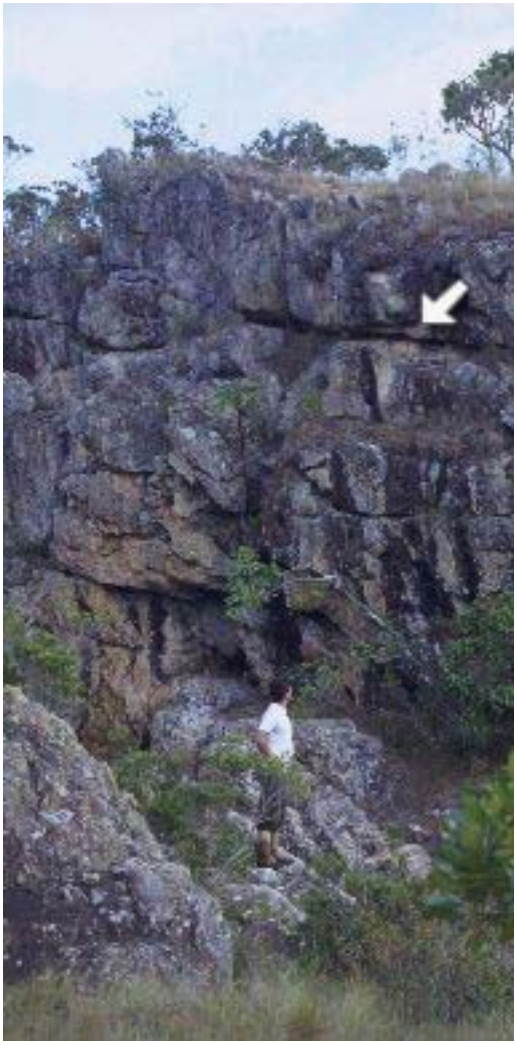

Figure 3. Rock wall where the Brazilian Merganser nest was found (Ivana R. Lamas)

Figure 4. Brazilian Merganser eggs (Ivana R. Lamas)

Figure 5. Brazilian Merganser *Mergus octosetaceus* (Carlos E. A. Carvalho)

Breeding biology of White-faced Nunbird *Hapaloptila castanea* in Ecuador

Nicholas Athanas and Judy Davis

Cotinga 22 (2004): 42–45

Reportamos la primera información sobre la anidación de la Monja Cariblanca *Hapaloptila castanea* de bosque subtropical cerca a Tandayapa al nor-occidente del Ecuador a una altitud de 1.900 m durante el mes de mayo hasta julio del año 2000. El nido estaba localizado bajo tierra consistiendo de un túnel de entrada de 38 cm de largo abriéndose en una cavidad más ancha. Dos huevos fueron puestos entre 28 de mayo y 30 de mayo de 2000. La incubación tuvo una duración de 15 a 18 días y las crías salieron del nido entre 37 y 38 dias después de empollarse. Ambos adultos participaron en todos aspectos de anidación, y fueron observados haciendo entrega de una gran variedad de comida a las crías, incluyendo insectos, arañas, crías de otras aves, un ratón y una rana. El comportamiento de ambos adultos y crías son descritos.

White-faced Nunbird *Hapaloptila castanea* is rare and local in subtropical Andean forests between Colombia and northern Peru[1]. Virtually nothing has been published on its breeding behaviour, only that a male with a brood patch was found near Cali, at 1,800 m, in the Western Cordillera of Colombia in April[2].

On 13 April 2000, we found a single bird at 1,900 m, near Tandayapa Bird Lodge, Pichincha Province, Ecuador (00°00'N 78°41'W). On 26 April, we observed a pair in the same location, one with mud caked on its bill, suggesting it had been excavating a nest. On 30 April, the nest was discovered nearby, and we began to observe the pair at the nest on a near-daily basis, continuing to do so until both nestlings had fledged, on 23 July. A total of 320 field hours was spent observing the nest. We report here the results of our observations.

Nest description

The nest was located c.5 m from a forest clearing caused by a large landslide in December 1999. The nest burrow was located in a dirt bank under a large tree. The tunnel opening faced almost due south (182°), was straight and inclined downward c.10°. It was oval-shaped (c.5 cm high and 7 cm wide) and continued for c.38 cm before opening into an ovoid cavity, c.23 cm long x 16 cm wide x 10 cm high (Fig. 1). The cavity was lined with small leaves. In front of the nest opening there was a 16 cm-long flat area which the birds used as a landing area (Fig. 2).

Timing

Most of our data came from visual inspections of the nest. Initially, the nest was checked only every few days to avoid disturbance. Subsequently, when

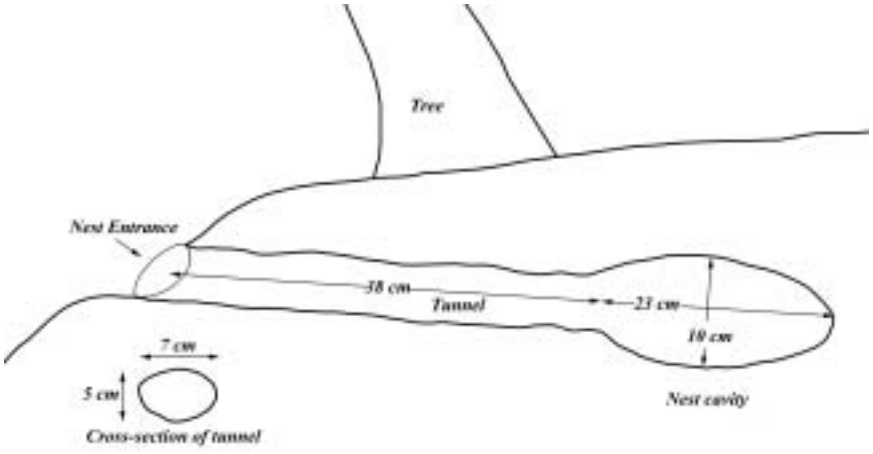

Figure 1. Diagram of the nest of White-faced Nunbird *Hapaloptila castanea*.

the birds had become accustomed to the presence of observers, we checked the nest daily, although only when the adults were not nearby.

The pair had completed excavating the cavity when observations commenced. Between 3 May and 21 May, the pair lined the nest with leaves. No copulations were observed. Two white eggs were laid between the mornings of 28 May and 30 May. The first egg hatched between the mornings of 14 June and 15 June. The second egg hatched between noon on 15 June and the morning of 16 June. The first nestling fledged in the afternoon of 22 July, the second the next morning. Based on these data, incubation lasted 15–18 days and the young fledged 37–38 days after hatching. The total nesting period was at least 88 days, possibly more than 101 days if the bird first seen on 13 April had already commenced nest-building.

Behavioural observations

The birds were initially very wary of observers and would not approach the nest if any were nearby, even if concealed in a hide. They gradually became accustomed to human presence and for a period of several weeks we were able to observe them from a distance of just 8 m without signs of disturbance or stress. However, as the fledglings grew larger the birds seemed to become more wary and the observation distance was increased to 15 m.

The two adults were almost identical in appearance. In direct comparison, one (hereafter the first bird) was slightly plumper, had slightly darker underparts and had a slightly larger bill than the other (the second bird). Despite these differences, we were unable to separate the adults until we discovered that, at close range, a slight but obvious difference in bill shape could be used to distinguish them with certainty. The first bird had a distinct downward bend near the tip of the lower mandible, a feature lacking in the other. As no copulations were observed, we were unable to confirm their sexes in the field. However, following examination of a pair held in the Natural History Museum, Tring (collected below Páramo Frontino, Antioquia, Colombia, by T. K. Salmon, in 1876), we determined that those features exhibited by the second bird precisely matched those of the female specimen and that the first was a male.

General observations

Both sexes participated in all aspects of the breeding cycle, including nest construction, incubation, brooding and feeding of the young. Before entering and after leaving the nest, the adults almost always perched on a small sapling above the nest for a period of a few seconds to a few minutes.

Nest construction

As previously mentioned, the cavity had already been excavated when observations commenced. Between 3 May and 21 May we occasionally saw a nunbird pick a small leaf off a nearby tree in a sallying flight and then enter the nest with the leaf. For unknown reasons, the adults were very slow to line the nest and there were several days when we did not observe the birds at all.

Incubation and brooding

We were unable to observe the nest at close range until the final week of incubation, thus our data on changeovers are sparse. However, we did observe a definite pattern during the final six days of incubation. There was always a changeover at dawn, between 05h44 and 06h26, another at 08h15–0940, then at 10h55–12h00, and another at 13h30–15h40. No changeovers were observed after 15h40, although we only observed during that period for two days of the final six. During changeovers, the nest remained untended for a mean 29 minutes (N=17), once as long as 72 minutes. Occasionally an incubating bird left the nest for a few minutes, perched nearby and then returned to the nest.

After the eggs hatched, the parents brooded the nestlings until 27–29 June. During incubation and brooding, on all nine occasions where the bird was identified with certainty, the male was the last to enter the nest in the afternoon. This suggests that the male was responsible for the majority of incubation and brooding.

Nestling phase

The two eggs hatched c.1 day apart and the parents began feeding the first nestling immediately. We witnessed 235 food deliveries, 183 (78%) of which were insects and larvae. Frequently they were large items such as beetles, grasshoppers and caterpillars. Twenty (8%) were of other large vertebrates and invertebrates, including four spiders, nine lizards, two nestling birds (Fig. 3), a mouse and a small frog. The remaining 32 items (14%) were not clearly observed or not could not be identified. For 229 of these, the identity of the parent delivering the food was determined. The female delivered 136 (59%) items and the male 93 (41%) items. As the male was responsible for the majority of the incubation, it was possibly foraging largely for its own requirements.

The nestlings began vocalising soon after hatching on 16 June. Initially the vocalisations were very faint and not audible more than 1 m from the nest. By 4 July, the nestlings were calling sufficiently loudly to be heard 20 m away. The most frequently heard was the begging call, a high-pitched, rapid trill with the notes given c.18 times per second. The nestlings would commence begging

Figure 2. White-faced Nunbird *Hapaloptila castanea* at nest entrance (Nicholas Athanas)

Figure 3. White-faced Nunbird *Hapaloptila castanea* with predated nestling bird, which it fed to its own nestlings (Murray Cooper)

calls upon hearing the vocalisation or wingbeats of a parent, and continue until being fed. Curiously, the nestlings never called simultaneously, and the calling bird was always the nestling that advanced up the tunnel to be fed. Towards the end of the nestling phase, they would frequently give a whistle very similar to the adult call, but higher pitched. The nestlings' loud calls attracted the attention of potential nest predators on three occasions. A Beautiful Jay *Cyanolyca pulchra* discovered the nest once, and a pair of Toucan Barbets *Semnornis ramphastinus* examined it twice. Despite becoming very excited, none of the potential predators entered the cavity.

The adult nunbirds never removed faecal sacks from the nest. Faecal matter accumulated in the hole, but this did not seem to attract insects and had no apparent negative affect on the nestlings.

Fledging

The first nestling left the nest between 12h13 and 15h08 on 22 July. The actual fledging was not witnessed, but the bird was subsequently found c.15 m from the nest on a bare branch, calling very loudly. The female was nearby with food and shortly fed the nestling. Thereafter, the nestling began moving away from the nest area, making short but strong flights between large branches. Occasionally the female fed the fledgling, which vocalised almost continuously, usually a series of loud whistles, but also giving the begging call when a parent was nearby with food. The adults continued to feed the remaining nestling after the first bird had fledged.

The second chick fledged next morning. It came to the nest entrance begging loudly, though no adult was visible nearby. After 20 seconds it flew directly to a bare branch over the landslide c.12 m away. After a few minutes it began giving loud whistles. After 15 minutes the male arrived with food, and the fledgling immediately commenced the begging call until being fed. Several minutes later both birds flew off.

Figure 4. Recently fledged White-faced Nunbird *Hapaloptila castanea* (Nicholas Athanas)

The fledglings were very similar in appearance to the adults (see Fig. 4). The bill was slightly shorter and the tail was still growing, being only about half as long as that of the adults. Plumage was almost identical, although some grey feathers were visible in the orange breast. The second fledgling was clearly less developed than the first. It had an even shorter tail, more grey on the breast and was not as strong a flyer.

Post-fledging

The birds did not return to the nest area after fledging. They were seen regularly over the next few days within 200–400 m of the nest, and the parents continued feeding them. They were fairly easy to find because the family was very vocal. After c.1 week, they were seen only occasionally, with a handful of sightings over the next few months. There was one report in November 2000 of all four

birds, suggesting that both young survived, despite the second being less developed at fledging.

The following year, in September–December 2001, there were numerous observations of a pair of *H. castanea* in the vicinity of the old nest. However, no evidence of breeding was noted and the old nest cavity was not reused.

Discussion

Our observations are consistent with published data concerning the breeding biology of the Bucconidae[3], with a few exceptions. First, the pair began nesting during the wettest months at Tandayapa (normally March–May), rather than at the start of the dry season. Second, there was no collar of leaves or twigs placed around the nest entrance. Indeed, there was never any obvious attempt by the pair to conceal the nest. Third, the young *H. castanea* remained in the nest for the exceptionally long period of 37–38 days, whereas previous studies have found a nestling period of just 20–30 days. Finally, the newly fledged nunbirds were never seen to take food from the bill of a parent in sally-flight. Food was always given directly into the gape of the fledgling.

Acknowledgements

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The threatened birds of the río Frío Valley, Sierra Nevada de Santa Marta, Colombia

Ralf Strewe and Cristobal Navarro

Cotinga 22 (2004): 47–55

La cuenca del rió Frió es un área de 37.000 ha ubicado en la vertiente occidental de la Sierra Nevada de Santa Marta, dpto. Magdalena, Colombia. Después de más de 80 años de las investigaciones de Todd & Carriker[16] sobre la avifauna de la Sierra Nevada de Santa Marta, estudios amplios fueron realizados en bosques húmedos premontanos y montanos, y páramo, en elevaciones desde 650 hasta 4.200 m, en la cuenca del rió Frío, entre el 2000–2001. Se presenta un listado anotado de las 285 especies de la zona y se colectaron datos de especies endémicas y con rangos restringidos. Se analiza la situación de 13 especies amenazadas. Basado en los resultados se identificaron prioridades de conservación, se diseñó un corredor de conservación y se desarrollo una estrategia de conservación de hábitats y nominado la cuenca del río Frío como Área Importante para la Conservación de Aves en Colombia (AICA).

The Sierra Nevada de Santa Marta is an isolated pyramid-shaped massif on the Caribbean coast of north-east Colombia, close to the border with Venezuela. The twin snow-covered peaks of Pico Simon Bolivar and Pico Cristobal reach 5,775 m just 46 km from the Caribbean coast, representing the world's highest coastal massif. The Sierra Nevada is separated to the south from the Central Andean Cordillera by 330 km of floodplains, and from the Serranía de Perijá to its east and south-east by the low valleys of the ríos Ranchería and César. The massif is among the world's most important continental avian endemism centres, with 18 endemic species and a further 55 endemic subspecies, wholly restricted to this montane area. The Sierra Nevada Endemic Bird Area (EBA 036) has 27 restricted-range species, of which nine occur within additional EBAs. Eight bird species of the eco-region are restricted to EBA 035, Caribbean Colombia and Venezuela[16].

We present data from the first ornithological survey of the río Frío Valley, on the western slope of the massif, collected during field work for a project entitled 'Habitat conservation of migratory and resident bird species in the Sierra Nevada de Santa Marta', conducted in 2000–2001 on the northern and western slopes of the massif. Given the avifaunal importance of the area, we present the status of all bird species recorded in the area, as well as more detailed information for threatened species.

Study area and methods

The 37,000-ha río Frío watershed lies on the west flank of the Santa Marta massif, in the municipality of Ciénaga, dpto. Magdalena (Fig. 1). The river's source is in the páramo, at the lagoons of Chubdula (10º54'N 73º53'W; c.3,900 m), from where the steep-sided V-shaped valley descends to the plain of the Ciénaga Grande. The valley encompasses the following life zones: páramo, above 3,500 m, and humid montane and pre-montane forest, and tropical humid forest, in the lower valley. Below 500 m very little forest persists, as the land is intensively farmed and used for cattle grazing, whilst the sea-level plain (which naturally held tropical lowland forest) is nearly totally covered by intensive banana plantations. At 500–2,000 m, the valley represents a mosaic of humid pre-montane forest fragments, shade-coffee plantations and pasture. From 2,000 m to the treeline still larger forest fragments exist. Field work was centred on El Congo reserve (10º59'N 74º04'W; c.40 ha), owned by Fundación Pro-Sierra Nevada de Santa Marta, which protects one of the last forest fragments at 650–1,050 m in the middle río Frío Valley.

The limits of the Sierra Nevada de Santa Marta National Park are above 2,000 m and the Indian reserve of Kogi-Malayo extends above 2,500 m. Access to the higher parts of the valley, above 2,500 m, were limited during the study period, due to problems with permissions from the indigenous

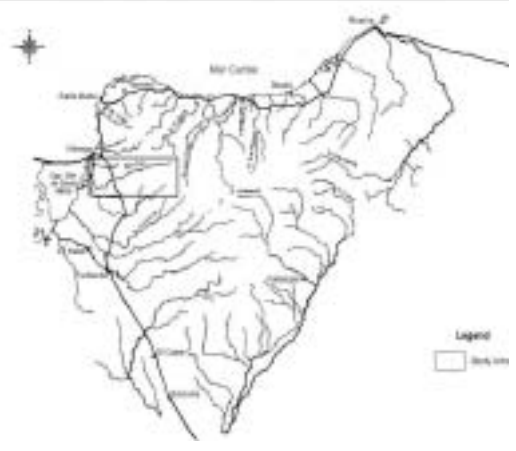

Figure 1. Map of the río Frío valley, Sierra Nevada de Santa Marta, north-east Colombia.

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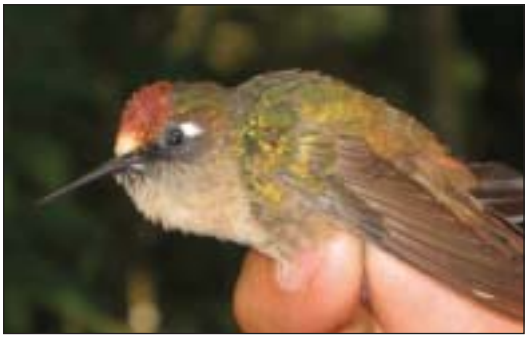

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community within the reserve boundaries, and the security situation.

Darlington[3] conducted 14 months of ornithological work in dry and humid parts of the coastal plain near the small town of Río Frío. In the pre-montane and montane zones, the closest areas that have been surveyed are on the northern slope of the Sierra Nevada, along the San Lorenzo ridge (11°06'N 74°04'W) in the vicinity of Santa Marta city, where ornithological studies have continued since the publication of Todd & Carriker[17]. The latter intensively collected in this area in the early 20th century, over a period of several years and at different sites and elevations within the Sierra Nevada.

We visited the río Frío valley on seven occasions, each of 5–10 days (over a total of 48 days), in June 2000–July 2001, and surveyed different habitats at 650–4,200 m. Standardised methodologies and techniques for assessing bird population abundance were utilised, namely mist-netting (15 x 12 m nets), fixed-radius point counts, non-systematic field observations and tape-recordings. Knowledge exchange with local residents concerning the sierra's avifauna produced additional information.

Results

In total, 285 bird species of 42 families were recorded in the middle and upper río Frío Valley (Appendix 1). The checklist for the Sierra Nevada de Santa Marta region includes 672 species (Strewe unpubl.). Characteristic families are Trochilidae (20 species), Thraupidae (27 species) and, especially, Tyrannidae (43 species). We collected information on 18 species with limited ranges within the Sierra Nevada Endemic Bird Area (EBA 036). Three others are range-restricted species known from EBA 036, but also occur in other EBAs. In total, 55 Santa Marta endemic subspecies were recorded in the study area (Appendix 1).

Figure 2. Santa Marta Antpitta *Grallaria bangsi* (Ralf Strewe)

Figure 3. Blossomcrown *Anthocephala floriceps* (Ralf Strewe)

Figure 4. Santa Marta Brush-finch *Atlapetes melanocephalus* (Ralf Strewe)

Figure 5. White-lored Warbler *Basileuterus conspicillatus* (Ralf Strewe)

Figure 6. White-tailed Starfrontlet *Coeligena phalerata* (Ralf Strewe)

Figure 7. Santa Marta Warbler *Basileuterus basilicus* (Ralf Strewe)

Figure 8. Rufous-headed Spinetail *Synallaxis fuscorufa* (Ralf Strewe)

Figure 9. Streak-capped Spinetail *Cranioleuca hellmayri* (Ralf Strewe)

Figure 10. Yellow-crowned Whitestart *Myioborus flavivertex* (Ralf Strewe)

Figure 11. Santa Marta Tapaculo *Scytalopus sanctaemartae* (Ralf Strewe)

Threatened species

Accounts are presented for 13 threatened species of the río Frío valley, including 11 species considered globally threatened according to BirdLife International[1] (one Critical, two Endangered, three Vulnerable, five Near Threatened), and two additional species from the Colombian Red Data Book[11].

Black-fronted Wood-quail *Odontophorus atrifrons*
Owing to its small and fragmented range and habitat loss, considered Vulnerable[1,5]. In the Sierra Nevada, Black-fronted Wood-quail is principally known from the San Lorenzo ridge[4,8,17]. Within the río Frío Valley it was uncommon in pre-montane forest fragments and shade-grown coffee plantations, at 850–2,500 m. At El Congo reserve six groups were noted calling at dusk and dawn.

Blue-billed Curassow *Crax alberti*
We confirmed the presence of a small population of this Critically Endangered Colombian endemic within the río Frío Valley[1,2]. At El Congo reserve three pairs were found, with observations in primary forest and males heard calling in January–March 2001. Juveniles were observed by local people outside the reserve boundaries, in the lower Congo Valley, at 650 m, in April 2001, indicating that breeding still occurs in the area. A group of five was seen by locals, c.20 km from El Congo reserve, at Piedras Blancas, within the main río Frío Valley, at 750 m, in 1999 (I. Padierna pers. comm.). Within its limited range, the species is declining due to habitat destruction and hunting pressure. A species-focused protection campaign is underway, and hunting is now controlled by local authorities within the valley.

Andean Condor *Vultur gryphus*
Treated as Endangered in the Colombian Red Data Book[11]. We recorded three at 3,500–4,000 m in April 2001. Local people reported the species lower, at 2,200 m, in a very steep and narrow part of the río Frío Valley, where it may also breed.

Semi-collared Hawk *Accipiter collaris*
This little-known raptor, considered Near Threatened[1,11], was recorded in the río Frío Valley, with individuals or pairs hunting at forest borders and over shade-grown coffee plantations, at 1,050–1,600 m. The species is rare and highly sensitive to human disturbance.

Black-and-chestnut Eagle *Oroaetus isidori*
Considered Endangered in the Colombian Red Data Book[11], but not treated as globally threatened[1]. From the río Frío Valley there is only one record, of a pair soaring over montane forest, at 2,800 m, in April 2001.

Military Macaw *Ara militaris*
In the middle and upper río Frío Valley this Vulnerable[1,11] species is only present during the breeding season (December–July). Altitudinal migration has been confirmed for the species on the north slope of the Sierra Nevada (Strewe & Molina unpubl.). Several nests were found in forest fragments at 800–1,600 m. One at El Congo reserve was intensively studied in 2001. The nest was located in an abandoned woodpecker hole, 12 m above ground in a *Ceiba* sp., within open primary forest on a steep slope at 900 m. Two juveniles departed the cavity in May 2001. The breeding population of c.12 pairs, with groups of up to 28 observed in December 2000, but is still threatened in the valley by habitat loss and domestic trade (two cases noted in 2001).

Santa Marta Parakeet *Pyrrhura viridicata*
This highly range-restricted and Endangered species is best known in the Sierra Nevada from a historical site at Taquima, dpto. La Guajira, and from recent records on the San Lorenzo ridge[1,14]. An additional population was discovered in the río Frío valley, in montane forests at 2,600–3,200 m, in April 2001. On several occasions, two flocks of eight and 12 individuals were observed feeding in the canopy of undisturbed montane forest. Hunting pressure by local residents occurs, as we observed the flight feathers of several individuals in a Kogi Indian settlement (see also Rodríguez-Mahecha & Renjifo[14]).

Blossomcrown *Anthocephala floriceps*
This Vulnerable Colombian endemic was uncommon in the valley at 850–1,700 m, especially at El Congo reserve[1,11]. Individuals were observed feeding low at forest borders, at *Psychotria* flowers (Rubiaceae), and both sexes were caught in primary forest at 1,600 m.

Rusty-headed Spinetail *Synallaxis fuscorufa*
Santa Marta endemic considered globally Near Threatened[1] and Vulnerable in the Colombian Red Data Book[11]. Recorded in humid shrubby forest borders and montane forest above 2,200 m within the valley. Five were caught in dense undergrowth at 2,600 m. Individuals frequently joined mixed-species foraging flocks as a core species.

Santa Marta Antpitta *Grallaria bangsi*
Inhabits humid montane forest and mature secondary woodland at 1,200–2,400 m and is considered globally Near Threatened[1], and Vulnerable in the Colombian Red Data Book[11]. A new locality, not mentioned by Kattan & Renjifo[9], was found in the río Frío valley, where five were heard calling along a 4.5-km trail in April 2001, and one was caught, in March 2001, in a pre-montane forest patch at 1,800–2,400 m.

Santa Marta Bush-tyrant *Myiotheretes pernix*
This Endangered Santa Marta endemic was recently known only from the San Lorenzo ridge[1,15]. An additional population was found in montane forest at 2,400–3,000 m in the upper río Frío valley. Three were seen over 2.5 km in the naturally open canopy of ridge-top primary forest, in April 2001.

White-lored Warbler *Basileuterus conspicillatus*
Considered globally Near Threatened[1], and Endangered in the Colombian Red Data Book[10]. This Santa Marta endemic is quite common (on the basis of mist-netting and point counts) in different habitats, from primary forest, forest borders, older second growth to shade-coffee plantations, at 650–2,200 m in the valley. It tolerates a degree of habitat degradation and is among the most common endemics in the pre-montane zone. At El Congo reserve the species is sympatric with Rufous-capped Warbler *B. rufifrons* and Golden-crowned Warbler *B. culicivorus*, sometimes within the same mixed-species flocks.

Santa Marta Warbler *Basileuterus basilicus*
Considered globally Near Threatened[1], and Vulnerable in the Colombian Red Data Book[12]. This Santa Marta endemic is known from four sites on the massif, including the río Frío valley, where it is uncommon (2–4 individuals following mixed-species flocks) in montane forest with dense bamboo (*Chusquea* sp.) stands at 2,300–2,400 m. Birds were caught at 2,600 m in April 2001.

Other noteworthy species

White-tailed Starfrontlet *Coeligena phalerata*
This Santa Marta endemic is known from six sites on the northern slope, including the San Lorenzo ridge at 1,600–2,400 m[8,17]. The first records from the río Frío Valley were from montane forest above 2,000 m, where both sexes were caught in primary forest in April 2001.

Santa Marta Woodstar *Chaetocercus astreans*
This little-known endemic is principally known from the San Lorenzo ridge, in the pre-montane zone. We recorded it for the first time on the western slope of the massif, in the río Frío Valley,

where individuals were observed feeding on *Inga* flowers and hunting insects from high exposed perches in shade-coffee plantations at 900–1,600 m.

Santa Marta Wren *Troglodytes monticola*
Santa Marta endemic known only from collections made by Carriker[17]. Thus, we made the first record for 90 years in the upper río Frío Valley, at 3,600 m, where a pair was observed and tape-recorded in a small montane forest patch (c.2 ha) amidst heavily burned and overgrazed páramo. Only one other such intact forest patch was found in an area of c.5,000 ha, some 12 km distant, where we unsuccessfully searched for the species. The wren's habitat is extremely isolated, due to burning and overgrazing. Thus, based on our work in the río Frío Valley, *T. monticola* appears to be threatened, due to its very narrow distribution, low population density and habitat destruction. More data are required concerning the habitat condition of other páramo and high montane forests elsewhere on the massif.

Santa Marta Tapaculo *Scytalopus sanctamartae*
A little-known endemic which occurs in the pre-montane zone of the massif. On the western slope, within the río Frío valley, it is uncommon in dense undergrowth of almost undisturbed forest. At El Congo reserve several were caught and four pairs were recorded along a 2-km trail. As Stattersfield *et al*.[16] noted, the species might be threatened by habitat loss, as it occurs at low density in a similar altitudinal range (750–2,000 m) to *Basileuterus conspicillatus*.

Five other Santa Marta endemics were recorded in the study area: Streak-capped Spinetail *Cranioleuca hellmayri* (1,600–3,000 m), Brown-rumped Tapaculo *Scytalopus latebricola* (2,200–3,800 m), Yellow-crowned Whitestart *Myioborus flavivertex* (1,200–2,800 m), Santa Marta Mountain-tanager *Anisognathus melanogenys* (1,500–2,900 m) and Santa Marta Brush-finch *Atlapetes melanocephalus*. The latter occupies a broad altitudinal range, from 900 to 2,800 m, due to the lack of competition from congenerics in the Sierra Nevada. All five endemics were found in different habitats, from secondary forest, forest borders to primary forest.

Discussion

Currently, less than 15% of the sierra's forests remain and these are seriously threatened. Historically, settlers arrived in the Sierra Nevada de Santa Marta during the 1950s, as a result of political violence in Colombia's interior. In the río Frío Valley, forests were cleared to grow bananas in the lowlands, to create pastures for cattle and other livestock or to grow shade coffee in the pre-montane zone. Due to international demand in the late 1970s, marijuana cultivation intensified, resulting in the greatest loss of forest in the río Frío Valley. Furthermore, severe environmental damage resulted when the illegal crops were subsequently sprayed with herbicide by the government[6]. Loss of vegetation cover and inadequate protection systems, especially in the páramo and montane zone, has serious consequences for the region's water catchment, as the río Frío is an important freshwater source for lowland communities, and for the sensitive mangrove ecosystem of the Ciénaga Grande.

Habitat loss within the different vegetation zones of the valley is caused by various factors. Those habitats of the high montane areas are threatened by management of the natural timberline scrub and forest–páramo ecotone through seasonal burning and grazing by farmers and indigenous people. Montane and pre-montane forests are cleared for agriculture (coffee cultivation, cattle ranching), and narcotics cultivation. Ongoing destruction of natural habitats is threatening the resident avifauna, especially the endemics with limited ranges, low population densities and naturally localised distributions resulting from specific habitat preferences.

The Sierra Nevada was declared a Biosphere Reserve by UNESCO, and has been partially protected by the 3,830 km^2 Sierra Nevada de Santa Marta National Park, which was declared in 1977. Nevertheless, despite such protection, in the upper río Frío valley forest loss continues almost unabated, demonstrating that formal designation is inadequate and has failed to protect ever-dwindling natural habitats. El Congo reserve functions only as a secure nesting site for *Ara militaris*, as a refuge for the tiny *Crax alberti* population, and other threatened and endemic species in the valley, but is too small to conserve viable populations. A conservation project focusing on the coffee zone of the middle río Frío is ongoing and aims to create a conservation corridor connecting natural habitats and shade-grown coffee plantations. Analysis of the vegetation types and actual forest cover in the valley was performed using extensive information held by, and the GIS capabilities of, Fundación Pro-Sierra Nevada de Santa Marta, and has enabled the remaining forest islands to be plotted and their degree of isolation to be assessed. These data will be used to develop a habitat management strategy for the valley, addressing identified threats to migrant and resident birds, and to implement a network of private reserves. Other project objectives are to commercially produce bird-friendly coffee, and to establish an educational programme involving local communities in nature conservation and sustainable agronomy. The río Frío Valley has been designated an Important Bird

Area (IBA), under a joint BirdLife International and Alexander von Humboldt Institute (Bogotá) programme.

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Appendix 1. List of the birds of the río Frío Valley, dpto. Magdalena, Colombia. Taxonomy and order follows Hilty and Brown[8] (subspecies) and Hilty[7]. Codes in parentheses: Nm = Nearctic migrant, +Nm = resident and Nearctic migrant populations, with EBAs (Endemic Bird Areas)[16] as follows: Coastal Central Mountains of Venezuela 032; Andes Mérida 033; Caribbean Colombia and Venezuela 035; Santa Marta Mountains 036; Nechi lowlands 037; Colombian Oriental Andes 038; Inter-Andean Colombian valleys 040. Endemic subspecies are included.

General abundance status:
c common; detected on >90% of days
f fairly common; detected on 50–90% of days
u uncommon; detected on 10–50% of days
r rare; detected on <10% of days
Evidence: s = sight record; t = tape-recorded; m = mist-netted; p = photographed.

Scientific name / English name	Status	Evidence
Crypturellus soui Little Tinamou	u	s, t
Ardea alba Great Egret	r	s
Bubulcus ibis Cattle Egret	u	s
Butorides striatus Striated Heron	r	s
Tigrisoma fasciatum Fasciated Tiger-heron	r	s
Cathartes aura (+Nm) Turkey Vulture	c	s
Coragyps atratus Black Vulture	c	s
Sarcoramphus papa King Vulture	f	s
Vultur gryphus Andean Condor	u	s, p
Chondrohierax unicinctus Hook-billed Kite	r	s
Harpagus bidentatus Double-toothed Kite	u	s
Accipiter collaris Semi-collared Hawk	u	s, t
Accipiter bicolor Bicoloured Hawk	r	s
Accipiter superciliosus Tiny Hawk	r	s
Accipiter striatus Sharp-shinned Hawk	u	s
Buteo nitidus Grey-lined Hawk	f	s, t
Buteo magnirostris Roadside Hawk	c	s, t
Buteo leucorrhous White-rumped Hawk	u	s, t
Buteo platypterus (Nm) Broad-winged Hawk	f	s, p
Buteo brachyurus Short-tailed Hawk	f	s
Buteo albonotatus Zone-tailed Hawk	u	s
Buteo jamaicensis (Nm) Red-tailed Hawk	r	s
Oroaetus isidori Black-and-chestnut Eagle	r	s, p
Herpetotheres cachinnans Laughing Falcon	f	s, t
Micrastur ruficollis zonothorax Barred Forest-falcon	u	s, t, m, p
Micrastur semitorquatus Collared Forest-falcon	u	s, t, m, p
Falco sparverius American Kestrel	f	s
Falco columbarius (Nm) Merlin	r	s
Falco rufigularis Bat Falcon	u	s, p
Falco peregrinus (Nm) Peregrine Falcon	r	s
Penelope argyrotis colombiana Band-tailed Guan	c	s, t
Chamaepetes goudotii sanctamarthae Sickle-winged Guan	f	s, t
Crax alberti (EBA 36, 37) Blue-billed Curassow	u	s, t
Colinus cristatus littoralis Crested Bobwhite	u	s, t
Odontophorus atrifrons atrifrons (EBA 36, 38) Black-fronted Wood-quail	c	s, t
Tringa solitaria (Nm) Solitary Sandpiper	r	s
Actitis macularia (Nm) Spotted Sandpiper	u	s
Columba fasciata Band-tailed Pigeon	f	s, t
Columba speciosa Scaled Pigeon	f	s, t
Columba cayennensis Pale-vented Pigeon	u	s, t
Columbina passerina Common Ground-dove	r	s, m, p
Columbina talpacoti Ruddy Ground-dove	u	s
Claravis pretiosa Blue Ground-dove	u	s, t, m, p
Leptotila verreauxi White-tipped Dove	c	s, t, m, p
Geotrygon montana Ruddy Quail-dove	u	s, t, m, p
Geotrygon linearis infusca Lined Quail-dove	f	s, t, m, p
Ara militaris Military Macaw	f	s, t, p
Aratinga wagleri Scarlet-fronted Parakeet	c	s, t, p
Brotogeris jugularis Orange-chinned Parakeet	c	s, t, m, p
Bolborhynchus lineola Barred Parakeet	u	s, t
Touit batavicus Lilac-tailed Parrotlet	u	s, t
Amazona mercenaria Scaly-naped Parrot	f	s, t
Pionus menstruus Blue-headed Parrot	c	s, t, p
Pionus sordidus saturatus Red-billed Parrot	c	s, t, p
Pyrrhura viridicata (EBA 36) Santa Marta Parakeet	u	s, t, p
Piaya cayana Squirrel Cuckoo	c	s, t, m, p
Crotophaga ani Smooth-billed Ani	c	s, t, m, p
Tapera naevia Striped Cuckoo	f	s, t
Otus choliba Tropical Screech-owl	u	s, t
Glaucidium brasilianum Ferruginous Pygmy-owl	f	s, t
Pulsatrix perspicillata Spectacled Owl	u	s, t, p
Strix virgata Mottled Owl	c	s, t
Lurocalis semitorquatus Semi-collared Nighthawk	u	s, t
Caprimulgus longirostris Band-winged Nightjar	f	s, t
Chordeiles acutipennis Lesser Nighthawk	r	s, t ,m, p
Nyctidromus albicollis Pauraque	f	s, t, m, p
Streptoprocne zonaris White-collared Swift	c	s, t, p
Streptoprocne rutila Chestnut-collared Swift	f	s, t
Chaetura pelagica (Nm) Chimney Swift	r	s
Chaetura cinereiventris Grey-rumped Swift	r	s, m, p
Chaetura spinicaudus Band-rumped Swift	u	s
Aeronautes montivagus White-tipped Swift	u	s
Panyptila cayennensis Lesser Swallow-tailed Swift	u	s, t, p
Phaethornis longirostris sussurus Western Long-tailed Hermit	f	s, t, m, p
Phaethornis augusti curiosus Sooty-capped Hermit	u	s, m, p
Phaethornis strigularis Stripe-throated Hermit	u	s, t, m, p
Florisuga mellivora White-necked Jacobin	f	s, m, p
Colibri delphinae Brown Violetear	f	s, t, m, p
Colibri thalassinus Green Violetear	c	s, t, m, p
Colibri coruscans Sparkling Violetear	c	s, t, m, p
Chlorostilbon gibsoni Red-billed Emerald	f	s, t, m, p
Chlorostilbon russatus (EBA 36, 38) Coppery Emerald	u	s, m, p
Thalurania colombica Purple-crowned Woodnymph	c	s, m, p
Lepidopyga goudotii Shining-green Hummingbird	u	s
Amazilia saucerrottei Steely-vented Hummingbird	u	s, m, p
Amazilia tzacatl Rufous-tailed Hummingbird	c	s, t, m, p
Chalybura buffonii aeneicauda White-vented Plumeleteer	c	s, t, m, p
Anthocephala floriceps floriceps (EBA 36, 40) Blossomcrown	u	s, t, m, p
Lafresnaya lafresnayi liriope Mountain Velvetbreast	f	s, m, p
Coeligena phalerata (EBA 36) White-tailed Starfrontlet	u	s, m, p
Metallura tyrianthina districta Tyrian Metaltail	f	s, t, m, p
Heliomaster longirostris Long-billed Starthroat	u	s, m, p
Chaetocercus astreans (EBA 36) Santa Marta Woodstar	u	s, t, p
Pharomachrus fulgidus festatus (EBA 32, 33, 36) White-tipped Quetzal	f	s, t, p
Trogon personatus sanctamartae Masked Trogon	f	s, t
Trogon caligatus Northern Violaceous Trogon	c	s, t, p
Megaceryle torquata Ringed Kingfisher	r	s, t, m, p
Chloroceryle americana Green Kingfisher	f	s, m, p
Momotus momota Blue-crowned Motmot	f	s, t, m, p
Galbula ruficauda Rufous-tailed Jacamar	f	s, t, m, p
Malacoptila mystacalis Moustached Puffbird	u	s, m, p
Aulacorhynchus calorhynchus (EBA 32, 33, 36) Yellow-billed Toucanet	f	s, t
Aulacorhynchus prasinus lautus Emerald Toucanet	f	s, t

Pteroglossus torquatus Collared Aracari	f	s, t, m, p
Ramphastos sulfuratus Keel-billed Toucan	c	s, t, m, p
Picumnus squamulatus Scaled Piculet	f	s, t, m, p
Piculus rubiginosus alleni Golden-olive Woodpecker	c	s, t, m, p
Dryocopus lineatus Lineated Woodpecker	f	s, t, m, p
Melanerpes rubricapillus Red-crowned Woodpecker	c	s, t, m, p
Veniliornis fumigatus Smoky-brown Woodpecker	u	s
Campephilus melanoleucos Crimson-crested Woodpecker	f	s, t, m, p
Campylorhamphus trochilirostris Red-billed Scythebill	u	s
Dendrocincla fuliginosa Plain-brown Woodcreeper	f	s, t, m, p
Xiphorhynchus susurrans Cocoa Woodcreeper	c	s, t, m, p
Lepidocolaptes lacrymiger sanctaemartae Spot-crowned Woodcreeper	u	s, t, m, p
Xiphocolaptes promeropirhynchus Strong-billed Woodcreeper	u	s, t
Asthenes wyatti sanctaemartae Streak-backed Canastero	u	s, t
Synallaxis albescens nesiotis Pale-breasted Spinetail	c	s, t, m, p
Synallaxis fuscorufa (EBA 36) Rusty-headed Spinetail	f	s, t, m, p
Cranioleuca hellmayri (EBA 36) Streak-capped Spinetail	f	s, t, m, p
Premnoplex brunnescens coloratus Spotted Barbtail	u	s, t
Anabacerthia striaticollis anxia Montane Foliage-gleaner	c	s, t, m, p
Automolus rubiginosus rufipectus Ruddy Foliage-gleaner	f	s, t, m, p
Xenops rutilans phelpsi Streaked Xenops	u	s, t, m, p
Xenops minutus Plain Xenops	f	s, t, m, p
Sclerurus albigularis propinquus Grey-throated Leafscraper	u	s, t, m, p
Drymophila caudata Long-tailed Antbird	c	s, t, m, p
Thamnophilus punctatus Western Slaty-antshrike	f	s, t, m, p
Myrmotherula schisticolor sanctaemartae Slaty Antwren	u	s, m, p
Grallaria bangsi (EBA 36) Santa Marta Antpitta	u	s, t, m, p
Grallaria guatimalensis Scaled Antpitta	u	s, t
Grallaria rufula spatiator Rufous Antpitta	u	s, t
Grallaricula ferrugineipectus ferrugineipectus Rusty-breasted Antpitta	f	s, t, m, p
Scytalopus sanctaemartae (EBA 36) Santa Marta Tapaculo	f	s, t, m, p
Scytalopus latebricola (EBA 036) Brown-rumped Tapaculo	f	s, t
Manacus manacus White-bearded Manakin	f	s, t, m, p
Pipra erythrocephala Golden-headed Manakin	u	s, t, m, p
Schiffornis turdinus Thrush-like Schiffornis	f	s, t, m, p
Ampelion rubrocristatus Red-crested Cotinga	f	s, t
Pipreola aureopecta decora Golden-breasted Fruiteater	f	s, t, m, p
Pachyramphus cinnamomeus Cinnamon Becard	f	s, t, m, p
Pachyramphus albogriseus Black-and-white Becard	u	s
Tityra semifasciata Masked Tityra	c	s, t, m, p
Phyllomyias nigrocapillus nigrocapillus Black-capped Tyrannulet	u	s
Zimmerius vilissimus Paltry Tyrannulet	u	s, t, m, p
Zimmerius chrysops minimus Golden-faced Tyrannulet	c	s, t, m, p
Myiopagis gaimardii Forest Elaenia	u	s, t, m, p
Elaenia flavogaster Yellow-bellied Elaenia	c	s, t, m, p
Elaenia chiriquensis Lesser Elaenia	f	s, t
Elaenia frantzii browni Mountain Elaenia	f	s, t, m, p
Mionectes olivaceus galbinus Olive-striped Flycatcher	c	s, t, m, p
Mionectes oleaginus Ochre-bellied Flycatcher	c	s, t, m, p
Mecocerculus leucophrys montensis White-throated Tyrannulet	f	s, t, m, p
Leptopogon amaurocephalus Sepia-capped Flycatcher	c	s, t, m, p
Atalotriccus pilaris Pale-eyed Pygmy-tyrant	f	s, t, m, p
Hemitriccus granadensis lehmanni Black-throated Tody-tyrant	u	s, t, m, p
Todirostrum cinereum Common Tody-flycatcher	u	s, t, m, p
Rhynchocyclus olivaceus Olivaceous Flatbill	u	s, t, m, p
Tolmomyias sulphurescens Yellow-olive Flycatcher	r	s, t, m, p
Platyrinchus mystaceus White-throated Spadebill	r	s, m, p
Myiophobus fasciatus Bran-coloured Flycatcher	u	s, m, p
Pyrrhomyias cinnamomea assimilis Cinnamon Flycatcher	c	s, t, p
Contopus cooperi (Nm) Olive-sided Flycatcher	u	s, p
Contopus virens (Nm) Eastern Wood-pewee	u	s, m, p
Contopus cinereus Tropical Pewee	r	s, t
Empidonax virescens (Nm) Acadian Flycatcher	u	s, t, m, p
Empidonax traillii (Nm) Willow Flycatcher	r	s, m, p
Empidonax alnorum (Nm) Alder Flycatcher	f	s, t, m, p
Sayornis nigricans Black Phoebe	f	s
Attila spadiceus Bright-rumped Attila	f	s, t, m, p
Myiarchus tuberculifer Dusky-capped Flycatcher	c	s, t, m, p
Pitangus sulphuratus Great Kiskadee	c	s, t, m, p
Megarhynchus pitangua Boat-billed Flycatcher	u	s, t, m, p
Myiozetetes cayanensis Rusty-margined Flycatcher	f	s, t
Myiozetetes similis Social Flycatcher	c	s, t, m, p
Myiodynastes maculatus Streaked Flycatcher	c	s, t, m, p
Myiodynastes chrysocephalus cinerascens Golden-crowned Flycatcher	c	s, t
Myiotheretes pernix (EBA 36) Santa Marta Flycatcher	u	s, t, p
Ochthoeca rufipectoralis Rufous-breasted Chat-tyrant	f	s, t
Ochthoeca diadema jesupi Yellow-bellied Chat-tyrant	u	s, t
Legatus leucophaius Piratic Flycatcher	r	s
Tyrannus tyrannus (Nm) Eastern Kingbird	r	s
Tyrannus melancholicus Tropical Kingbird	c	s, t, m, p
Progne subis (Nm) Purple Martin	u	s
Stelgidopteryx ruficollis Southern Rough-winged Swallow	c	s, t, m, p
Riparia riparia (Nm) Bank Swallow	u	s
Hirundo rustica (Nm) Barn Swallow	c	s
Notiochelidon murina Brown-bellied Swallow	f	s
Cinclus leucocephalus rivularis White-capped Dipper	u	s
Cyanocorax affinis Black-chested Jay	c	s, t
Campylorhynchus griseus Bicoloured Wren	c	s, t, m, p
Thryothorus rutilus Rufous-breasted Wren	u	s, t, m, p
Thryothorus rufalbus Rufous-and-white Wren	f	s, t, m, p
Troglodytes aedon House Wren	c	s, t, m, p
Troglodytes monticola (EBA 36) Santa Marta Wren	r	s, t
Henicorhina leucophrys bangsi Grey-breasted Wood-wren	c	s, t, m, p
Microcerculus marginatus corrasus Southern Nightingale-wren	f	s, t, m, p
Catharus aurantiirostris sierrae Orange-billed Nightingale-thrush	f	s, t

Catharus fuscater sanctamartae Slaty-backed Nightingale-thrush	u	s, t
Catharus fuscescens (Nm) Veery	r	s, m, p
Catharus minimus (Nm) Grey-cheeked Thrush	u	s, m, p
Catharus ustulatus (Nm) Swainson's Thrush	f	s, m, p
Platycichla flavipes Yellow-legged Thrush	c	s, t, m, p
Turdus olivater sanctamartae Black-hooded Thrush	f	s, t, m, p
Turdus grayi Clay-coloured Thrush	u	s, t
Turdus leucomelas Pale-breasted Thrush	c	s, t, m, p
Turdus albicollis White-necked Thrush	f	s, t, m, p
Turdus fuscater cacozelus Great Thrush	c	s, t, m, p
Ramphocaenus melanurus sanctamartae Long-billed Gnatwren	u	s, t, m, p
Vireo flavifrons (Nm) Yellow-throated Vireo	u	s, m, p
Vireo olivaceus (Nm+) Red-eyed Vireo	u	s, t, m, p
Vireo leucophrys Brown-capped Vireo	f	s, t
Hylophilus aurantiifrons Golden-fronted Greenlet	f	s, t, m, p
Molothrus bonariensis Shiny Cowbird	f	s
Scaphidura oryzivora Giant Cowbird	u	s
Psarocolius decumanus Crested Oropendola	c	s, t, m, p
Amblycercus holosericeus Yellow-billed Cacique	u	s, t
Icterus auricapillus Orange-crowned Oriole	r	s, t
Icterus galbula (Nm) Baltimore Oriole	u	s
Icterus chrysater Yellow-backed Oriole	c	s, t
Icterus mesomelas Yellow-tailed Oriole	u	s, t, m, p
Mniotilta varia (Nm) Black-and-white Warbler	f	s, m, p
Vermivora chrysoptera (Nm) Golden-winged Warbler	r	s
Vermivora peregrina (Nm) Tennessee Warbler	c	s, m, p
Parula pitiayumi Tropical Parula	f	s, t, m, p
Dendroica petechia (Nm) Yellow Warbler	r	s, m, p
Dendroica fusca (Nm) Blackburnian Warbler	f	s
Setophaga ruticilla (Nm) American Redstart	c	s, m, p
Seiurus noveboracensis (Nm) Northern Waterthrush	f	s, m, p
Oporornis philadelphia (Nm) Mourning Warbler	r	s, m, p
Myioborus miniatus sanctamartae Slate-throated Whitestart	c	s, t, m, p
Myioborus flavivertex (EBA 36) Yellow-crowned Whitestart	f	s, t, m, p
Basileuterus culicivorus indignus Golden-crowned Warbler	f	s, t, m, p
Basileuterus conspicillatus (EBA 36) White-lored Warbler	c	s, t, m, p
Basileuterus rufifrons Rufous-capped Warbler	c	s, t, m, p
Basileuterus basilicus (EBA 36) Santa Marta Warbler	u	s, t, m, p
Coereba flaveola Bananaquit	c	s, t, m, p
Diglossa albilatera White-sided Flowerpiercer	f	s, t, m, p
Diglossa humeralis nocticolor Black Flowerpiercer	c	s, t, m, p
Diglossa sittoides hyperythra Rusty Flowerpiercer	u	s, m, p
Conirostrum rufum Rufous Conebill	u	s, t
Cyanerpes caeruleus Purple Honeycreeper	f	s, t, m, p
Cyanerpes cyaneus Red-legged Honeycreeper	u	s, t, m, p
Dacnis cayana Blue Dacnis	u	s, m, p
Tersina viridis Swallow Tanager	c	s, t, m, p
Chlorophonia cyanea psittacina Blue-naped Chlorophonia	c	s, t, m, p
Euphonia laniirostris Thick-billed Euphonia	c	s, t, m, p
Tangara gyrola toddi Bay-headed Tanager	c	s, t, m, p
Tangara heinei Black-capped Tanager	c	s, t
Tangara cyanoptera Santa Marta Mountain-tanager	f	s, t, m, p
Thraupis episcopus Blue-grey Tanager	c	s, t, m, p
Thraupis palmarum Palm Tanager	u	s, t, m, p
Thraupis cyanocephala margaritae Blue-capped Tanager	f	s, t, m, p
Thlypopsis fulviceps Fulvous-headed Tanager	u	s, p
Eucometis penicillata Grey-headed Tanager	u	s, t, m, p
Rhodinocichla rosea Rosy Thrush-tanager	f	s, t, m, p
Ramphocelus dimidiatus Crimson-backed Tanager	c	s, t, m, p
Piranga flava faceta Hepatic Tanager	u	s, p
Piranga rubra (Nm) Summer Tanager	f	s, m, p
Piranga olivacea (Nm) Scarlet Tanager	r	s, m, p
Tachyphonus luctuosus White-shouldered Tanager	u	s, t, m, p
Tachyphonus rufus White-lined Tanager	c	s, t, m, p
Catamblyrhynchus diadema Plush-capped Finch	u	s, t
Saltator maximus Buff-throated Saltator	c	s, t, m, p
Saltator striatipectus Streaked Saltator	c	s, t, m, p
Pheucticus chrysopeplus laubmanni Yellow Grosbeak	u	s, t, m, p
Pheucticus ludovicianus (Nm) Rose-breasted Grosbeak	f	s, m, p
Cyanocompsa cyanoides Blue-back Grosbeak	f	s, m, p
Volatinia jacarina Blue-back Grassquit	c	s, t, m, p
Tiaris fuliginosa Sooty Grassquit	f	s, t, m, p
Tiaris obscura Dull-coloured Grassquit	f	s, m, p
Oryzoborus funereus ochrogyne Thick-billed Seed-finch	f	s, t, m, p
Sporophila intermedia Grey Seedeater	u	s, m, p
Sporophila nigricollis Yellow-bellied Seedeater	c	s, t, m, p
Emberizoides herbicola Wedge-tailed Grass-finch	u	s, t
Phrygilus unicolor Plumbeous Sierra-finch	f	s
Zonotrichia capensis Rufous-collared Sparrow	c	s, t, m, p
Atlapetes melanocephalus (EBA 36) Santa Marta Brush-finch	c	s, t, m, p
Buarremon torquatus basilicus Stripe-headed Brush-finch	f	s, m, p
Arremonops conirostris Black-striped Sparrow	f	s, t, m, p
Arremon schlegeli Golden-winged Sparrow	c	s, t, m, p
Carduelis psaltria Lesser Goldfinch	f	s, t

Información adicional sobre la avifauna de los estados de Hidalgo y Querétaro, México, incluyendo nuevos registros estatales

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We present 17 and 29 noteworthy records for the avifaunas of the Mexican states of Hidalgo and Querétaro, respectively. We include records of some species that had been previously reported in both states, but which complement and extend their known geographical and ecological ranges. These data were gathered during February 1993 to May 1996, before and during the construction of a dam located on the Hidalgo–Querétaro border. Noteworthy new state records include: Least Grebe *Tachybaptus dominicus*, Black-necked Grebe *Podiceps nigricollis*, Wood Duck *Aix sponsa*, Peregrine Falcon *Falco peregrinus*, American Avocet *Recurvirostra americana*, Western Sandpiper *Calidris mauri*, Great Horned Owl *Bubo virginianus*, Chestnut-collared Swift *Streptoprocne rutila*, Nutting's Flycatcher *Myiarchus nuttingi*, Brown-crested Flycatcher *M. tyrannulus*, Rose-throated Becard *Pachyramphus aglaiae* and Crissal Thrasher *Toxostoma crissale*. An interesting new record is of European Starling *Sturnus vulgaris* at one of the few sites where the species has been reported in central Mexico.

México es considerado como uno de los países más biodiversos[27]. Sin embargo, son pocas las entidades federativas del país con inventarios relativamente completos de su riqueza avifaunística. El conocimiento de la distribución y estacionalidad de la avifauna es básico para la creación de áreas protegidas y la elaboración de sus planes de manejo. Los estados de Querétaro y Hidalgo, ubicados en la región centro-oriental del país, poseen una diversidad biológica notable, propiciada por su compleja topografía y climas[10,13,22,36,41]. Además dentro de sus límites confluyen tres regiones naturales del país: la Sierra Madre Oriental, el Eje Neovolcánico y la Mesa Central.

A pesar de ello, son relativamente pocos los trabajos ornitológicos realizados en ambos estados[33] destacando que es sólo hasta los últimos años que se han ampliado sus listados avifaunísticos. Para el estado de Querétaro los trabajos más recientes[5,11,16,19,28–30,34,37] indican una riqueza avifaunística de 243 especies, mientras que para el estado de Hidalgo se indica una riqueza de 290 especies[1,7,8,14,23–26,29,31,37–40]. Sin embargo, la riqueza avifaunística y su distribución geográfica en estos estados aún no están completamente conocidas.

Howell & Webb[21] presentaron para cada especie una distribución geográfica propuesta con base en registros publicados, inéditos y en inter- y extrapolaciones, sin embargo requiere de ser confirmada. Es por ello que algunas especies aquí reportadas ya han sido propuestas por estos autores para Querétaro e Hidalgo como hipotéticas a través de mapas, aunque carecen de registro específico con fechas y localidades precisas.

En el presente trabajo consideramos tanto nuevos registros como nuevas localidades. Lo primero se considera como tal en los casos donde la localidad de registro cae fuera del área de distribución propuesta por Howell & Webb[21] y que no habían sido reportados para uno u otro estado con base en la literatura. Los nuevos registros y las nuevas localidades aparecen indicadas después del nombre cada especie. Presentamos una lista comentada de algunas especies de aves observadas y/o colectadas, además de información adicional que consideramos relevante para la avifauna de Querétaro e Hidalgo. Los especimenes colectados se encuentran depositados en el Departamento de Ecología y Comportamiento Animal del Instituto de Ecología (INECOL), A.C. en Xalapa, Veracruz, México.

Área de estudio y métodos

La mayoría del trabajo de campo se realizó durante la construcción y operación de la Central Hidroeléctrica Ing. Fernando Hiriart Balderrama, la cual se ubica entre los límites de los estados de Querétaro y Hidalgo, abarcando parte de los ríos Tula, San Juan y Moctezuma (20°30'N y 20°55'N 99°20'W y 99°40'W). La cortina de la presa se ubica sobre el río Moctezuma, en la confluencia de los ríos Tula y San Juan, en el sitio conocido como Cañón del Infiernillo (20°39'N 99°30'W). El embalse que

cubre un área de 2.300 ha se extiende desde el Cañón del Infiernillo hasta aguas arriba sobre los ríos Tula y San Juan que cubre un recorrido de aproximadamente 26 km (Taxidhó y La Florida)[6]. La zona de estudio se ubica entre las provincias fisiográficas del Eje Neovolcánico y la Sierra Madre Oriental (Fig. 1, Apéndice 1).

En la zona del embalse y en la zona de influencia se encuentran los siguientes tipos de vegetación: matorral desértico micrófilo, matorral desértico crasicaule, matorral desértico rosetófilo, bosque de encino y vegetación riparia. En los angostos valles de los ríos se cultivan algunos árboles frutales y en algunas laderas se presenta bosque tropical caducifolio, matorral submontano y vegetación secundaria[6,9].

El clima de la región es de tipo seco estepario[15]. Desde el punto de vista fisiográfico, la zona es contrastante y se aprecian cadenas montañosas con amplias depresiones topográficas paralelas, así como paredes abruptas que cortan verticalmente a las cadenas montañosas, formando profundos cañones. Las zonas más prominentes son el cerro de Los Lirios y la Sierra del Doctor[9].

Las localidades fueron muestreadas desde febrero de 1993 hasta mayo de 1996[17,18] (ver Apéndice 1 y Fig. 1). Los muestreos de la avifauna se llevaron a cabo con el esfuerzo de al menos dos personas y mediante redes ornitológicas y observaciones directas en transectos lineales de 1 km de longitud y amplitud de franja de 50 m y siguiendo el método de Emlen[12]. Diecinueve transectos se realizaron en bosque de galería, 15 en el matorral micrófilo, ocho en el matorral crasicaule, ocho en el matorral rosetófilo y seis en el matorral submontano y bosque de encino. La secuencia y nomenclatura de las especies sigue a la AOU[2–4].

Resultados

Fueron obtenidos un total de 17 nuevos registros para el estado de Hidalgo y 29 para el estado de Querétaro. En el primer caso los nuevos registros aumentan en 5.8% la riqueza avifaunística conocida, la cual se eleva a un total de 307 especies, mientras que en el segundo los nuevos registros aumentan en casi 12% la riqueza conocida para un total de 272 especies. A continuación se presenta el listado comentado de las

Figura 1. Mapa de los límites entre el estado de Querétaro e Hidalgo, México, indicando las localidades mencionadas en el Apéndice 1.

especies, así como las localidades de registro y entre paréntesis el número de catálogo de los especimenes colectados. Uno o dos asteriscos después del nombre científico indican los nuevos registros y las nuevas localidades y la inicial del estado, respectivamente: Q = Querétaro, H = Hidalgo.

Tachybaptus dominicus (*QH) Varios individuos observados en febrero, agosto y octubre de 1993 en las presas El Centenario, Paso de Tablas, Presa Vicente Aguirre, y en los ríos Tula y San Juan.

Podiceps nigricollis (*H) Reportada para la presa El Centenario, Querétaro por Navarro *et al*.[30]. Observado en las márgenes del río San Juan, cerca de La Sabina y Taxhidó (5 de julio de 1995), en la Central Hidroeléctrica (20–21 de noviembre de 1995), en El Epazote (24 de noviembre, 15 de diciembre de 1995, 15 de enero, 27–30 de marzo, 19 de abril, 18 de mayo 1996), en a presa El Centenario (20 de enero, 15 y 17 de febrero de 1996), y en la presa Vicente Aguirre (21 de agosto de 1993). Alrededor de 18 adultos en La Florida (18 de enero de 1996) y un grupo de nueve adultos en el río San Juan (19 de enero de 1996). Howell & Webb[21] la mapea en Hidalgo y Querétaro entre noviembre y abril (aunque mencionan que anidaba en el Altiplano Mexicano 'por lo menos anteriormente'). Los registros de mayo, julio y agosto confirman que se encuentra todo el año en la región.

Pelecanus occidentalis (*H) Un individuo fue observado volando cerca de la cortina de la Central Hidroeléctrica en octubre de 1995. Rojas-Soto *et al*.[34] registraron un individuo volando sobre la Central Hidroeléctrica el 28 de agosto de 1996 y lo consideraron el primer registro para Querétaro.

Phalacrocorax brasilianus (*Q) Reportado por Mancilla[23] para el este de Hidalgo. Varios individuos observados el 5 y 6 de julio de 1995 en el río San Juan, cerca de las localidades La Sabina y Taxhidó; se observaron además colonias de más de 100 individuos en el ríos Tula y San Juan el 19 y 20 de enero, 15 de febrero, 27–30 de marzo, abril y 18 de mayo de 1996 (bastante común en ambos ríos y en mayo de 1996 se observaron diez nidos, uno de ellos contenía quatro huevos), también en la presa Paso de Tablas y Presa Vicente Aguirre. Docenas de individuos fueron observados en la Laguna de Tequisquiapan (Q) el 1 de abril de 1997. Se confirma su presencia en Querétaro, ya que Howell & Webb[21] la mapean en todo el estado.

Butorides virescens (*Q) Reportada para el este de Hidalgo por Mancilla[23]. Algunos individuos se observaron en el río San Juan, 2 km al sur del antiguo poblado La Vega y Rancho Nuevo (20 de febrero, 12–19 de abril, 24–31 de mayo y 29 septiembre de 1993), en La Boquilla (27 de marzo de 1993), Taxhidó (15 de febrero de 1996); sobre el río Tula en La Florida, a 1 km de Tasquillo (22 de septiembre y 17–20 octubre de 1995) y El Epazote (14–15 de diciembre de 1995, y 15 y 18 de enero, 15 de febrero, y 1 y 19 de abril de 1996).

Nycticorax nycticorax Reportada para Hidalgo[14,23] y Querétaro[34]. Alrededor de 22 individuos, entre adultos y inmaduros observados en las márgenes del río San Juan, cerca del antiguo poblado Rancho Nuevo (9 y 11 de junio de 1993, y 5 de julio de 1995). También a lo largo de las márgenes del río Tula (Alfajayucan, El Epazote) y San Juan (Taxhidó), el 6 de julio, 22 de septiembre de 1995, 15 de febrero, 28 de marzo, 19 de abril y 18 de mayo 1996. Aproximadamente 100 individuos entre adultos y inmaduros cerca de La Florida (18 de enero de 1996) y otro grupo de 80 individuos cerca de La Sabina (19 de enero 1996). Estas observaciones sugieren que la especie es residente en un área no mapeada como tal por Howell y Webb[21].

Aix sponsa (*QH) Un macho observado cerca de La Florida, en el río Tula, el 20 de octubre de 1995 y otro en Taxhidó, el 15 de febrero de 1996.

Anas acuta (*Q) Friedmann *et al*.[14] la reportan para todos los estados del país, excepto Querétaro. Reportada para el este de Hidalgo por Mancilla[23]. Más de 20 individuos observados en la presa El Centenario el 20 de enero y 17 de febrero de 1996.

Anas crecca (*Q) Reportada para Hidalgo por Mancilla[23]. Más de 20 individuos observados en la presa El Centenario el 20 de enero y 17 de febrero de 1996.

Aythya affinis (*Q) Reportada por Friedmann *et al*.[14] para Hidalgo. Un macho observado sobre el río San Juan en la localidad La Boquilla el 27 de marzo de 1993.

Oxyura jamaicensis (**H) Previamente registrada para el este de Hidalgo[23]. Trece individuos se observaron en El Epazote el 23 de noviembre de 1995.

Pandion haliaetus (*H) Reportada para Querétaro por Navarro *et al*.[30]. Varios individuos observados en el río San Juan, cerca de los antiguos poblados de Rancho Nuevo y Vista

Hermosa (agosto y septiembre de 1993), Presa Vicente Aguirre (21 de agosto de 1993) Central Hidroeléctrica (28 de septiembre y 21 de noviembre de 1995); en el río Tula, cerca de la localidad Maxo (7 de julio de 1995) y en el Epazote (13–15 de diciembre de 1995, 15 de enero y 15 de febrero de 1996). Estas observaciones están fuera de las fechas que Howell & Webb[21] indican para individuos transitorios.

Aquila chrysaetos (*Q) Reportada por Friedmann *et al*.[14] para Hidalgo. Un individuo joven fue observado por el grupo de biólogos de la Comisión Federal de Electricidad el 14 de abril de 1993, carretera a Jalpan (Q). Registro corroborado en base a una fotografía, tomada por los mismos biólogos. Otro individuo observado desde el matorral micrófilo y bosque de *Juniperus* el 19 y 29 de julio de 1993.

Falco peregrinus (*QH) Un individuo observado volando cerca de la Central Hidroléctrica el 14 de mayo de 1996.

Dactylortyx thoracicus (**Q) Registros del 21 y 22 de mayo y 10 de junio de 1993 en San Joaquín, y los de Eitnear *et al*.[11] y Rojas *et al*.[34] confirman la presencia de esta especie en Querétaro y amplían el rango de distribución propuesto por Howell y Webb[21].

Porzana carolina (**H) Un ejemplar observado en vegetación de un arroyo en El Epazote el 1 de abril de 1996. Este es el segundo registro preciso para el estado de Hidalgo; el primero fue obtenido por Mancilla[23].

Gallinula chloropus (*Q) Reportada para Hidalgo por Mancilla[23]. Un individuo observado en las márgenes del río San Juan en localidad de La Sabina-El Riito (19 de enero de 1996).

Himantopus mexicanus (*Q) Varios individuos observados en la Presa El Centenario y Paso de Tablas el 20 de enero y 17 de febrero de 1996.

Recurvirostra americana (*QH) Varios individuos observados en la Presa Vicente Aguirre el 21 de agosto de 1993 y en la Presa Paso de Tablas el 20 de enero de 1996.

Tringa melanoleuca (*Q) Dos individuos observados en la Presa Paso de Tablas el 20 de enero de 1996.

Calidris mauri (*QH) Un individuo observado en la Presa Paso de Tablas (Q), y dos individuos en la Presa Vicente Guerrero, Hidalgo, el 21 de agosto de 1993. Un grupo de 25 individuos en la Presa Paso de Tablas (20 de enero de 1996).

Limnodromus scolopaceus (*Q) Un individuo observado en la Presa Centenario el 17 de febrero de 1996.

Gallinago delicata (*Q) Reportada por Martín del Campo[24] y Friedmann *et al*.[14] para Hidalgo. Individuos observados en vegetación riparia del río San Juan, cerca de los antiguos poblados de Vista Hermosa, La Vega y Rancho Nuevo, en 12–19 de abril y 27–30 de septiembre de 1993.

Larus pipixcan (*H) Dos individuos se observaron volando en el río Tula entre las localidades Paso del Arenal y Maxo el 22 de noviembre de 1995 y el 19 de abril de 1996.

Tyto alba (*Q) Reportada para casi todo el país, excepto en diez estados, incluyendo a Querétaro e Hidalgo[14]. Un individuo observado en el campamento Mesa de León, Querétaro, el 14 de abril de 1993.

Bubo virginianus (*Q) Reportado para Hidalgo por Martín del Campo[24] y Mancilla[23]. Un individuo capturado por el grupo de biólogos del Área de Ecología Ambiental de la Comisión Federal de Electricidad en el campamento Mesa de León (Q), en julio de 1992. Registro corroborado en base a seis fotografías.

Streptoprocne rutila (*Q) Reportada por Howell y Webb[20] para el estado de Hidalgo. Veinticinco individuos observados a las seis de la tarde en la localidad La Boquilla y el antiguo poblado La Vega el 26 de marzo de 1993.

Empidonax trailli (*H) Un macho (INECOL 049) colectado el 15 de mayo de 1996 en la localidad El Epazote, municipio de Tasquillo, Hidalgo.

Empidonax oberholseri (**H) Reportado por Navarro *et al*.[30] para el estado de Querétaro. Registro (bajo el nombre de *E. wrightii*) para Hidalgo y Querétaro[26], pero confusión considerable entre *E. oberholseri* y *E. wrightii* antes de Phillips[32]. Colectamos dos machos (23 de noviembre y 12 de diciembre de 1995; INECOL 053, 052) y dos hembras (12 de febrero y 15 de abril de 1996; INECOL 051, 054) en la localidad de El Epazote, Hidalgo.

Empidonax occidentalis (*Q) Reportada para Hidalgo por Miller *et al*.[26]. Mapeado por Howell y Webb[21] como residente para la zona de estudio. Individuos observados en la localidad de San Joaquín el 21 y 22 de mayo de 1993. Un macho

(INECOL 050) colectado el 16 de abril de 1996 en la localidad de El Epazote, municipio de Tasquillo.

Myiarchus tuberculifer (**H) Reportada para Hidalgo por Miller *et al*.[26]. No mapeada en gran parte del estado de Querétaro y región suroeste de Hidalgo por Howell y Webb[21]. Esta especie ya ha sido reportada para Querétaro por Navarro[30] y Arellano[5], y para la región noreste de Hidalgo por Bjelland y Ray[7]. Individuos observados y identificados por sus vocalizaciones en vegetación riparia y xerófila de El Charcón, Hidalgo (19 de febrero de 1993, diciembre de 1995, marzo a mayo de 1996), en la Cascada-La Florida, Hidalgo (15 de enero de 1996) y río San Juan, alimentándose de frutos de *Bursera* sp. (19 de enero de 1996) y en el Epazote, Hidalgo (17 de enero de 1996).

Myiarchus nuttingi (*H) Mapeado por Howell y Webb[21] como una población disyunta desde el sur de San Luis Potosí al norte de Hidalgo. Una hembra colectada (INECOL 055) el 16 de mayo de 1996 en la localidad El Epazote.

Myiarchus tyrannulus (*Q) Reportada para Hidalgo por Miller *et al*.[26] y Mancilla[23]. No mapeada para Querétaro por Howell y Webb[21]. Varios individuos fueron observados en vegetación riparia cerca del antiguo poblado La Vega, uno de ellos alimentando a un volantón (19 de abril, 20 de mayo, y 9 y 11 de junio de 1993), cerca del antiguo poblado Rancho Nuevo y Vista Hermosa (20 y 28 de septiembre de 1995), y en El Epazote (22 de noviembre de 1995; ejemplares capturados en 9 y 11 de junio de 1993, y 16 y 18 de abril de 1996). Un macho colectado (INECOL 056) el 16 de abril de 1996, en el Epazote.

Tyrannus verticalis (*Q) Individuos observados e identificados visualmente alimentándose de frutos de *Bursera* sp., cerca de la localidad de La Sabina, río San Juan (19 de enero de 1996) y en Taxhidó (15–16 de febrero de 1996). Fechas de migración complementarias a las mencionadas por Howell y Webb[21]. Probablemente se trate de una población invernante y no migratorias de paso.

Pachyramphus aglaiae (**QH) No mapeada en gran parte del estado de Querétaro y región suroeste de Hidalgo por Howell y Webb[21]. Esta especie ha sido reportada para Querétaro por Navarro[30] y para la región noreste de Hidalgo por Bjelland y Ray[7]. Individuos observados y colectados en El Epazote, municipio de Tasquillo, Hidalgo (19 de octubre y 23 de noviembre de 1995). Dos hembras colectadas (12 de diciembre de 1995 y 16 de enero de 1996; INECOL 058, 059). Macho y hembra construyendo un nido en las ramas externas de un *Taxodium mucronatum*, en la vegetación riparia de La Vega (17 de abril de 1993).

Vireo gilvus (**H) Reportada para el norte de Hidalgo por Miller *et al*.[26] y para Querétaro por Rojas *et al*.[34]. Dos machos (INECOL 087, 089) y una hembra (INECOL 088) colectados en la población de Cuauhtémoc (17 de octubre de 1995) y el Epazote (22 de noviembre de 1995 y 16 de abril de 96), municipio de Tasquillo, Hidalgo, respectivamente.

Stelgidopteryx serripennis (*H) Reportada para Querétaro por Navarro *et al*.[28] y Navarro *et al*.[30]. Mapeado como migratorio de paso para Querétaro e Hidalgo por Howell y Webb[21]. Sin embargo, Gómez de Silva[16] la registra como residente en la región de Peña Blanca, Querétaro. Tenemos registros de individuos para el Charcón, Hidalgo (19 de febrero de 1993 y 9 de junio de 1993), La Vega, límite entre Querétaro e Hidalgo (19 de abril, y 9 y 11 de junio de 1993) y en San Joaquín, Querétaro (10 de junio de 1993). Estas observaciones apoyan el estatus de especie residente para la región sureste de Querétaro y suroeste de Hidalgo.

Myadestes occidentalis (**Q) Reportada para el norte de Hidalgo[7,26] y Querétaro[19]. Un individuo observado el 10 de junio de 1993 en bosque de encino en San Joaquín, camino hacia Casa de Máquinas. Otro escuchado en río Tolimán, Querétaro (23 de agosto de 1993).

Turdus grayi (**QH) No mapeada para el sur de Querétaro y suroeste de Hidalgo por Howell y Webb[21]. Reportado por Navarro *et al*.[28,30], Arellano[5] y Gómez de Silva[16] para Querétaro, y por Miller *et al*.[26], Bjelland & Ray[7], Florez & Gerez[13], Mancilla[23] y Navarro *et al*.[29] para Hidalgo. Individuos observados y/o colectados (INECOL 068–075) en el poblado Cuauhtémoc (17–18 de octubre de 1995, 23–24 de noviembre de 1995) y en El Epazote (11 de diciembre de 1995, 16 de enero de 1996, 12–13 de febrero de 1996, 29 y 31 de marzo de 1996, 16–17 de abril de 1996, 15 y 17 de mayo de 1996), municipio de Tasquillo, Hidalgo.

Dumetella carolinensis (**H) Reportada por Arellano[5] y Rojas-Soto *et al*.[34] para el norte de Querétaro, y por Mancilla[23] y Navarro *et al*.[29] para la región noreste de Hidalgo. Un macho colectado (INECOL 081) el 16 de abril de 1996 en la localidad de El Epazote, Tasquillo, Hidalgo, probablemente un visitante de invierno.

Toxostoma crissale (*Q) Registros para Portezuelo y 24 km noroeste de Actopan, Hidalgo[26]. Un individuo observado el 29 de marzo en el antiguo poblado La Vega, y el 29 de septiembre de 1993 en matorral rosetófilo cerca del campamento Mesa de León (Q).

Melanotis caerulescens (**H) Reportada para el noreste de Hidalgo[7,13,23], y centro-oeste, noreste y noroeste de Querétaro[28,30] y Tasquillo[26]. Aparentemente no existen registros para la suroeste de Hidalgo. Cinco individuos (tres machos y dos hembras) colectados, en El Epazote: 24 de noviembre de 1995 (INECOL 083), 11 de diciembre de 1995 (INECOL 084), 15 de enero de 1996 (INECOL 085), 31 de marzo de 1996 (INECOL 086) y 18 de abril de 1996 (INECOL 082). Otros individuos observados en el Charcón, Hidalgo (19 de febrero de 1993) y en La Vega (20 de febrero y 17 de abril de 1993). Individuos observados en bosques de encino de San Joaquín, Querétaro (9–10 de junio de 1993). Cuatro individuos observados en Peña Blanca, Querétaro (31 de julio de 1998).

Sturnus vulgaris (*QH) Cuatro individuos observados en El Epazote (14 de diciembre de 1995, 16–17 de enero, 14 de febrero, 27 de marzo y 17–18 de abril de 1996), donde un par entraba y salía de un hoyo en un árbol, y quizás estaba anidando. Seis individuos observados en Ixmiquilpan, Hidalgo (19 de abril de 1988) y otro observado cerca de Tequisquiapan, Querétaro (1 de abril de 1997). Estos son nuevos registros para Hidalgo y Querétaro, y son una de las pocas localidades donde la especie ha sido reportada en la parte central de México.

Vermivora pinus (*Q) Un individuo observado el 21 de mayo de 1993 en bosque de pino–encino cerca de la localidad de San Joaquín, Querétaro.

Vermivora peregrina (*H) Individuos observados el 17 de octubre de 1995 en Cuauhtémoc, Tasquillo, y el 12–13 de diciembre de 1995, y un macho fue capturado el 27 de marzo y otros fueron observados el 17–19 de abril de 1996 en El Epazote, Hidalgo.

Vermivora virginiae (*H) Dos machos colectados (INECOL 100–101) el 16–17 de abril, respectivamente, y otro macho atrapado y liberado el 17 de abril de 1996 en El Epazote, Hidalgo.

Dendroica petechia (*H) Reportada para Querétaro por Rojas *et al*.[34]. El 22 de mayo de 1993 se observó esta especie en bosque de pino–encino en la localidad de San Joaquín, Querétaro; una hembra fue observada el primero de octubre de 1993 en matorral crasicaule cerca del antiguo poblado Rancho Nuevo, otros individuos se observaron el 19 de mayo cerca del antiguo poblado de la Vega, y el 23 de septiembre de 1995 en La Florida. Una hembra capturada el 20 de septiembre de 1995 en el antiguo pueblo de Vista Hermosa y Rancho Nuevo.

Dendroica magnolia (*Q) Un individuo observado el 26 de marzo de 1993 en las márgenes del río San Juan cerca del antiguo poblado La Vega, Querétaro.

Setophaga ruticilla (*QH) Una hembra observada el 29 de septiembre de 1993 en la vegetación riparia del río San Juan cerca del antiguo poblado Rancho Nuevo.

Seiurus motacilla (**QH) No mapeado para gran parte del estado de Hidalgo ni en Querétaro por Howell y Webb[21]. Reportado para el noreste de Hidalgo[7,23,29] y el suroeste y norte de Querétaro[30]. Una hembra colectada (INECOL 108) el 14 de diciembre de 1995 en el poblado El Epazote. Otro individuo atrapado y liberado en Vista Hermosa (24 de agosto de 1993). Otros individuos observados en el Charcón, Hidalgo (19 de febrero de 1993) y La Vega (20 de febrero de 1993).

Geothlypis nelsoni (*Q) Reportada para Real del Monte, Hidalgo[26]. Un individuo observado y escuchado el 10 de junio de 1993 en bosque de encino cerca de San Joaquín, camino a casa de máquinas.

Piranga ludoviciana (**QH) Registrada en Metztitlán, Hidalgo[26]. Un individuo observado en la vegetación riparia de La Vega el 19 de abril de 1993, otro en matorral micrófilo cerca de la localidad El Presón el 25 de julio de 1993; otro en la localidad Mesa de León el 23 de agosto de 1993; y otro macho en matorral submontano cerca del antiguo poblado Rancho Nuevo el 28 de septiembre de 1993.

Aimophila ruficeps (**QH) Reportada para Querétaro (cerca de San Juan del Río y Tolimán) y Hidalgo (Portezuelo y Jacala)[26]. Tres individuos se observaron el 30 de marzo, otros se observaron el 19–21 de mayo y el 25 y 28–30 de septiembre de 1993 en matorral rosetófilo, micrófilo y submontano en las localidades Nuevo Poblado y campamento Mesa de León, así como en el antiguo poblado Rancho Nuevo. Otros ejemplares se observaron en la localidad de El Epazote.

Spizella pallida (**Q) Reportada para San Juan del Río, Querétaro[26]. Un total de 65 observados cerca del campamento Mesa de León entre el

29–31 de marzo y otros se observaron en matorral micrófilo el 25 de julio de 1993 en la misma localidad.

Spizella atrogularis (**QH) Reportada para Cadereyta, Querétaro, y Portezuelo, Hidalgo[26]. Un individuo observado en ladera del Cerro La Tembladera, 10.5 km noreste de Peña Blanca, Querétaro (8 de junio de 1993), y en el km 16 carretera a San Joaquín (10 de junio de 1993). Otros individuos observados y capturados el 29 de marzo de 1996 en El Epazote.

Passerina ciris (*Q) (**H) Reportada para San Agustín, Hidalgo por Miller *et al*.[26]. Dos ejemplares observados (macho y hembra) el 18–19 de abril y 26 de marzo de 1993 en la vegetación riparia de La Vega. Un macho joven colectado (INECOL 138) el 16 de abril de 1996 en El Epazote.

Agelaius phoeniceus (**H) Reportada para Metztitlán, Hidalgo por Miller *et al*.[26]. Un macho colectado (INECOL 142) el 18 de abril de 1996 en el Epazote, otros observados el 17–18 de abril y el 14 de mayo de 1996 en la misma localidad.

Euphagus cyanocephalus (**QH) Reportada para Querétaro por Miller *et al*.[26] y Navarro *et al*.[30]. Un individuo observado el 19 de abril y 19 de mayo de 1993 en vegetación riparia del río San Juan en el antiguo poblado de La Vega, y el 22 de mayo en bosque de pino–encino en la localidad de San Joaquín, Querétaro.

Icterus cucullatus (**H). Reportada previamente para Portezuelo y el este de Hidalgo[23,26] y para Querétaro[5,30]. Mapeado como migratorio de paso por Howell y Webb[21]. Gómez de Silva[16] la registra como una especie aparentemente residente en Peña Blanca, Querétaro. Colectamos dos machos, uno de ellos joven, el 17 de octubre de 1995 (INECOL 146) y el 18 de abril de 1996 (INECOL 145) en la localidad de El Epazote y el Poblado Cuauhtémoc, municipio de Tasquillo, Hidalgo, respectivamente.

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Apéndice 1. Altitud, tipo de vegetación y coordenadas geográficas de las localidades de observación y muestreo mencionados en el texto.*

1. Campamento Mesa de León, Querétaro (1.935 m: matorral micrófilo, matorral xerófilo crasicaule, matorral rosetófilo, 20°41'N 99°33'W).
2. El Charcón (río San Juan), Querétaro (1.685 m: vegetación riparia, 20°33'N 99°45'W).
3. Cerro Xhifi, Querétaro (2.000 m: matorral xerófilo crasicaule, 20°41'N 99°39'W).
4. Taxhidó, Querétaro (vegetación riparia, 20°34'N 99°38'W).
5. El Riito, Querétaro (1.400 m: vegetación riparia, matorral xerófilo crasicaule, cultivos, 20°34'N 99°35'W).
6. Nuevo Poblado, Querétaro (1.910 m: mesquites, 20°41'N 99°36'W).
7. San Joaquín, Querétaro (2.435 m: bosque de encino, 20°55'N 99°34'W).
8. Cerro Tembladeras, 10.5 km al noreste de Peña Blanca, Querétaro (1.865 m: matorral submontano, 21°01'N 99°45'W).
9. Km 16 carretera a San Joaquín, Querétaro (2.485 m: bosque de *Juniperus*).
10. Arroyo Tolimán, Querétaro (1.035 m: vegetación riparia, 20°48'N 99°27'W).
11. Presa Centenario, Querétaro (1.810 m: vegetación acuática, 20°30'N 99°53'W).
12. Presa Paso de Tablas, Querétaro (1.780 m: vegetación acuática y matorral crasicaule en la periferia, 20°32'N 99°51'W).
13. La Sabina, rio San Juan, Querétaro (1.485 m: matorral xerófilo crasicaule y submontano, 20°48'N 99°29'W).
14. Casa de Máquinas, Querétaro/Hidalgo (matorral submontano, 20°49'N 99°27'W).
15. Vista Hermosa*, Querétaro/Hidalgo (1.425 m: matorral xerófilo crasicaule, matorral submontano, 20°37'N 99°31'W).
16. La Vega*, Querétaro/Hidalgo (1.425 m: vegetación riparia, matorral xerófilo crasicaule, 20°38'N 99°32'W).
17. Rancho Nuevo*, Querétaro/Hidalgo (1.430 m: matorral xerófilo crasicaule, vegetación riparia, 20°39'N 99°31'W).
18. La Boquilla, Querétaro/Hidalgo (1.400 m: matorral xerófilo, 20°39'N 99°30'W).
19. La Florida, Hidalgo (1.495 m: vegetación riparia. 20°35'N 99°22'W).
20. El Epazote, Hidalgo (1.700 m: vegetación riparia, matorral xerófilo y cultivos de maíz, 20°35'N 99°27'W).
21. Presa Vicente Aguirre, Hidalgo (1.800 m: cuerpo de agua, 20°27'N 99°23'W).
22. Tasquillo, Hidalgo (1630 m: vegetación riparia, 20°33'N 99°16'W).
23. Río Tula, Hidalgo (1.495 m: vegetación riparia, 20°30'N 99°25'W).
24. Ventana, Hidalgo (1.450 m: matorral micrófilo, 20°41'N 99°29'W).

*Algunas localidades de muestreo ubicadas en las riveras de los río Tula y San Juan desaparecieron debido al llenado del embalse

Aspectos de la biología del Pitirre Real *Tyrannus cubensis*, en Najasa, Camagüey, Cuba

Pedro Regalado

Cotinga 22 (2004): 66–72

Giant Kingbird *Tyrannus cubensis* is now endemic to Cuba, and is globally threatened. Very little is known of the species' ecological requirements. In Najasa, Camagüey province, Cuba, it inhabits ecotones between forested and open areas, such as grasslands and swamps, as well as riparian forest. In montane areas it inhabits open forest with tall trees. Giant Kingbird is territorial year-round and occupies large territories: mean size is 27.5 ha at study sites. Pair bonds are life-long, and pairs duet in territorial defence and mate recognition. Food is principally flying insects of the *Hymenoptera* group, mostly wasps, but a substantial quantity of fruit is also taken, especially in the dry season, as well as *Anolis* lizards. Monthly variation in the abundance of flying insects in the diet was related to season, time of day and temperature, whilst annual differences appear to reflect precipitation in the previous year. A total of 27 nests was located, all of them high in large *Ceiba pentandra* trees, and only one was located in a dead, leafless tree, only 6 m high and surrounded by buildings, which may have provided a readily available supply of insect food. Giant Kingbirds possess the classic traits known to be associated with K-selection, including low reproductive effort, prolonged parental care and presumably (given the low productivity) high juvenile survival.

El Pitirre Real *Tyrannus cubensis* es una especie endémica de Cuba, considerada amenazada de extinción en la categoría En Peligro[3]. Muy poco se conoce sobre la ecología de la especie. Incluso no se han precisado bien las causas de su declinación, aunque se considera que se debe a la deforestación y avance de la agricultura[3,8]. El objetivo fundamental de este estudio fue conocer aspectos básicos de la biología de *T. cubensis*, además de realizar conteos de individuos para determinar el número de parejas que nidifican en la región seleccionada (Sierra de Najasa, Camagüey), donde se considera que vive la población más estable en toda Cuba (obs. pers.).

Área de estudio

El estudio fue llevado a cabo en la región de Najasa (centrado en 21º02'N 77º45'W) de la provincia de Camagüey, que abarca 85.980 ha, incluyendo el Área Protegida 'La Belén' (de 5.000 ha), donde se realizaron también conteos y algunas observaciones biológicas. El monitoreo principal, de tres parejas nidificantes, se desarrolló en Arroyo Hondo, un área de 237,5 ha aledaña a 'La Belén'.

El municipio Najasa mantiene áreas de vegetación boscosa, palmares, arboledas y bosques de galería en buen estado. El sistema vial pobre y la baja densidad poblacional humana han favorecido la permanencia de hábitats en estado natural o semi-natural, especialmente los bosques de galería, que cubren casi todos los arroyos y ríos de la zona. La estación de lluvias comprende de mayo a octubre.

Métodos

El trabajo de campo intensivo se realizó entre enero de 1998 y diciembre de 1999. Se determinó la distribución de hábitats presentes (bosque de galería, sabanas, etc.) examinando fotos aéreas recientes y verificándolas en el terreno. Posteriormente se realizaron observaciones incidentales durante los años 2000 y 2001.

Figura 1. Áreas de estudio y territorio de tres parejas de *Tyrannus cubensis* en Najasa, Camagüey, Cuba.

Todas las observaciones de alimentación, nidificación y comportamiento fueron registradas en una grabadora, y posteriormente

volcadas a una base de datos para cada pareja. Estos datos se refieren mayormente a las tres parejas que anidaron dentro del área de monitoreo. También se consideraron las observaciones incidentales de adultos y juveniles consumiendo alimentos fuera del área de monitoreo intensivo.

Para evaluar la abundancia de insectos mensual y entre los dos años, se utilizó una técnica visual[4] modificada, donde, a través de binoculares, se abarcaron transectas lineales de 25 m^2 de terreno, y se contaron todos los insectos que pasaban volando dentro de este campo visual, y su permanencia dentro del mismo (en segundos). El tiempo que un insecto permanece en el campo visual refleja su disponibilidad para un ave insectívora de percha como el Pitirre Real. Esta técnica, aunque no muy exacta, permitió estimar la densidad de insectos volando en alturas de 3–15 m, rango en el cual *T. cubensis* suele capturar la mayoría de sus presas.

Para definir el territorio de cada pareja se utilizó la técnica de *playback*, y las respuestas de los individuos eran marcadas en planos esquemáticos del terreno, realizados con ayuda de las fotos aéreas (escala 1:10.000). Los censos de las parejas nidificantes en Najasa se realizaron por puntos, a lo largo de carreteras y caminos, utilizando un vehículo. Además se realizaron conteos pedestres en áreas alejadas de la red vial. Cada canto territorial de los machos era marcado en un plano del lugar y se verificaba el hallazgo de los nidos en cada lugar censado. De igual manera, se utilizó al Sinsonte *Mimus polyglottos* como un buen indicador de la presencia de pitirres reales en cada lugar, ya que es un constante imitador de sus vocalizaciones.

Los nidos se situaban por lo general muy alto y no se pudieron obtener datos de los mismos. Así, el interior de los nidos sólo pudo ser observado con la ayuda de varas largas y espejos, para determinar el número de huevos y pichones por nido, y permanencia o mortalidad de los mismos.

Resultados

En la Tabla 1 se resumen los principales aspectos del ciclo de vida de *Tyrannus cubensis* en Najasa, Camagüey, Cuba y se compara con el ciclo de vida *Tyrannus tyrannus* de norteamérica, un típico tiránido representante del género.

Hábitat

Para el Pitirre Real se ha señalado[5,7,10,11,15] como su hábitat principal los bosques semideciduos y los pinares, cerca del agua en río, arroyos y ciénagas. Otros autores[10] incluyen como hábitat principal las sabanas secas. Considero que *Tyrannus cubensis* debe definirse mejor con una especie que habita principalmente *ecotonos* o sea zonas de transición entre las áreas boscosas y áreas abiertas como sabanas, ciénagas y pastizales antrópicos, en regiones de baja altitud; en zonas de montaña, habita en bosques abiertos o semiabiertos de árboles altos y se le encuentra especialmente en las áreas cafetaleras de montaña, donde existen estas características.

En Najasa utilizan ocasionalmente durante la estación seca áreas de palmares y arboledas urbanas para alimentarse. Nunca observé al Pitirre Real lejos de las áreas sin árboles, tampoco en matorrales ('manigua'), ni en bosques secundarios de dosel bajo, o sabanas secas[10].

Vocalizaciones

La primera referencia a las vocalizaciones del Pitirre Real fue de Gundlach[11] quién señaló que su voz estaba 'compuesta de cuatro sonidos' y que además 'tenía grito diferente, cuando está en riña con otros individuos' (*sic*). Posteriormente cierta confusión reinó respecto a su vocalización, siendo descripta erróneamente en varias ocasiones[5,7,10,15] , y una cinta con voces de aves cubanas[17] presenta un ejemplo de *T. caudifasciatus* como la voz de *T. cubensis*. Se describen a continuación las distintas voces del Pitirre Real registradas durante este estudio.

a) Canto territorial aflautado: de tres a cuatro notas (ver Gundlach[13]), ejecutado sólo por el macho, con mayor frecuencia durante los períodos de cortejo y nidificación. Durante el resto del año se le sigue escuchando, pero repetido sólo de una a tres veces, y sobre todo por las tardes. Este canto es emitido cuando los machos están posados, y se asocia sólo con la advertencia territorial.
b) *Turring* o trinado: vocalización muy frecuente que realiza la pareja, a dúo, pero como un 'canto antifonal'[25], donde generalmente el macho comienza el *turring* y la hembra se le acopla en la porción final, terminando al unísono. La función primaria de esta vocalización a dúo parece ser la defensa del territorio en forma conjunta. Además, sirve para identificación entre los miembros de la pareja. Estos duetos son característicos de especies donde los sexos presentan una apariencia similar, que permanecen apareados de por vida, y mantienen sus territorios permanentes, como el Pitirre Real. El *turring* está asociado a un temblor de las alas. La hembra además suele expandir su cola de manera característica al emitirlo. Esto no lo hace casi nunca el macho. El *turring* está compuesto por varias notas de tono alto que suenan *turr*, que son repetidas rápidamente en series de 5–10 notas. Largas pausas pueden sucederse entre cada repetición, y es emitido cuando los miembros

de la pareja están posados uno cerca del otro. A veces emiten la vocalización en vuelo, cuando persiguen a un intruso, ocasiones en las que suelen participar algún miembro del grupo familiar.

c) Canto *uicarr*: algo aflautado, se incorpora a menudo al inicio del *turring*, aunque es también emitido de manera aislada. Es una vocalización típica del macho y que parece implicar alarma ya que usualmente se la escucha ante la presencia de aves depredadoras o de gran tamaño. Es una vocalización corta de dos notas, repetidas cinco o seis veces, con pausas de 2–4 segundos. Si el individuo, sólo o con su pareja, decide atacar al intruso, entonces emite el *turring*.

d) Chasquido de pico: estos sonidos se producen junto al *turring*. Son frecuentes en los casos de rechazo de individuos de la misma especie. Este sonido es perfectamente audible a distancia (>30 m) y refleja una fuerte tendencia de ataque, y una ritualizada intención de picar.

e) Notas *tric-tric*: son producidas por los pichones volantones de la pareja cuando sus padres están cerca, para pedirles comida, generalmente acompañados por temblores de alas.

Territorialidad

El Pitirre Real defiende un territorio todo el año, aunque el tamaño del mismo puede variar de un año para otro, en respuesta quizás a las variaciones ambientales, principalmente por la sequía. Por ejemplo, una pareja desapareció por completo de la porción sur de su territorio (unas 10 ha) durante la fuerte sequía de 1999, manteniéndose solamente en las cercanías de un arroyo que mantenía agua.

La defensa del territorio es compartida por la pareja, aunque el macho es más agresivo. Por lo general les basta con emitir el *turring* o chasquidos de pico para echar al intruso, y una sola vez se presenció una pelea con contacto entre los individuos, así como con una pareja de Paloma Aliblanca *Zenaida asiatica*. El territorio de la pareja 3 era el más grande, con 34,4 ha, y estaba conformado por un bosque de galería de más de 800 m de largo y una porción boscosa al sur, de 12,5 ha (Fig. 1). El territorio de la pareja 1 abarcaba unas 28,1 ha, cubriendo una porción de bosque en galería (unos 500 m), arboledas con palmas y jardines con árboles de las casas pertenecientes al Área Protegida 'La Belén'. El territorio de la pareja 2 cubría apenas 18,8 ha y resultó el más vulnerable a la sequía, ya que el arroyo de su bosque en galería no era permanente y sólo tenía agua en la estación lluviosa. El área de cada territorio se encuentra entre las mayores registradas para Passeriformes americanos[19].

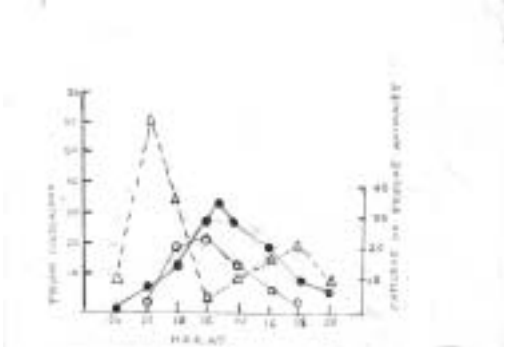

Figura 2. Variación diurna en el consumo de insectos (●), reptiles (○) y frutas (△) por el Pitirre Real.

Tabla 1. Sumario del ciclo de vida de *Tyrannus cubensis* y comparación con *Tyrannus tyrannus* de Norteamérica.

Indicadores	*T. tyrannus*[16]	(Presente estudio) *T. cubensis*
Meses de reproducción	mayo–julio	marzo–junio
Duración de las parejas	época de cria	permanente
Situación del nido	árboles, arbustos	ceibas grandes
Altura del nido	baja a media	muy alto
Término del nido, puesta de huevos	1–20 (6)	8–10 (7)
Nido (interior)	forrado	no forrado
Nidada completa	2–5 (3)	2–3 (3)
Incubación	12–16 (14)	17–18 (17)
Empollamiento (diferencia en días)	asincrónico (2–3)	asincrónico (2–3)
Estancia en el nido	15–17	17–19
Volantones por nido	2–3	1–5
Nidadas producidas al año	solo una	solo una
Semanas de cuidados parental	4–5	5–6
Hábitat	campo abierto, jardines	ecotono, bosques
Territorialismo	estacional	permanente
Tamaño promedio del territorio	8,4 há	27,5 há
Alimento animal	90%	60%
Alimento vegetal	10%	40%
Canto territorial	chirrido largo	aflautado 3–4 notas

Alimentación

Los pitirres adultos usaban dos métodos muy diferentes para forrajear: en días fríos o de mucho viento, así como temprano en la mañana, lo hacían a baja altura o en el interior del bosque. Durante días cálidos y sin viento buscaban sus presas alto en el dosel. Revolotean entre el follaje, tomando lagartijas *Anolis* o insectos grandes del follaje, o capturando insectos al vuelo.

Gundlach[11,12] señaló que el Pitirre Real se alimenta de insectos, polluelos de pájaros y lagartijas, pero en este estudio nunca fue observado consumir o atacar a ningún pájaro o polluelo. Además de los insectos, las lagartijas

Figura 3. Fenología de la fructificación de los árboles que se alimenta el Pitirre Real.

	E	F	M	A	M	J	J	A	S	O	N	D
Jagüey hembra *Ficus aurea*	■								■	■	■	■
Jubabán *Trichilia hirta*	■	■			■	■	■	■				■
Palma Real *Roystonea regia*	■	■	■	■	■	■	■	■	■	■	■	■
Chicharrón *Terminalia intermedia*			■	■	■	■	■					
Ateje *Cordia collococca*				■	■							
Guamá *Lonchocarpus dominguensis*				■	■	■						
Caimitillo *Zapota cainito*	■	■									■	■

Anolis y frutas ocuparon un lugar destacado en la alimentación (Fig. 3), especialmente de forma estacional (Fig. 4). Se encontraron variaciones a lo largo del día en la tasa de consumo de alimentos. Las frutas eran consumidas preferentemente en las horas más frescas del día, mientras que insectos y lagartijas lo fueron en las horas más cálidas (Fig. 2).

Los conteos de insectos volando mostraron una variación considerable, pero se notó un marcado cambio estacional en su abundancia en el área de estudio (Fig. 4) y entre un año ligeramente húmedo (1998) y otro extremadamente seco (1999). En 1999, el fenómeno climatológico El Niño (ENSO) produjo una larga sequía, y no fue hasta julio–agosto que se produjo el pico de lluvias (y de abundancia de insectos), mientras que en años normales el pico de lluvias es alcanzado en mayo.

En los conteos se determinó que cinco grupos de insectos eran los más disponibles para los pitirres pero éstos no los capturaban en la misma proporción (Tabla 2). Las avispas (Himenóptera) y las libélulas (Odonata) principalmente capturadas en las cercanías de árboles florecidos resultaron las principales.

La captura de insectos al vuelo se incrementó en días previos a las lluvias, e incluso bajo la lluvia ligera. Casi siempre podían observarse muy activos en campo abierto, sobre todo cerca de los caminos y en los cables del tendido eléctrico. Se observó que para beber agua, además de hacerlo volando sobre un espejo de agua, también aprovechan el rocío matinal, y ocasionalmente beben del interior de las plantas epifitas, como orquídeas y bromelias. En varias ocasiones se observó a los juveniles ingerir flores de árboles como el Guamá *Lonchocarpus dominguensis* y el Piñón *Gliricidia sepium*, lo que nunca fue observado en los adultos. En la Fig. 3 se muestran las especies de árboles de los que el Pitirre Real come sus frutos. Los más importantes fueron el palmiche o fruto de la Palma Real *Roystonea regia,* de los que se alimenta durante todos los meses del año y los frutos del Jubabán o Cabo de Hacha *Trichilia hirta* (Meliaceae). Esta última especie pertenece a un género de árboles con mayor cantidad de proteínas y lípidos contenidos en sus frutos[9]. Es un árbol muy común en Cuba, las frutas miden de 10 a 14 mm de diámetro, y cada semilla está cubierta por un arilo rojo-anaranjado que tiene un promedio de 15% de proteínas y 59% de lípidos. Cuando el fruto madura, el exocarpo se abre dejando al descubierto las semillas que son consumidas enteras por el Pitirre Real, que las toma en vuelos cernidos frente al racimo. Después de digerir el arilo el Pitirre Real regurgita las semillas intactas (obs. pers). Lo mismo hace con el palmiche por lo que puede ser considerado un importante dispersor de las semillas de estos árboles.

Tabla 2. Selección de insectos por el Pitirre Real *Tyrannus cubensis* del total de insectos disponibles derivados de los conteos visuales.

Grupos de insectos	% disponible	% capturado
Lepidoptera	48,5	1,8
Odonata	35,5	30,7
Himenóptera	3,2	10,5
Coleoptera	2,2	1,4
Hymenoptera	10,6	55,6

Nidificación

Gundlach[11] señaló que el Pitirre Real construye sus nidos 'en ramitas horizontales de árboles altos, e.g. en las ceibas'. Posteriormente[12] dice 'el nido está en lo alto de árboles grandes…' pero no mencionó aquí a las ceibas. El único nido que se

Tabla 3. Resumen de la productividad del Pitirre Real *Tyrannus cubensis* durante dos años de estudios en Najasa, Camagüey, Cuba.

Indicadores	1998	1999
Número de nidos estudiados	3	3
Número de huevos por nidos	3	3
Promedio de pichones empollados por nidos	1,0	1,0
Promedio de pichones volando por nido	0,6	1,0
Porcentaje de nidos que nació al menos un pichón	66%	100%
Porcentaje de nidos con pichones volando	66%	100%

ha colectado en Cuba[6], depositado en las colecciones del Instituto de Ecología y Sistemática de La Habana, fue colectado el 28 de mayo de 1939, contenía tres huevos y estaba bien alto en la parte lateral de la copa de una 'enorme Ceiba' (ver también Balát & González[2]).

En los censos de parejas nidificantes de 1999 se detectaron 27 parejas reproduciéndose entre abril, mayo y junio, en el municipio Najasa. Todos los nidos estaban situados en ceibas *Ceiba pentandra*. En el año 1998 las parejas 1 y 3 construyeron sus nidos en las ramas bajas laterales de las ceibas, a una altura promedio de 12,5 m, y cerca del extremo de las mismas. La pareja 2 construyó su nido en lo más alto de la copa, terminándolo el 15 de junio, ya avanzada la temporada de lluvias. El 12 julio un viento fuerte derribó el nido, que había quedado desprotegido debido a que una plaga de orugas comiera todo el follaje. Por lo tanto se considera que el Pitirre Real anida casi exclusivamente en las grandes ceibas. Solamente en el año 2001 (abril) se encontró un nido en un sitio diferente e inusual. Estaba situado en un árbol muerto, sin hojas, a 6 m de altura, y rodeado por una oficina, unos baños públicos, una cocina, un gallinero, un corral de carneros y otros de cerdos. Había muchos árboles vivos, y de mayor altura alrededor del nido, e incluso áreas boscosas con ceibas, por lo que las aves hubieran podido

Pitirre Real *Tyrannus cubensis* (Pedro Regalado).

escoger otro lugar para el nido, pero prefirieron el que tenia mejor visibilidad y cercanía de los lugares donde habían muchos insectos volando y por lo tanto muchas oportunidades de alimentación.

En la Tabla 1 se señalan algunas características de la nidificación y otros aspectos del ciclo de vida de la especie. Aquí se aprecia que el Pitirre Real presenta el tipo de reproducción asociado a la estrategia K. Esto incluye un bajo esfuerzo reproductivo, lento desarrollo de los pichones, cuidado parental prolongado y supuestamente (debido a la baja productividad), y alta tasa de supervivencia de los juveniles. El lento desarrollo de los pichones es también una adaptación a la variada disponibilidad de

Tabla 4. Alimentos vegetales consumidos por el Pitirre Real *Tyrannus cubensis* durante dos años de estudio. Indice de importancia alimentaria observada (I"ao). N/I = número de individuos comiendo el alimento I, N/O = número de observaciones en que se vió comiendo el mismo y el rango de meses en que lo hace.

Especies	N/I	N/O	I"ao	Meses
Palma Real *Roystonea regia*	41	36	0,663	Todo el año
Jubabán *Trichilia hirta*	30	28	0,499	(a) 5–8; 12–4
Jagüey Hembra *Ficus aurea*	21	19	0,344	(a) 8–10; 2–4
Chicharrón *Terminalia intermedia*	11	9	0,171	(a) 4–7; 10–11
Ateje *Cordia collococca*	9	9	0,154	4–5
Guamá *Lonchocarpus dominguensis*	6	5	0,094	4–6
Caimitillo *Zapota cainito*	4	4	0,068	12–2
Total	122	110		

(a) Especies que fructifican dos veces al año en el área de estudio, con la primera muy abundante y la segunda más débil

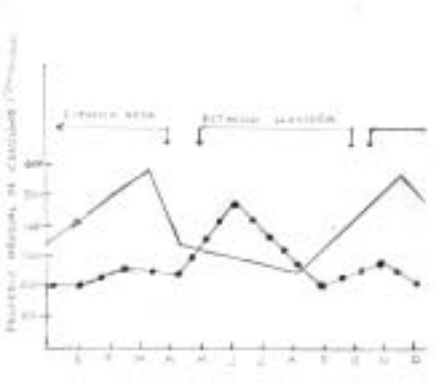

Figura 4. Cambios mensuales en el consumo de reptiles (—) y frutas (-●-).

alimentos[19], relacionada con las variables del clima (lluvia o sequía).

El período de cuidado parental del Pitirre Real es inusualmente largo. Rara vez se reportan datos sobre la duración del cuidado parental después que los pichones dejan el nido en Passeriformes, pero éste suele variar de una a tres semanas, mientras que dura entre cinco y seis semanas en el caso del Pitirre Real.

Distribución en Cuba

Collar *et al*.[8] relacionan las localidades, por provincia, donde el Pitirre Real fue reportado o colectado, pero la mayoría de las colectas y reportes fueron hechos hace más de 40 años, y en estas localidades se han producido desde entonces cambios radicales en el hábitat original, que en casos ha llegado a desaparecer por completo. Se presenta la distribución actual del pitirre (Fig. 5), con base en observaciones personales y otros datos recientes[20].

La primera región señalada (1) es la del grupo montañoso Sagua Baracoa, que comprende las Sierras de Cristal, Sierra de Moa, Meseta de Maisí, Meseta del Guaso, norte de la Sierra de Maguey y la Sierra de Imías. En esta región el Pitirre Real habita principalmente en los bosques de cafetales, donde, gracias a las labores culturales del cultivo del café, los árboles se mantienen espaciados y de gran tamaño. También puede verse en áreas de pinares, bosques de galería y en los ecotonos con áreas abiertas. No se señala aquí la Sierra o Altiplanicie de Nipe, pese al registro existente para Pinares de Mayarí[13], ya que en más de 16 años de vivir y trabajar en esta región nunca se observó a la especie allí. La cita más cercana corresponde a unos 20 km al sur, en los cafetales de Río Naranjo, La Güira y Paraiso, en la porción sur-occidental de la Sierra Cristal. Tampoco se incluye a La Zoilita (municipio de Mayarí), pese a que existe un reporte[1], ya que por más de diez años (1983–1994) no fue registrado allí (obs. pers.). Considero que estos reportes requieren confirmación, ya que se he podido comprobado que muchos observadores de aves y ornitólogos confunden en el campo al Pitirre Guatíbere o Moñudo *T. caudifasciatus* con el Pitirre Real. Es justamente la característica implícita en el nombre vernáculo de *T. caudifasciatus* que representa un carcater diagnóstico en el campo. El Pitirre Real nunca presenta la ligera elongación de las plumas de la corona que se ven como un 'moño' en el Pitirre Guatíbere.

Conservación

La destrucción y fragmentación del hábitat son las principales amenazas que encuentra el Pitirre Real[3]. En Najasa se han talado más de 1.600 ha de bosques, incluyendo bosques de galería y de ecotonos, en los últimos cinco años. El Pitirre Real demuestra ser muy sensible a los cambios ambientales, desapareciendo de áreas donde apenas se talan unos pocos árboles, alterando así la estructura del bosque. En el área de La Zoilita la minería representa una seria amenaza, habiéndose destruido los pinares y los bosques de madera dura de la región.

Figura 5. Distribución actual del Pitirre Real *Tyrannus cubensis* en Cuba.

En Najasa apenas existe el área protegida 'La Belén' que solo ocupa el 0,5% de la región, y sería importante declarar esta como una 'Región Especial de Desarrollo Sostenible', a través de la nueva ley de Areas Protegidas, y que así se regule el desarrollo humano. La región de Najasa ocupa solamente el 0,8% del territorio de Cuba, sin embargo posee el 70% de todas las aves del país con 206 especies registradas[16], y donde además han encontrado refugio la mitad (14) de todas las especies amenazadas y presenta también el 58% de todas las aves endémicas (14), por lo que se considera una de las más importantes 'Áreas de Importancia para las Aves' (AIA) en todo el archipiélago cubano[16].

El primer paso necesario para la protección del Pitirre Real es realizar un censo a nivel nacional, a fin de conocer su población y sus preferencias de hábitat. A ello debe seguirle la protección de los sitios donde se encuentren poblaciones de la especie, así como un plan de reforestación de ceibas donde fuera necesario. Se han perdido más de un 80% de los bosques naturales, por lo que es necesario revisar las políticas forestales de Cuba[18].

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A bird survey of Torcillo-Sarayoj, the lower Yungas of Madidi National Park, Bolivia

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Mediante observación y grabación, realicé un estudio extenso de aves en el sitio prístino Torcillo-Sarayoj del bosque Yungas inferiores (EBA 054) de Parque Nacional Madidi del 6 al 17 de octubre de 2003, entre 1.600–1.800 msnm. Registré 156 especies de aves. El sitio tenía una posibilidad de 276 especies en relación a su ubicación y hábitat. El bajo nivel de diversidad encontrado puede ser un resultado de la ausencia de Yungas arriba de 2.000 msnm. Por encima de Torcillo-Sarayoj se encuentra el bosque seco y sabanas de la región de Apolo. En cuyo lugar no encontré las posibles especies amenazadas en el área de *Pauxi unicornis* (ni tampoco obtuve información local del pueblo de Sarayoj) y *Terenura sharpei*. La única especie amenazada en el lugar es la Paraba *Ara militaris*, que es común en los Yungas de Madidi. Además, encontré seis especies de rango-restringido de de 12 especies posibles. En conclusión, dado el pobre nivel de diversidad existente de aves en el lugar, es de gran prioridad realizar estudios en el oeste de la región de Torcillo-Sarayoj para verificar la zona más viable de los Yungas inferiores en Madidi y Bolivia.

In recent years the Yungas of Madidi have produced a number of avian range extensions and other discoveries not predicted for the area[3,5,10]. Though some unpublished research has been conducted in the lower Yungas of Madidi, no intensive single-site ornithological study has been undertaken within the park. Given the conservation priority of the lower Yungas EBA[14], it was imperative to conduct an initial rapid ornithological survey of the Torcillo-Sarayoj site.

Methods

On 6–17 October 2002, I surveyed the lower Yungas forest at Torcillo-Sarayoj (Fig.1; 14°37'S 68°11'W, c.20 km east of Apolo), at 1,600–1,800 m. Torcillo-Sarayoj is a pristine lower Yungas forest, with the eastern, higher slopes above 2,000 m reaching Apolo valley dry savannas and dry forests. Part of the study area is on a slightly sloping plateau area at 1,700–1,800 m with old-growth forest. Below 1,700 a fairly steep slope had younger forest. The area was accessed via a trail to the village of Sarayoj, on the valley floor (1,200 m). Three camps were established for the survey: at 1,750 m, on 6–9 October, 1,700 m, on 10–13 October, and 1,800, on 14–17 October. I followed the trail to 1,600 m. Survey work was conducted on the main trail and two additional trails, opened at 1,700 m and 1,800 m, with a total length of c.7 km.

Each morning, I surveyed different points at least 200 m apart[9], arriving before sunrise and identifying and sound-recording vocalisations of the dawn chorus. Thereafter, I surveyed different trails, covering 1–3 km, and usually halting field work between 12h00 and 15h00. I used binoculars, sound-recorders and pre-recorded reference tapes. The pre-recorded reference tapes were designed for the Bolivian Yungas, with examples of songs and calls indicative of individual and regional variation. Birds were observed, sound-recorded and identifications verified using pre-recorded tapes or playback, including 'rebound' playback (i.e. broadcasting the first response to playback). For rapid assessment surveys, bird vocalisations are the best evidence to verify identification[9]. I endeavoured to tape-record all species at least once. Each evening I completed a checklist of the day's observations, noting estimated abundances, field time, distance walked and evidence (sight records, heard or tape-recorded). Taxonomy follows Hennessey *et al*.[5] based on work by the South American Checklist Committee of the American Ornithologists' Union (www.museum.lsu.edu/~Remsen/SACCBaseline.html, version 13/09/2002).

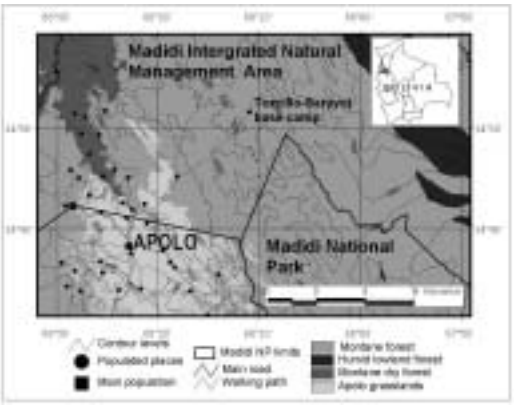

Figure 1. Map of the western Yungas forest, dpto. La Paz, in Madidi National Park, showing the location of Torcillo-Sarayoj.

Results and discussion

A total of 156 species was found at 1,600–1,800 m at Torcillo-Sarayoj (Appendix 1). The Torcillo-Sarayoj site appears to be poor in species diversity, compared to the 276 bird species possible for the area, according to those known from dpto. La Paz, in relevant-elevation Yungas forest (not aquatic or open habitats), and not including austral migrants[5]. I observed 57% of the possible birds for the area, which is more or less consistent with 50% of the restricted-range, and 47% of the zoogeographic regional endemic, species possible for the area.

I believe that the rapid census covered at least 90% of the birds present at the site at this season. Based on the list of possible birds, and other Yungas studies in Bolivia[3,5], the site could hold at least 70 additional species. The paucity of biological diversity might be explained by the lack of immediately adjacent viable moist Yungas forest above 2,000 m (Fig. 1). Yungas forests in Bolivia can range to 3,600 m[5]. The mountain range above Torcillo-Sarayoj grades into Apolo inter-montane dry forest and grassy savanna plateaux. Therefore, species that require or prefer a higher altitudinal gradient may not occur in the area. Also, although precipitation levels appear normal, with a high abundance of epiphytes including bromeliads, year-round the area may experience a lower level of precipitation or an extended dry season, suggested by its proximity to drier areas of Apolo.

Species accounts

Grey Tinamou *Tinamus tao*

At 17h05 on 9 October 2003, at 1,700 m, I sound-recorded a 257-second song (Macaulay Library of Natural Sounds, Cornell 105894, 105895) of *Tinamus tao*. The song commenced with a typical call note (1.1–1.3 kHz, 1 second), with repetitions equally paced, averaging every c.5 seconds (47 calls). The call notes change progressively through the song, becoming more warbled but remaining at the same frequency and spatial pattern. This long song and the transition in call types were previously unknown for *T. tao* in the Bolivian lowlands (pers. obs) or in any habitat outside of Bolivia. I heard this long song five times, always at dusk or dawn. Short sections of the warble calls had previously been sound-recorded in Carassco and Amboro National Parks (dptos. Cochabamba and Santa Cruz)[7,8] and also on the Serranía Eslabon, Madidi (B. Whitney pers. comm.). *T. tao* of the Bolivian Yungas may be one of several taxa, currently categorised as subspecies, in the eastern Andean foothills that vocalise quite differently from populations in the Amazonian lowlands (B. Whitney pers. comm.). Future research should focus on vocal and plumage variation within *T. tao*.

Southern Horned Curassow *Pauxi unicornis*

In the isolated Yungas town of Sarayoj, near our study site, H. Aranibar and I conducted local knowledge interviews, seeking any information regarding the globally threatened *Pauxi unicornis*. Local hunters were unfamiliar with the species, even after we described the bird. Such people and indigenous communities are usually very familiar with cracids, as they are commonly hunted, and their knowledge has been demonstrated to be most accurate[2]. I have conducted over 40 local knowledge interviews for *P. unicornis* with many communities and hunters in north-west Bolivia, i.e. in the area between Peruvian populations and the southern-most known populations, in Carrasco and Amboro National Parks. There has been no indication of the species within this area, particularly in Madidi and Pilón Lajas protected areas. The species requires urgent research, regarding historical sites, population distribution and existing population viability.

screech-owl *Otus* sp.

S. K. Herzog, S. R. Ewing and R. MacLeod collected and tape-recorded a presently unidentified *Otus* in Cochabamba, in September 2001 (S. Herzog pers. comm.). The bird may represent a new endemic *Otus* or variation within Cloud-forest Screech-owl *O. marshalli*. I did not record individuals of this form at Torcillo-Sarayoj but tape-recorded it at 2,300 m, at Inciensal Sauce, on 26 June 2002 (14°25'S 68°42'W), the first record for dpto. La Paz and Madidi. Inciensal Sauce is c.35 km from Torcillo-Sarayoj.

Andean Potoo *Nyctibius maculosus*

The first record for Madidi involved one that was sound-recorded on the nights of 15 and 16 October 2002, at 1,800 m. R. & C. Cuevas commented that in July–August, in the town of Virgen del Rosario (14°36'S 68°41'W), on the río Tuichi in Madidi (900 m) the local community recognises the song of this potoo as a signal to start seeding their crops. They consider that the species is only present for c.2 months each year, and the time of its arrival is an indicator of the seasonal variation in precipitation. August is the height of the dry season in Bolivia. This suggests the species might be an altitudinal migrant in response to the dry season in the upper Yungas, which is suspected to be the case for many species in the La Paz area. There is also the possibility that Andean Potoo only sings for a short period each year, but this is not supported by the singing behaviour of other potoos.

Rufous Motmot *Baryphthengus martii*

A pair observed and sound-recorded at 11h00, on 6 October 2002, at 1,750 m, was an unusually high altitude record. Both individuals were seen well

and had complete tails, without missing barbs of the tail to produce a pendulum effect.

Yellow-rumped Antwren *Terenura sharpei*
I did not record the globally threatened[1] Yellow-rumped Antwren *Terenura sharpei* at Torcillo-Sarayoj despite specific daily searches using playback. Recently, the species has been discovered to be more common than previously perceived along the Manu road in central Peru (B. Walker pers. comm.). The distribution and conservation status of this species is mysterious, with only five recent records in Bolivia: a sight record from the Cochabamba–Villa Tunari road, Chaparé, Cochabamba, in 1979[1]; a specimen from the Chaparé area, in 2001 (R. Brumfield pers. comm.); sight records and two specimens from km 35 and km 47 on the road north-northwest of Carañavi, La Paz, in 1979–1980[11]; and at least two observed at Serrania Bellavista c.15–20 km north-east of Carañavi, in 1997 (S. Herzog pers. comm.). The Armonía (BirdLife Bolivia) bird database contains no other records of this species, other than that of the type specimen, despite many visits by bird tours to relevant areas and specific field expeditions to Yungas sites. The species requires specific attention, as there is no known viable population site in Bolivia and it has not been found in any protected area[5].

Silver-backed Tanager *Tangara viridicollis*
On 15 October 2002, a female was observed feeding a fledged immature at 1,800 m, and a group of three (a bright-coloured male, a dull female and another, even duller, individual) foraging together at 1,700 m. This, elsewhere fairly common, canopy-foraging flock species is now known from two sites in Bolivia, the first being Tokoaque, also in Madidi[3].

Silver-backed Tanager / Green-throated Tanager *T. argyrofenges* **hybrid**
On 15 October 2002, at 1,800 m, I observed a male *Tangara viridicollis/argyrofenges* hybrid foraging in an early successional fruiting tree that was attracting many canopy-foraging flock species. The individual had a *T. viridicollis*-like rufous throat patch and grey sides to the breast and belly, but like *T. argyrofenges* had black wings and a bright cream/yellow back (the rump was not seen). It was followed by a dull female with a rufous-tinged throat like *T. viridicollis*. The Torcillo-Sarayoj area appears to represent the hybrid zone between the northern-distributed *T. a. argyrofenges* and the southerly *T. v. viridicollis*[6]. The two forms of *T. argyrofenges* are separated by a c.1,000 km gap, with *T. viridicollis* inhabiting the intervening region[6].

Table 1. Restricted-range bird species possible in the Torcillo-Sarayoj area of the Bolivian and Peruvian Lower Yungas (EBA 054)[14] and those recorded at Torcillo-Sarayoj and within Madidi National Park.

Species	Torcillo-Sarayoj	Madidi
Bolivian Recurvebill *Simoxenops striatus*		x
Upland Antshrike *Thamnophilus aroyae*	x	x
White-throated Antpitta *Grallaria albigula*	x	x
Ashy (Yungas) Antwren *Myrmotherula grisea*		x
Yellow-rumped Antwren *Terenura sharpei*		
Hazel-fronted Pygmy-tyrant *Pseudotriccus simplex*		x
Bolivian Tyrannulet *Zimmerius bolivianus*	x	x
Yungas Tody-tyrant *Hemitriccus spodiops*		x
Unadorned Flycatcher *Myiophobus inornatus*	x	x
Yungas Manakin *Chiroxiphia boliviana*	x	x
Slaty Tanager *Creurgops dentata*	x	x
Green-throated Tanager *Tangara argyrofenges*		x

Conservation

The only globally threatened species recorded in the area was Military Macaw *Ara militaris*, which is categorised as Vulnerable[1], and was uncommon in the area, with fewer observations than in the Machariapo and Tuichi valleys[4] c.30 km from Torcillo-Sarayoj. All observations were of pairs in high flight.

Six restricted-range species were found at Torcillo-Sarayoj, i.e. 50% of the 12 restricted-range species possible for the area (Table 1). I have excluded *Pauxi unicornis* for reasons explained above. *Simoxenops striatus*, *Myrmotherula grisea* and *Hemitriccus spodiops* have been previously recorded in Madidi, and the park is suspected to protect viable populations. *H. spodiops* is a bamboo specialist, which is not abundant at Torcillo-Sarayoj. *P. simplex* has been recorded once at Tokoaque, Madidi[3]. *T. sharpei* and *T. argyrofenges* are discussed above.

An analysis of regional zoogeographic endemics[15] revealed a similar low diversity, with 17 zoogeographic endemic species present out of 36 possible for the area, ten of which have been recorded in other parts of Madidi[3,5].

Given the relatively low diversity of the pristine Torcillo-Sarayoj area and the large expanse of cleared Yungas south-east of the park, priority should be placed on the lower Yungas of western Madidi. The upper Yungas of this sector of Madidi, near the Peruvian border, was found to be species rich and to contain many restricted-range species[3], suggesting that the lower Yungas of this area might be equally diverse. Study of the lower Yungas of western Madidi is a high priority, in order to locate the most viable area of such habitat in Bolivia.

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Appendix 1. Bird species recorded in the Torcillo-Sarayoj area, Madidi National Park, Bolivia.

Key:
Relative abundance (definition based on Stotz *et al.*[15]): C = common; F = fairly common; U = uncommon; R = rare.
Sociability: 1 = single individuals; 2 = pairs; 3 = family groups; 4 = gregarious; CF = canopy foraging flock; UF = understorey foraging flock; ? = data unknown.
Evidence: O = visual identification; A = acoustic identification; C = tape-recording.

Family/Species Scientific Name	Relative abundance	Sociability	1,800 m	1,700 m	1,600 m	Evidence
TINAMIDAE (2)						
Grey Tinamou *Tinamus tao*	F	1		X	X	C
Brown Tinamou *Crypturellus obsoletus*	F	1	X	X	X	C
CRACIDAE (1)						
Spix's Guan *Penelope jacquacu*	R	?			X	C
PHASIANIDAE (2)						
Stripe-faced Wood-quail *Odontophorus balliviani*	?	?	X			A
Rufous-breasted Wood-quail *Odontophorus speciosus*	F?	3	X	X	X	C
ACCIPITRIDAE (2)						
Swallow-tailed Kite *Elanoides forficatus*	U	1	X			O
Plumbeous Kite *Ictinia plumbea*	U	1	X			O
FALCONIDAE (2)						
Barred Forest-falcon *Micrastur ruficollis*	U	1	X	X		C
Orange-breasted Falcon *Falco deiroleucus*	R	1	X			C
COLUMBIDAE (4)						
Band-tailed Pigeon *Columba fasciata*	R	1	X			O
Plumbeous Pigeon *Columba plumbea*	C	2	X	X	X	C
Large-tailed Dove *Leptotila megalura*	F	1	X	X		C
White-throated Quail-dove *Geotrygon frenata*	F	1	X	X		C
PSITTACIDAE (6)						
Military Macaw *Ara militaris*	R	2		X		C
Green-cheeked Parakeet *Pyrrhura molinae*	C	4	X	X	X	C

Barred Parakeet *Bolborhynchus lineola*	C	4	X	X	X	C
Red-billed Parrot *Pionus sordidus*	F	4		X		C
Plum-crowned Parrot *Pionus tumultuosus*	?	4		X		C
Scaly-naped Parrot *Amazona mercenaria*	F	2,4	X			C
CUCULIDAE (1)						
Squirrel Cuckoo *Piaya cayana*	R	1			X	C
STRIGIDAE (2)						
Rufescent Screech-owl *Otus ingens*	F	1,2	X	X	X	C
Rufous-banded Owl *Ciccaba albitarsus*	F	1	X			C
STEATORNITHIDAE (1)						
Oilbird *Steatornis caripensis*	R	1	X			A
NYCTIBIIDAE (1)						
Andean Potoo *Nyctibius maculosus*	R	1	X			C
CAPRIMULGIDAE (1)						
Ocellated Poorwill *Nyctiphrynus ocellatus*	F	1		X	X	C
APODIDAE (2)						
Chestnut-collared Swift *Streptoprocne rutila*	R	4		X		C
White-collared Swift *Streptoprocne zonaris*	F	4	X	X	X	C
TROCHILIDAE (8)						
Reddish Hermit *Phaethornis ruber*	R	1	X			O
Long-tailed Hermit *Phaethornis malaris*	F	1			X	O
Brown Violetear *Colibri delphinae*	R	1		X		O
Green Violetear *Colibri thalassinus*	U	1		X	X	C
Fork-tailed Woodnymph *Thalurania furcata*	R	1	X	X		O
Speckled Hummingbird *Adelomyia melanogenys*	F	1	X	X	X	C
Booted Racket-tail *Ocreatus underwoodii*	U	1	X			O
Long-tailed Sylph *Aglaiocercus kingi*	F	1	X			O
TROGONIDAE (3)						
Masked Trogon *Trogon personatus*	F	1,2	X	X	X	C
Crested Quetzal *Pharomachrus antisianus*	F	1,2	X	X	X	C
Golden-headed Quetzal *Pharomachrus auriceps*	R	1	X			A
MOMOTIDAE (1)						
Rufous Motmot *Baryphthengus martii*	F	2		X	X	C
CAPITONIDAE (1)						
Versicoloured Barbet *Eubucco versicolor*	C	1,2	X	X	X	C
RAMPHASTIDAE (3)						
Blue-banded Toucanet						
Aulacorhynchus coeruleicinctis	F	1,4	X			C
Chestnut-tipped Toucanet						
Aulacorhynchus derbianus	F	1	X	X	X	C
Yellow-ridged Toucan *Ramphastos vitellinus*	R	1			X	C
PICIDAE (6)						
Bar-breasted Piculet *Picumnus aurifrons*	R	1			X	O
Ocellated Piculet *Picumnus dorbygnianus*	R	CF			X	O
Red-stained Woodpecker *Veniliornis affinis*	R	1			X	A
Crimson-mantled Woodpecker *Piculus rivolii*	F	1	X	X	X	A
Golden-olive Woodpecker *Piculus rubiginosus*	F	1	X	X		A
Red-necked Woodpecker *Campephilus rubricollis*	F	1,2	X	X	X	C

DENDROCOLAPTIDAE (5)						
Olivaceous Woodcreeper						
Sittasomus griseicapillus	C	CF	X	X	X	C
Strong-billed Woodcreeper						
Xiphocolaptes promeropirhynchus	U	1			X	A
Black-banded Woodcreeper						
Dendrocolaptes picumnus	U	1,CF	X	X		C
Olive-backed Woodcreeper						
Xiphorhynchus triangularis	F	CF	X	X	X	C
Montane Woodcreeper *Lepidocolaptes lacrymiger*	F	CF	X	X		C
FURNARIIDAE (10)						
Azara's Spinetail *Synallaxis azarae*	F	1,3	X			C
Ash-browed Spinetail *Cranioleuca curtata*	F	CF	X	X	X	C
Spotted Barbtail *Premnoplex brunnescens*	U	UF		X	X	C
Streaked Tuftedcheek						
Pseudocolaptes boissonneautii	R	?	X			C
Montane Foliage-gleaner *Anabacerthia striaticollis*	F	CF,UF	X	X	X	O
Buff-browed Foliage-gleaner						
Syndactyla rufosuperciliata	C	3,CF,UF	X	X	X	C
Striped Woodhaunter *Hyloctistes subulatus*	R	?	X			A
Buff-fronted Foliage-gleaner *Philydor rufus*	F	CF		X	X	C
Striped Treehunter *Thripadectes holostictus*	R	1			X	C
Streaked Xenops *Xenops rutilans*	R	CF		X		O
FORMICARIIDAE (8)						
Fasciated Antshrike *Cymbilaimus lineatus*	R	UF		X		O
Upland Antshrike *Thamnophilus aroyae*	U	1		X		A
Plain Antvireo *Dysithamnus mentalis*	F	2,UF	X	X	X	C
White-backed Fire-eye *Pyriglena leuconota*	F	1,UF	X	X	X	C
Short-tailed Antthrush *Chamaeza campanisona*	C	1	X	X	X	C
White-throated Antpitta *Grallaria albigula*	F	1	X	X		C
Scaled Antpitta *Grallaria guatimalensis*	U	1	X	X	X	C
CONOPOPHAGIDAE (1)						
Slaty Gnateater *Conopophaga ardesiaca*	R	2			X	C
RHINOCRYPTIDAE (1)						
Bolivian Tapaculo *Scytalopus bolivianus*	F	1	X	X	X	C
TYRANNIDAE (23)						
Rough-legged Tyrannulet *Phyllomyias burmeisteri*	F	CF			X	C
Sclater's Tyrannulet *Phyllomyias sclateri*	U	CF			X	O
Sierran Elaenia *Elaenia pallatangae*	F	1	X			C
Southern Beardless-tyrannulet						
Camptostoma obsoletum	R	UF	X			O
White-throated Tyrannulet						
Mecocerculus leucophrys	R	CF		X		O
Bolivian Tyrannulet *Zimmerius bolivianus*	R	CF			X	O
Slender-footed Tyrannulet *Zimmerius gracilipes*	R	CF			X	C
Marble-faced Bristle-tyrant						
Phylloscartes ophthalmicus	C	CF	X	X	X	C
Streak-necked Flycatcher *Mionectes striaticollis*	R	UF	X			O
Slaty-capped Flycatcher *Leptopogon superciliaris*	C	CF	X	X	X	C
White-bellied Pygmy-tyrant *Myiornis albiventris*	U	1,CF			X	C
Yellow-olive Flycatcher *Tolmomyias sulphurescens*	R	1			X	C
White-throated Spadebill *Platyrinchus mystaceus*	R	UF	X			C
Unadorned Flycatcher *Myiophobus inornatus*	F	1,2	X	X	X	C
Cinnamon Flycatcher *Pyrrhomyias cinnamomea*	U	CF	X	X	X	O
Fuscous Flycatcher *Cnemotriccus fuscatus*	R	CF			X	O
Smoke-coloured Pewee *Contopus fumigatus*	F	1	X	X	X	C
Golden-crowned Flycatcher						

Myiodynastes chrysocephalus	F	1	X			C
Sulphur-bellied Flycatcher						
Myiodynastes luteiventris	R	CF			X	O
Pale-edged Flycatcher *Myiarchus cephalotes*	R	1	X			O
Large-headed Flatbill *Ramphotrigon megacephala*	R	?			X	C
Masked Tityra *Tityra semifasciata*	F	1,3	X	X	X	C
Thrush-like Schiffornis *Schiffornis turdinus*	F	1,2		X	X	C
COTINGIDAE (3)						
Scarlet-breasted Fruiteater *Pipreola frontalis*	R	CF			X	O
Andean Cock-of-the-rock *Rupicola peruviana*	C	1,4	X	X	X	C
Amazonian Umbrellabird *Cephalopterus ornatus*	R	1	X			O
PIPRIDAE (2)						
Yungas Manakin *Chiroxiphia boliviana*	C	1,4	X	X	X	C
Wing-barred Piprites *Piprites chloris*	C	1	X	X	X	C
VIREONIDAE (1)						
Brown-capped Vireo *Vireo leucophrys*	F	1,CF	X	X	X	C
CORVIDAE (2)						
White-collared Jay *Cyanolyca viridicyana*	R	1			X	A
Green Jay *Cyanocorax yncas*	F	1,2,3,4	X	X	X	C
TROGLODYTIDAE (4)						
Grey-mantled Wren *Odontorchilus branickii*	F	CF	X	X	X	C
Mountain Wren *Troglodytes solstitialis*	F	1,CF	X			C
Grey-breasted Wood-wren						
Henicorhina leucophrys	F	1,2	X	X	X	C
Chestnut-breasted Wren *Cyphorhinus thoracicus*	F	1		X		C
TURDINAE (6)						
Andean Solitaire *Myadestes ralloides*	F	1	X	X	X	C
Spotted Nightingale-thrush *Catharus dryas*	F	1	X	X		O
White-eared Solitaire *Entomodestes leucotis*	F	1	X	X		C
Pale-eyed Thrush *Platycichla leucops*	F	1	X	X		C
White-necked Thrush *Turdus albicollis*	F	1,UF	X	X	X	C
Black-billed Thrush *Turdus ignobilis*	R	1	X			C
THRAUPINAE (31)						
Slaty Tanager *Creurgops dentata*	R	CF	X			O
Black-eared Hemispingus *Hemispingus melanotis*	F	UF	X	X		O
Black-goggled Tanager *Trichothraupis melanops*	R	UF			X	O
White-lined Tanager *Tachyphonus rufus*	R	CF		X		O
White-winged Shrike-tanager *Lanio versicolor*	U	CF	X	X		O
Palm Tanager *Thraupis palmarum*	F	CF			X	C
Blue-winged Mountain-tanager						
Anisognathus flavinucha	F	CF	X	X	X	C
Fawn-breasted Tanager *Pipraeidea melanonota*	U	CF	X	X		O
Common Bush-tanager						
Chlorospingus ophthalmicus	C	3,CF,UF	X	X	X	C
Orange-eared Tanager *Chlorochrysa calliparaea*	U	CF	X	X		C
Golden Tanager *Tangara arthus*	U	CF	X	X	X	O
Golden-eared Tanager *Tangara chrysotis*	R	CF	X	X		O
Blue-necked Tanager *Tangara cyanicollis*	F	CF	X	X	X	C
Blue-browed Tanager *Tangara cyanotis*	F	CF	X	X	X	C
Beryl-spangled Tanager *Tangara nigroviridis*	F	CF	X	X	X	O
Spotted Tanager *Tangara punctata*	U	CF	X	X	X	O
Golden-naped Tanager *Tangara ruficervix*	F	CF		X	X	O
Green-and-gold Tanager *Tangara schrankii*	R	CF			X	O
Blue-and-black Tanager *Tangara vassorii*	U	CF			X	O
Silver-backed Tanager *Tangara viridicollis*	F	CF	X	X		O
Saffron-crowned Tanager *Tangara xanthocephala*	F	CF	X	X	X	O
Purple Honeycreeper *Cyanerpes caeruleus*	R	CF			X	O
Capped Conebill *Conirostrum albifrons*	R	CF	X			O
Deep-blue Flowerpiercer *Diglossa glauca*	F	CF	X	X		O
Hepatic Tanager *Piranga flava*	U	CF	X	X	X	O
White-winged Tanager *Piranga leucoptera*	U	CF			X	O
Red-crowned Ant-tanager *Habia rubica*	F	UF			X	C
Thick-billed Euphonia *Euphonia laniirostris*	R	1			X	C
Bronze-green Euphonia *Euphonia mesochrysa*	U	4,CF	X	X	X	C
Orange-bellied Euphonia *Euphonia xanthogaster*	C	3,CF	X	X	X	C
Blue-naped Chlorophonia *Chlorophonia cyanea*	F	2,UF,CF	X	X	X	C
EMBERIZINAE (2)						
Stripe-headed Brush-finch *Buarremon torquatus*	U	UF	X			C
Rufous-naped Brush-finch *Atlapetes rufinucha*	F	1,3,UF	X	X	X	C
CARDINALINAE (1)						
Black-backed Grosbeak *Pheucticus aureoventris*	U	CF	X	X	X	C
PARULINAE (5)						
Tropical Parula *Parula pitiayumi*	U	CF	X	X	X	O
Slate-throated Whitestart *Myioborus miniatus*	C	1,CF	X	X	X	C
Russet-crowned Warbler *Basileuterus coronatus*	F	3,UF			X	C
Pale-legged Warbler *Basileuterus signatus*	U	UF	X			C
Three-striped Warbler *Basileuterus tristriatus*	C	UF	X	X	X	C
ICTERIDAE (3)						
Dusky-green Oropendola *Psarocolius atrovirens*	C	4	X	X	X	C
Crested Oropendola *Psarocolius decumanus*	U	4			X	C
Mountain Cacique *Cacicus chrysopterus*	R	1	X	X		O

Notes on Cock-tailed Tyrant *Alectrurus tricolor* in Bolivia

José M. Padial and Javier Heredia

Cotinga 22 (2004): 79–80

Se aportan datos inéditos sobre la distribución, el uso del hábitat y el comportamiento del avioncito *Alectrurus tricolor* en Bolivia. La mayoría de las observaciones se realizaron en el oeste del Departamento Beni. Esta especie es considerada rara y posee una distribución irregular, restringida a sabanas parcialmente inundadas de gramíneas naturales (tiende a evitar los pastos cultivados para el ganado vacuno). Se observó la parada nupcial y la competición entre machos en noviembre y un juvenil en febrero.

Cock-tailed Tyrant *Alectrurus tricolor* primarily inhabits open Cerrado formations, in Bolivia, Paraguay and Brazil, and is considered Vulnerable[4]. In Bolivia it is known from a few scattered localities in the savannas of dptos. Beni, Santa Cruz and La Paz[4,8] but is absent from large areas[5,9]. Knowledge of the species' conservation status, biology and distribution is poor[4] and there is no specific work concerning *A. tricolor* in Bolivia. During field work in 1997–2000, JH observed several individuals in areas where the species had not been previously reported. Here, we contribute to knowledge of the distribution and natural history of Cock-tailed Tyrant in Bolivia.

Dpto. Beni, in east Bolivia, is mostly covered by seasonally flooded savannas, forming a flat region at 130–250 m composed of grassland, forest islands, gallery forest, with flooded areas in the rainy season[3]. Mean annual temperature is 26ºC and mean annual rainfall 1,000–2,000 mm, with 2–6 arid months. Although belonging to the Amazon basin very few biogeographic connections exist[7]. The northern savannas are closely related to the Cerrado, whilst the southern area is more similar to Pantanal.

Distributional records

We report observations of Cock-tailed Tyrants in two areas (one in the southern and one in the northern savannas) of dpto. Beni. In the south, in Ballivian province, we detected the species in the Cantón de San Borja, near the village of San Borja (14º51'S 66º45'W). Although the species was already known from this area[9], the record was old, and nobody reported another sighting until now. This population was observed over a period of four years, in November–December 1997, November 1998, January 1999 and December 2000. Observations were made from a car, along the roads between the río Cataburi to Chaparina (seven visits); from Cataburi and Termópilas; Chaparina–Termópilas and San Borja–Santa Rosa (one visit each). In all but one visit to the aforementioned localities, single males were detected. On the Cataburi–Chaparina road, we found a maximum of five individuals; once, three adults males were observed with an adult female. These records are c.50 km from Beni Biosphere Reserve and Biological Station (EBB), in the provinces of Ballivian and Santa Ana, where Cabot *et al.*[6], Rocha[12] and Rocha[13] failed to locate *A. tricolor*, but Brace *et al.*[5] cited the species for the EBB, and noted it as widespread, albeit patchily so, in the lowlands of Beni, where they considered it to be rare.

In the north, also in Ballivian province, in Cantón Santa Rosa de Yacuma, seven were observed at c.13º20'S 66º35'W. In February 1999, a young and an adult male were between Estancia Siete Palmas and Casa Blanca. In August 1999 another male was nearby, between Entre Ríos and Ponton Yata. In December 2000, between Entre Ríos and Estancia la India a male was observed, and another was between Entre Ríos and Casa Blanca. At Estancia Media Luna (13º37'S 66º53'W), two males were observed, one in April and one in June 1999. All these records are within 50 km, and west of the Santa Ana–Guayaramerín highway.

The closest previously known population of *A. tricolor* is at Estancia Inglaterra (13º30'S 66º30'W; Yacuma province)[11], east of the aforementioned highway, near the río Yata. The observations were in 1979, when Cock-tailed Tyrant was observed 1–2 times each day, and it was considered uncommon there.

In Iténez Province (Beni) two males were observed, singles in February and July 2000, between Orobabayaya and Magadalena in Reserva Iténez[14]. These records are the easternmost in Beni[8].

Natural history observations

Males used low, seasonally flooded grassland, but never areas with introduced grass for cattle grazing. They were sometimes found in dry areas near water. In perching, the species uses bare upper branches of small bushes (0.7–1.5 m) and fence wires beside roads. Cock-tailed Tyrant performs aerial sallies for small flying insects and usually returns to the same perch. The escape flight is a zigzag, but normally it uses a parabolic flight to move between perches.

Most observations were of lone males, only twice was more than one observed: an adult male and a juvenile in February 1999 and, in November 1998, three rival males attempted to mate with a single female. Display consisted of acrobatic flights and calls. The female perched near each male, until finally choosing one. The other males continued displaying, unsuccessfully, and thereafter departed.

Cock-tailed Tyrant was not observed in the *campos rupestres* of Beni[10], although habitat appears suitable. We have also not found it in many others parts of the wet Beni savannas. Perhaps it possesses special habitat preferences that contribute to a fragmented distribution. In Noel Kempff Mercado National Park, adjacent to Beni, which belongs to the Amazonian-Cerrado region of dpto. Santa Cruz, the species is unknown despite intensive field work[2]. Available information is insufficient to determine the conservation status of Cock-tailed Tyrant in Bolivia, but it appears uncommon and of restricted distribution. More field work and compilation of the scattered unpublished information is needed.

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Preliminary bird observations in the rio Jauaperí region, rio Negro basin, Amazonia, Brazil

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Um total de 191 espécies de aves foi observado durante um levantamento de mamíferos feito na Reserva Natural de Xixuaú, situada na margem esquerda do curso médio do rio Jauaperí, Roraima, Brasil. Estas observações preliminares sugerem que cerca de 200 outras espécies poderão ainda ser encontradas na reserva caso haja continuidade do trabalho ornitológico. O pato-corredor, *Neochen jubata*, foi o único registro de espécie listada como Quase Ameaçada pela BirdLife International. Em três diferentes estações de auto-foto (*camera-trap*), indivíduos de urubu-da-mata *Cathartes melambrotos* foram atraídos por iscas de peixe colocadas sob folhas secas, o que sugere que o olfato tenha sido utilizado na localização das iscas.

The Amazon rainforest is sufficiently large that vast areas have never been ornithologically explored. For the entire rio Negro catchment, we are only aware of two published studies of the local avifauna, both along the rio Jaú[3,4], although there may be others. Therefore, we report on ornithological observations made during a mammal survey[17] of the remote Xixuaú Nature Reserve which has also never been ornithologically explored. The reserve can be visited by contacting the Amazon Association (www.amazonia.org), which will arange transportation from Manaus. The boat trip from Manaus to Xixuaú takes c.2 full days. Accommodation at the headquarters is in rustic huts with hammocks or beds. Camps further upriver can be arranged. We hope that these preliminary observations are valuable, even if they are incomplete, and that they will spark further ornithological research at this very interesting lowland site.

Study area and methods

The study was conducted in the Xixuaú Nature Reserve, on the west bank of the middle rio Jauaperí, Roraima, Brazil (headquarters at 00º48'S 61º33'W). A few observations made on the east bank of the rio Jauaperí (in Amazonas state) are also included. The reserve is situated in the black-water river system of the rio Negro and consists of the typical major forest types of the region: high, unflooded *terra firme* forest and lower, seasonally flooded *igapó* forest, as well as secondary forest in various successional stages, minor plantations, minor watercourses and oxbow lakes[16]. The study focused on the area of, and around, the lower rio Xixuaú, a narrow tributary of the rio Jauaperí.

The area was first visited for one month, in August 1996, at the peak of the flood season, when MT explored the watercourses, lakes and inundated *igapó* by canoe. MT again visited the reserve in January–April 2001 (i.e. from the peak of the low-water season, when sandy beaches were present, especially on the rio Jauaperí, until the start of the rainy season, when waters rose considerably, flooding the lower *igapó* forest). During this visit, MT walked almost daily one of nine 3–6 km-long trails situated on both sides of an 8-km stretch of the lower rio Xixuaú and its tributaries. These trails typically started at the river and led inland, thus covering all of the above-mentioned terrestrial habitats. Walks usually started in early morning and lasted 5–8 hours. The main focus was to observe mammals, but any bird species was also carefully observed and, if possible, identified using various field guides[6,7,9,13–15]. Additional bird observations were made from the canoe when travelling to the trails. Several were photographed, some with the help of automatic *TrailMaster*© camera traps which were baited with various foods, mainly to attract mammals.

The methodology did not permit the compilation of a complete avian inventory or reliable assessments of abundance. However, great care was taken to exclude uncertain species identifications. We also include an abundance category for each species (see Table 1), but caution that only the common category is reliable, as these bird species were indeed seen frequently, if not daily. Species that are categorised as rare or single observations may be more common, but were simply not detected because of the sampling methodology. Furthermore, because of the observational method employed, under- and midstorey birds had a much greater probability of being observed than canopy species.

Results

A total of 185 species was observed in Xixuaú Nature Reserve, and another six species on the rio Jauaperí (Table 1). Of these, seven could have involved one of two sister taxa, and another six species were only identified to genus. Of the recorded species, 111 (58%) were non-passerines, and 100, 39, and 52 species were categorised as common, rare or involved single observations. Of these, only Orinoco Goose *Neochen jubata* is listed as Near Threatened by BirdLife International[2].

Table 1. List of bird species recorded in the lower rio Xixuaú area, with additional records from ¶nearby on the rio Jauaperí, above the village of São Pedro and ¥on the rio Jauaperí below São Pedro (e = observed on the east bank, Amazonas state; w = observed on the west bank of the river, Roraima state). Nomenclature and systematics follow Sick[15]. Evidence: s = sight record, p = photographed by Mogens Trolle (MT) or Erik Falk (EF) in the Xixuaú area, a = vocalisation heard. Abundance: c = common (>5 observations), r = rare (2–5 observations), s = single observation. **Mitu tomentosa* was assumed to be present because locals reported a second species of curassow, and the call of a second curassow species was repeatedly heard in the *igapó* forest. ****Pionopsitta barrabandi* was identified due to the characteristic orange cheek. ******Myrmotherula cherriei* was identified due to the presence of the characteristically streaked female.

Family and species	Evidence	Abundance
Tinamidae		
Tinamus major Great Tinamou	p (MT)	c
Crypturellus soui Little Tinamou	s	r
Crypturellus undulatus Undulated Tinamou	p (MT)	c
Phalacrocoracidae		
Phalacracorax brasilianus Neotropic Cormorant	s	c
Anhingidae		
Anhinga anhinga Anhinga	s	c
Ardeidae		
Ardea cocoi White-necked Heron	s	c
Casmerodius albus Great Egret	s	c
Butorides striatus Green-backed Heron	s	c
Pilherodius pileatus Capped Heron	s	s
Tigrisoma lineatum (e, w) Rufescent Tiger-heron	s	c
Threskiornithidae		
Mesembrinibis cayennensis Green Ibis	s	c
Platalea ajaja Roseate Spoonbill	p (EF)	s
Ciconiidae		
Mycteria americana Wood Stork	s	r
Jabiru mycteria Jabiru	p (EF)	s
Cathartidae		
Sarcoramphus papa King Vulture	p (MT)	c
Coragyps atratus Black Vulture	s	c
Cathartes aura Turkey Vulture	s	c
Cathartes melambrotos Greater Yellow-headed Vulture	p (MT)	c
Anatidae		
Neochen jubata¥ (e, w) Orinoco Goose	s	s
Cairina moschata Muscovy Duck	s	c
Accipitridae		
Gampsonyx swainsonii Pearl Kite	s	s
Elanoides forficatus Swallow-tailed Kite	s	c
Leptodon cayanensis Grey-headed Kite	s	s
Harpagus bidentatus Double-toothed Kite	s	s
Ictinia plumbea Plumbeous Kite	s	c
Rupornis magnirostris Roadside Hawk	s	c
Busarellus nigricollis Black-collared Hawk	s	s
Buteogallus urubitinga Great Black-hawk	p (MT)	r
Geranospiza caerulescens Crane Hawk	s	r
Pandionidae		
Pandion haliaetus Osprey	s	c
Falconidae		
Herpetotheres cachinnans (w) Laughing Falcon	s	s
Daptrius ater Black Caracara	s	c
Daptrius americanus Red-throated Caracara	s	r
Falco rufigularis Bat Falcon	s	c
Cracidae		
Ortalis motmot Little Chachalaca	s	c
Penelope jacquacu Spix's Guan	s	c
Pipile pipile Blue-throated Piping-guan	s	c
Crax alector Black Curassow	s	c
*Mitu tomentosa** Lesser Razor-billed Curassow	a	c
Phasianidae		
Odontophorus gujanensis Marbled Wood-quail	s	s
Opisthocomidae		
Opisthocomus hoazin Hoatzin	s	r
Psophiidae		
Psophia crepitans Grey-winged Trumpeter	p (MT)	c
Rallidae		
Aramides cajanea Grey-necked Wood-rail	s	c
Heliornithidae		
Heliomis fulica Sungrebe	s	r
Eurypygidae		
Eurypyga helias Sunbittern	s	c
Charadriidae		
Vanellus chilensis Southern Lapwing	s	r
Hoploxypterus cayanus (e, w) Pied Lapwing	s	c
Charadrius collaris (e, w) Collared Plover	s	r
Scolopacidae		
Tringa solitaria Solitary Sandpiper	s	r
Laridae		
Phaetusa simplex Large-billed Tern	s	c
Sterna superciliaris Yellow-billed Tern	s	c
Rynchopidae		
Rynchops niger Black Skimmer	s	c
Columbidae		
Columba speciosa Scaled Pigeon	s	s
Columba subvinacea Ruddy Pigeon	s, a	c
Columbina passerina Common Ground-dove	s	c
Geotrygon montana Ruddy Quail-dove	s	s
Psittacidae		
Ara ararauna Blue-and-yellow Macaw	s	c
Ara macao Scarlet Macaw	s	c
Ara chloroptera Red-and-green Macaw	s	c
Ara severa Chestnut-fronted Macaw	s	r
Aratinga leucophthalmus White-eyed Parakeet	s	c
Aratinga pertinax Brown-throated Parakeet	s	r
Brotogeris chrysopterus Golden-winged Parakeet	s	r
*Pionopsitta barrabandi*** Orange-cheeked Parrot	s	r
Pionus menstruus Blue-headed Parrot	s	c
Amazona festiva Festive Parrot	s	c
Amazona amazonica Orange-winged Parrot	s	c
Deroptyus accipitrinus Red-fan Parrot	s	c
Cuculidae		
Coccyzus melacoryphus Dark-billed Cuckoo	s	s
Piaya cayana Squirrel Cuckoo	s	c
Crotophaga ani (w) Smooth-billed Ani	s	r
Crotophaga major Greater Ani	s	c
Nyctibiidae		
Nyctibius griseus Common Potoo	a	c
Caprimulgidae		
Nyctiprogne leucopyga Band-tailed Nighthawk	s	c
Nyctidromus albicollis Pauraque	a	c
Caprimulgus nigrescens Blackish Nightjar	s	s
Apodidae		
Chaetura spinicauda Band-rumped Swift	s	c
Trochilidae		
Phaethornis sp. unidentified hermit	s	c
Phaethornis ruber Reddish Hermit	s	c
Campylopterus largipennis Grey-breasted Sabrewing	s	s
Thalurania furcata Fork-tailed Woodnymph	s	s
Heliothryx aurita Black-eared Fairy	s	s
Trogonidae		
Trogon melanurus Black-tailed Trogon	s	s
Trogon viridis White-tailed Trogon	s	c

Trogon violaceus Violaceous Trogon	s	c
Alcedinidae		
Ceryle torquata Ringed Kingfisher	s	c
Chloroceryle amazona Amazon Kingfisher	s	c
Chloroceryle americana Green Kingfisher	s	c
Chloroceryle inda Green-and-rufous Kingfisher	s	c
Momotidae		
Momotus momota Blue-crowned Motmot	s, a	c
Galbulidae		
Galbula albirostris Yellow-billed Jacamar	s	s
Galbula galbula Green-tailed Jacamar	s	c
Galbula leucogastra Bronzy Jacamar	s	c
Galbula dea Paradise Jacamar	s	c
Bucconidae		
Bucco tamatia Spotted Puffbird	s	s
Monasa atra Black Nunbird	s	c
Chelidoptera tenebrosa Swallow-wing	s	c
Capitonidae		
Capito niger Black-spotted Barbet	s	s
Ramphastidae		
Pteroglossus viridis Green Aracari	s	c
Ramphastos vitellinus Channel-billed Toucan	s	c
Ramphastos tucanus Red-billed Toucan	s	c
Picidae		
Picumnus sp. unidentified piculet	s	s
Colaptes punctigula Spot-breasted Woodpecker	s	r
Piculus flavigula Yellow-throated Woodpecker	s	s
Celeus elegans Chestnut Woodpecker	s	s
Celeus grammicus/undatus Scale-breasted/Waved Woodpecker	s	r
Celeus flavus Cream-coloured Woodpecker	s	s
Dryocopus lineatus Lineated Woodpecker	s	c
Veniliornis affinis/cassini Red-stained/Golden-collared Woodpecker	s	r
Campephilus melanoleucos Crimson-crested Woodpecker	s	r
Campephilus rubricollis Red-necked Woodpecker	s	c
Formicariidae		
Sakesphorus canadensis Black-crested Antshrike	s	c
Thamnophilus punctatus Eastern Slaty Antshrike	s	r
Thamnophilus amazonicus Amazonian Antshrike	s	c
Thamnomanes caesius/ardesiacus Cinereous/Dusky-throated Antshrike	s	s
Myrmotherula axillaris White-flanked Antwren	s	c
Myrmotherula guttata Rufous-bellied Antwren	s	r
*Myrmotherula cherriei**** Cherrie's Antwren	s	s
Microrhopias quixensis Dot-winged Antwren	s	c
Myrmoborus leucophrys White-browed Antbird	s	c
Hypocnemis cantator Warbling Antbird	s	c
Hypocnemoides melanopogon Black-chinned Antbird	s	c
Percnostola rufifrons Black-headed Antbird	s	r
Myrmeciza ferruginea Ferruginous-backed Antbird	s	s
Pithys albifrons White-plumed Antbird	s	s
Gymnopithys rufigula Rufous-throated Antbird	s	r
Formicarius colma Rufous-capped Antthrush	s	s
Myrmornis torquata Wing-banded Antbird	s	s
Hylopezus macularius Spotted Antpitta	s	s
Furnariidae		
Synallaxis rutilans Ruddy Spinetail	s	s
Automolus infuscatus/ochrolaemus Olive-backed/Buff-throated Foliage-gleaner	s	s
Xenops minutus Plain Xenops	s	r
Dendrocolaptidae		
Dendrocincla fuliginosa Plain-brown Woodcreeper	s	s
Glyphorynchus spirurus Wedge-billed Woodcreeper	s	c
Nasica longirostris Long-billed Woodcreeper	s	s
Xiphorhynchus sp. unidentified woodcreeper	s	c
Campylorhamphus trochilirostris/procurvoides Red-billed/Curve-billed Scythebill	s	s
Tyrannidae		
Tyrannulus elatus Yellow-crowned Tyrannulet	s	s
Mionectes oleagineus Ochre-bellied Flycatcher	s	s
Todirostrum maculatum Spotted Tody-flycatcher	s	r
Laniocera hypopyrrha Cinereous Mourner	s	s
Myiarchus sp. unidentified flycatcher	s	s
Pitangus sulphuratus Great Kiskadee	s	c
Philohydor lictor Lesser Kiskadee	s	c
Myiozetetes cayanensis Rusty-margined Flycatcher	s	c
Myiodynastes maculatus Streaked Flycatcher	s	r
Legatus leucophaius Piratic Flycatcher	s	r
Tyrannus savana Fork-tailed Flycatcher	s	r
Tyrannus melancholicus Tropical Kingbird	s	c
Pachyramphus polychopterus/marginatus White-winged/Black-capped Becard	s	s
Tityra cayana Black-tailed Tityra	s	r
Pipridae		
Pipra erythrocephala Golden-headed Manakin	s	r
Pipra pipra White-crowned Manakin	s	c
Manacus manacus White-bearded Manakin	s	s
Heterocercus flavivertex Yellow-crested Manakin	s	s
Cotingidae		
Xipholena punicea Pompadour Cotinga	s	s
Lipaugus vociferans Screaming Piha	s, a	c
Perissocephalus tricolor Capuchinbird	s	r
Gymnoderus foetidus Bare-necked Fruitcrow	s	r
Hirundinidae		
Tachycineta albiventer White-winged Swallow	s	c
Phaeoprogne tapera Brown-chested Martin	s	c
Progne chalybea Grey-breasted Martin	s	c
Progne subis Purple Martin	s	s
Atticora fasciata White-banded Swallow	s	c
Stelgidopteryx ruficollis Southern Rough-winged Swallow	s	c
Troglodytidae		
Thryothorus coraya Coraya Wren	s	c
Thryothorus leucotis Buff-breasted Wren	s	c
Troglodytes aedon House Wren	s	r
Cyphorhinus aradus Musician Wren	s, a	r
Sylviidae		
Polioptila plumbea Tropical Gnatcatcher	s	r
Turdidae		
Turdus fumigatus Cocoa Thrush	s	s
Emberizidae		
Coereba flaveola Bananaquit	s	c
Tachyphonus cristatus/surinamus Flame-crested/Fulvous-crested Tanager	s	s
Tachyphonus luctuosus White-shouldered Tanager	s	r
Ramphocelus carbo Silver-beaked Tanager	s	c
Thraupis episcopus Blue-grey Tanager	s	c
Thraupis palmarum Palm Tanager	s	c
Euphonia sp. unidentified euphonia	s	c
Dacnis lineata Black-faced Dacnis	s	s
Dacnis flaviventer Yellow-bellied Dacnis	s	s
Dacnis cayana Blue Dacnis	s	r
Chlorophanes spiza Green Honeycreeper	s	r
Cyanerpes caeruleus Purple Honeycreeper	s	r
Paroaria gularis Red-capped Cardinal	s	c
Saltator sp. unidentified saltator	s	c
Psarocolius decumanus Crested Oropendola	s	c
Psarocolius viridis Green Oropendola	s	c
Cacicus cela Yellow-rumped Cacique	s	c
Cacicus haemorrhous Red-rumped Cacique	s	s
Icterus chrysocephalus Moriche Oriole	s	s
Scaphidura oryzivora Giant Cowbird	s	c

Three different baited camera-trap stations, all situated in primary *terra firme* forest, attracted single Greater Yellow-headed Vultures *Cathartes melambrotos*. As the fish bait used was placed under dead leaves, sense of smell was probably employed to detect these. At one, the yellow-headed vulture was subsequently replaced by a King Vulture *Sarcoramphus papa*, but the latter was most likely attracted by the presence of the former (see Discussion).

Discussion

The geographically proximate localities that have been ornithologically explored yielded the following species totals: 445 species along the rio Jaú[4], 394 species north of Manaus[5], 387 species in Tapajós National Park[11], 440 species around La Esmeralda[1], and 398 species at Junglaven and Camani Camps[19]. Based on those studies, we predict that c.200 more species might be expected to occur in Xixuaú Nature Reserve. These would mostly comprise hard-to-detect species (e.g. puffbirds, owls, potoos and nightjars) and difficult-to-identify species (e.g. woodcreepers and flycatchers). For example, mist-netting and vocalisation studies are required in Xixuaú. Moreover, many canopy species went undetected because of the sampling methodology employed; the importance of vocalisations and using tape-recorders in avifaunal surveys is now well known[12]. As in all studies of rainforest birds, canopy access would vastly improve observational opportunities[10,18]. Nonetheless, those species recorded in Xixuaú Nature Reserve correspond well with those found in the two closest Brazilian sites, along the rio Jaú[4] and north of Manaus[5].

Orinoco Goose, the only bird species recorded by the survey considered to be of conservation concern by BirdLife International[2], inhabits forest-covered banks of tropical rivers and damp clearings. Because it is heavily hunted, the species is in severe population decline and is now mostly found in remote and protected areas[2]. The discovery of hidden bait by two Greater Yellow-headed Vultures, later visited by a King Vulture, adds to the existing evidence that *Cathartes* use their acute sense of smell to locate food, and is consistent with the suggestion that other vultures, e.g. Black Vulture *C. aura* and King Vulture, have no functional sense of smell but rely on *Cathartes* species to locate food[8].

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The Ocellated Turkey *Meleagris ocellata* in Chiquibul Forest, Belize, 1994–1996

Tony King and Nicodemus Bol

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El Guajalote Ocelado *Meleagris ocellata* es endémico de la Península de Yucatán, en Centroamérica. El Bosque Chiquibul, en el centro oeste de Belize, se encuentra en el límite sudeste de la distribución de la especie. Aquí se presentan observaciones informales sobre la distribución y biología de *M. ocellata* en Chiquibul, efectuadas durante los dos primeros años después de la apertura de una estación de investigación, entre julio de 1994 y agosto de 1996. Se encontró una población nidificante restringida al norte y oeste de los ríos Chiquibul, Monkey Tail y Lower Raspaculo, y probablemente continua con la población de Guatemala en el Petén norte. No se pudo establecer de manera fidedigna el estatus de esta población. En Las Cuevas, el cortejo comenzó en marzo. Tras cortejar a la hembra, el macho la monta y pisa, mientras ésta se mantiene agachada contra el piso, con las alas extendidas. Los nidos fueron hallados en mayo, en el suelo y entre la cobertura densa. Ocasionalmente se observaron hembras con polluelos, hasta una docena, en junio y julio. Parece que la mortalidad de los pollos resultó alta. Con el inevitable incremento de la presencia humana en el bosque, en parte debido a la mejora de los accesos y en parte a la colonización desde Guatemala, es probable que aumente la presión de caza. Para una especie de semejante valor nutricional, esta presión puede rápidamente amenazar la supervivencia de una población en el límite de su distribución natural, sin poder ser reforzada desde el sur o el este. Se recomienda una reevaluación de la distribución y estatus de *M. ocellata* en Chiquibul, y de las presiones que enfrenta la especie, para así implementar acciones que aseguren su supervivencia.

Ocellated Turkey *Meleagris ocellata* is a large, striking gamebird endemic to the Yucatán Peninsula of Middle America[17]. Its conservation status is currently assessed as Near Threatened[1,9] and the species' range extends from north Belize west to east Chiapas, Mexico, and south to north Petén, Guatemala[3,11]. Distribution is patchy, with subsistence hunting being the major threat. The species is thought to be most common in Belize[2], where Wood *et al*.[18] reported it in the northern hardwood forests and Mountain Pine Ridge, but noted its absence from the southern hardwood forests and coastal savannas. Ocellated Turkey is reported to have seriously declined in Belize during the 1980s, possibly due to disease[4], although the cause has not been substantiated[2]. As elsewhere, subsistence hunting is now probably the major pressure.

Chiquibul Forest, in central-west Belize (Fig. 1), is at the south-eastern limit of the species' range. In 1994 a research station was opened at Las Cuevas, in the heart of Chiquibul, permitting long-term observations of the local flora and fauna to be made for the first time. Here we present informal observations of the distribution and biology of *M. ocellata* in Chiquibul, made between July 1994 and August 1996.

Chiquibul Forest

Chiquibul is c.180,000 ha in extent[20]. It borders Guatemala to the west, the main divide of the Maya Mountains to the south and east, and Mountain Pine Ridge and Vaca Forest Reserve to the north. The forest is classified as being in transition from the 'Subtropical moist' to 'Subtropical lower montane wet' life zones of the Holdridge System[8]. Two main broadleaf forest types are recognised, one largely deciduous, the other semi-evergreen[19]. Annual rainfall is c.1,500 mm, with drought conditions (<100 mm per month) normal in February–April, and often in January and May[10].

Distribution within Chiquibul

Observations of *M. ocellata* within Chiquibul were patchy. The species was most commonly seen at the two major man-made clearings, at the Caracol archaeological site and Las Cuevas Research Station. It was also regularly seen along the main tracks, particularly in the vicinity of Caracol and Las Cuevas, but also in Mountain Pine Ridge, along the Chiquibul road between Guacamallo bridge and Millionario, and between Millionario and Grano d'Oro. Twice the species was observed as far south as Puente Natural (NB pers. obs., P. Rodewald & A. Dumin pers. comm.), but was not recorded during ornithological surveys of Smokey Branch[5] or Doyle's Delight[6], or during a traverse of the Maya Mountains[16]. It appears that the Chiquibul River represents the southern limit of the population in Chiquibul, and indeed in Belize.

Although commonly observed in Las Cuevas clearing, *M. ocellata* was not seen more than a couple of kilometres east of Las Cuevas, and was not recorded during expeditions to the Upper

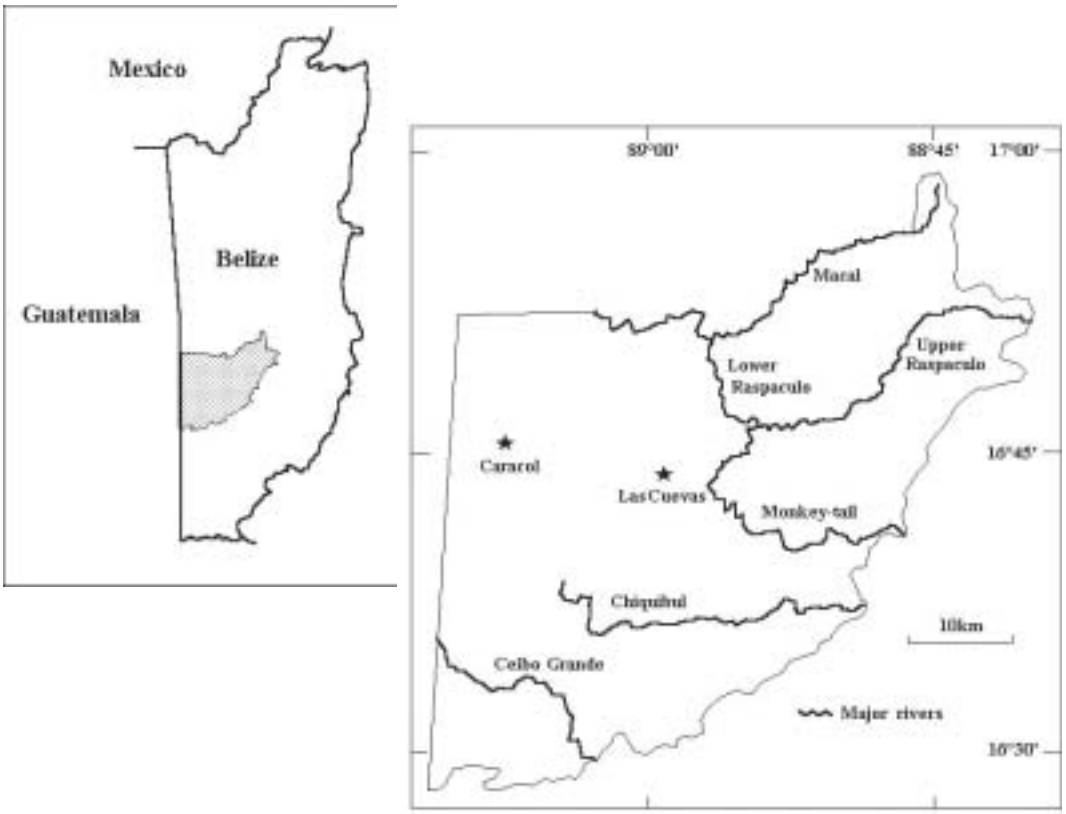

Figure 1. Chiquibul forest, Belize, and the position of major localities mentioned in the text.

Gazetteer

Location	Coordinates
Las Cuevas Research Station	16°44'N 88°59'W
Caracol archaeological site	16°46'N 89°08'W
Millionario	16°45'N 89°01'W
San Pastor	16°43'N 88°59'W
New Maria	16°49'N 89°01'W
Grano d'Oro	16°40'N 89°02'W
Guacamallo bridge	16°52'N 89°02'W
Puente Natural	16°36'N 89°01'W

Raspaculo[12] or Lower Raspaculo[15] rivers. The Monkey Tail River and Lower Raspaculo may therefore represent the eastern limit of the Chiquibul population.

The occurrence of *M. ocellata* at Caracol suggests that the population probably occurred further west in suitable habitat within Guatemala, although much of the forest west of the border had been cleared and human population density was much higher than in Belize.

Status

Although *M. ocellata* often appeared common while driving through Chiquibul to Las Cuevas or to Caracol, it was difficult to ascertain the species' abundance in the area. Despite almost daily observations in the Las Cuevas clearing, *M. ocellata* was not recorded during ornithological surveys of the adjacent forest sampling plot, in 1995 or 1996, or in any of the other three forest plots, at San Pastor, New Maria and Grano d'Oro[13,14]. Therefore caution should be exercised when interpreting the apparent abundance of *M. ocellata* on the most frequented routes of Chiquibul.

Observations of *M. ocellata* at Las Cuevas

M. ocellata frequented the Las Cuevas clearing most days after the research station was established, in July 1994. Birds usually roosted in trees at the edge of the clearing, occasionally in the two large *Cedrella odorata* trees in the centre of the

clearing, and glided down into the clearing in the early morning. They spent the day foraging in the grass and dirt, taking a varied diet of seeds, insects and occasional frogs and rodents. On the rare occasions they were observed seizing vertebrates, the bird would spend considerable time tossing the animal and pecking at it, presumably trying to kill and dismember it.

The number of *M. ocellata* utilising Las Cuevas clearing gradually increased, albeit with seasonal fluctuations. In November 1994, the group consisted of five individuals. By January 1995 a sixth had joined. Unfortunately, no details of group composition were recorded, despite the relative ease of sexing and ageing individuals (tarsal spur long and pointed in adult males, short and rounded in yearling males, absent in females; greater secondary coverts broad in adults, narrow in yearlings[17]). Courtship commenced in late March, with two males competing for the females. During this period the males had inflated necks, snoods and head-knobs, and strutted around the clearing, their heads high and breast feathers puffed-out. They would frequently stop to make a courting 'song', consisting of several deep glugging noises, whilst extending the neck upwards, followed by a rapid gobble and retraction of the neck back to the shoulders. A successful male would mount and stamp the feet, while the female lay flat to the ground, wings spread. Following mating in April, the turkeys became more solitary and very elusive, being observed less frequently in the clearing. Two nests were found, on the ground in dense undergrowth at the edge of the clearing.

Females with small chicks, up to a dozen in number, were occasionally observed around the edges of the clearing in June–July, and as the chicks grew they were sometimes encountered on the roads. Females were very protective of the young, and a female became very aggressive towards a Land Rover parked close to her brood. Chick mortality appeared high, as the number of chicks observed with females steadily declined. However, as the turkeys became regular visitors to the clearing again, it was clear that at least some young had survived. In November 1995, a group of nine was counted in the clearing, possibly consisting of the six original individuals and three young.

Singles attempted to join the group in December, but were consistently driven off. However, with persistence some were admitted, the group growing to ten and then to 11 birds in February 1996. Another repeatedly attempted to join the group, but was never admitted. Once this turkey was chased to and fro across the width of the clearing, before being engaged by the dominant male of the Cuevas group, the two jumping and kicking backwards at each other with the tarsal spurs. The lone turkey thereafter flew into a small tree, but was followed by the aggressive male, which continued to peck at the intruder until the latter eventually left the clearing.

The group did not grow larger than 11, before decreasing again in the courtship season. Again, as in 1995, the turkeys became elusive whilst the chicks were growing, but the clearing was regularly used by a group of four young males, in June–July 1996, though by late July they had apparently moved elsewhere, perhaps prompted by the return of some of the original group.

Our informal observations are consistent with those made during more detailed studies of the species at Tikal, in Guatemala[7,17]. In particular, Gonzalez e*t al*.7 reported similar seasonal changes in habitat use, and high juvenile mortality. Both Gonzalez *et al*.[7] and Steadman *et al*.[17] describe the natural history of the species in more detail than attempted here, and we believe similar work could usefully and successfully be developed in Chiquibul. Additionally, such studies should also be undertaken in neighbouring Mountain Pine Ridge reserve, in habitat not generally associated with *M. ocellata*.

Conclusions

Chiquibul Forest appears to represent the extreme south-eastern limit of the range of *M. ocellata*. Observations in 1994–1996 indicated that a viable breeding population was present north and west of the Chiquibul, Monkey Tail and Lower Raspaculo rivers, and probably contiguous with the Guatemalan population of the northern Petén. However, the status of the population could not be reliably ascertained. Chick mortality appeared high, and the species exhibited a worrying complacency towards humans. With the inevitable increase in human presence in the forest, partially due to improved road access and partially due to mounting encroachment from Guatemala, hunting pressure will likewise increase. For a species of such high nutritional value, such pressure could quickly threaten the survival of a population on the limit of its natural range, with no possibility of reinforcement from the south or east. We recommend a rapid reassessment of the distribution and status of *M. ocellata* within Chiquibul, and of the pressures facing the species, with the aim of implementing action to ensure its continued survival.

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Figure 2. Male Ocellated Turkey *Meleagris ocellata*, displaying outside of the courtship season (note: no enlarged snood or head-knob), Las Cuevas, 1996 (Tony King)

Figure 3. Male Ocellated Turkey *Meleagris ocellata* with enlarged snood and head-knob (diminished after the breeding season), Las Cuevas, July 1996 (Tony King)

Figure 4. Male Ocellated Turkey *Meleagris ocellata* completing a courtship 'gobble' display (note very inflated neck, snood and head-knob), Las Cuevas, April 1995 (Tony King)

Figure 5. Male Ocellated Turkey *Meleagris ocellata* mounting a female, Las Cuevas, April 1995 (Tony King)

Ocorrência do Formigueiro-do-nordeste *Formicivora iheringi* na Estação Ecológica de Acauã, Minas Gerais, Brasil

Santos D'Angelo Neto & Marcelo Ferreira de Vasconcelos

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We present records of the Narrow-billed Antwren *Formicivora iheringi*, a restricted-range and globally threatened species, from the 5,196-ha Acauã Ecological Station (17º07'S 42º46'W), north-east Minas Gerais, Brazil. These are the first records of this species from a protected area. We also recommend the protection of other forest fragments in private properties adjacent to the reserve, where the species was found to be common.

O Formigueiro-do-nordeste *Formicivora iheringi* é um endemismo das matas interioranas semidecíduas e decíduas ocorrentes nas encostas de serras dos estados da Bahia e de Minas Gerais, Brasil[10,11,13,14]. A espécie foi considerada globalmente ameaçada[1] e, em Minas Gerais, também consta na lista estadual das espécies ameaçadas de extinção[5,6]. Os critérios utilizados para a inclusão de *F. iheringi* na lista de espécies ameaçadas de extinção de Minas Gerais foram baseados em sua área de distribuição restrita, populações pequenas, destruição de hábitat e inclusão na antiga lista oficial do IBAMA[5,7]. Entretanto, a espécie não foi mais considerada ameaçada na mais recente revisão da lista das espécies da fauna ameaçada de extinção do Brasil[8], principalmente devido à capacidade de persistir em fragmentos florestais pequenos e alterados. O Formigueiro-do-nordeste foi recentemente encontrado em novas localidades ao longo da bacia do rio Jequitinhonha, em Minas Gerais[3], mas todos os registros até hoje reportados foram realizados fora de unidades de conservação[1,3,7,9,12,14]. Assim, o objetivo desta nota é relatar a ocorrência deste endemismo em uma reserva estadual de Minas Gerais.

A Estação Ecológica de Acauã (17º07'S 42º46'W) ocupa uma área de 5.196 ha, estando localizada na Chapada de São Domingos, nos municípios de Turmalina e de Leme do Prado, em Minas Gerais, Brasil[2]. A vegetação predominante nesta reserva é a de floresta estacional semidecidual.

A primeira observação do Formigueiro-do-nordeste na Estação Ecológica de Acauã ocorreu em 7 de janeiro de 2001, quando um macho forrageava no sub-bosque e no estrato médio da mata. Este indivíduo inspecionava as cascas dos ramos e as folhas secas da serrapilheira, à procura de presas. Em uma ocasião, a ave capturou um inseto que se encontrava sob as cascas. Ao se deslocar na ramaria, a ave movimentava lentamente sua cauda para cima e para baixo. No dia 14 de junho de 2001, um casal foi observado ao participar de um bando misto no sub-bosque da mata. Outras espécies participantes deste bando eram a Choca-bate-cabo-do-sul *Thamnophilus pelzelni*, a Papa-taoca-do-sul *Pyriglena leucoptera*, a Papa-formigas-de-grota *Myrmeciza loricata*, a Maria-cavaleira *Myiarchus ferox*, a Rendeira *Manacus manacus*, o Sabiá-barranco *Turdus leucomelas* e o Canário-do-mato *Basileuterus flaveolus*. Este casal comunicava-se através de uma série de pios semelhantes à vocalização do Patinho *Platyrinchus mystaceus* e por meio de um trinado rápido. Juntamente com *P. leucoptera*, o Formigueiro-do-nordeste foi uma das espécies que mais vocalizava neste bando misto. Um outro casal foi observado no sub-bosque da mata em 16 de novembro de 2002. Ambas as aves forrageavam de maneira semelhante ao macho observado em janeiro de 2001. No dia 29 de dezembro de 2003, mais dois indivíduos de *F. iheringi* foram observados neste mesmo local, sendo suas vocalizações gravadas com um gravador Sony TCM-5000EV e microfone direcional Sennheiser ME66. Um macho adulto foi muito bem observado após ser atraído pelo *playback*.

Estes são os primeiros registros de *F. iheringi* em uma unidade de conservação[1,3,7,14]. Embora a espécie tenha sido registrada na região da Chapada Diamantina, na Bahia, ela não foi encontrada dentro dos limites do Parque Nacional[9]. Um levantamento preliminar da avifauna da Estação Ecológica de Acauã, conduzido por M. C. Lima e L. H. C. Magri[4], entre agosto e novembro de 1993, indicou a existência de 122 espécies de aves nesta reserva, mas *F. iheringi* não consta neste estudo.

É importante salientar que a espécie também foi registrada em fragmentos de mata semidecídua secundária, adjacentes à Estação Ecológica de Acauã, especialmente na propriedade de O. Sandinha (17º08'S 42º44'W), município de Leme do Prado, nas proximidades da Fazenda Campo Limpo (17º12'S 42º51'W), município de Turmalina, e nos arredores de Catutiba (16º49'S 42º38'W), município de José Gonçalves de Minas. Em todas estas localidades, *F. iheringi* foi uma espécie bastante encontradiça

e suas populações não podem ser consideradas pequenas, embora as matas já estejam bem descaracterizadas pelo corte seletivo de madeira e pela fragmentação, evidenciando a resistência da espécie a estes fatores e, talvez, que esta possa até certo ponto se beneficiar da perturbação causada. A inclusão destes fragmentos na Estação Ecológica de Acauã ou a criação de novas reservas que abrangessem estas matas poderia garantir uma maior proteção ao Formigueiro-do-nordeste, especialmente porque a recente implantação da usina hidrelétrica de Irapé, no rio Jequitinhonha, causou uma diminuição expressiva dos hábitats propícios para a espécie nesta região.

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Magellanic Woodpecker
Campephilus magellanicus

Magellanic Woodpecker *Campephilus magellanicus* is the largest South American woodpecker, at 36–45 cm[1–4]. Its distribution comprises southern Chile, from Curico to Isla Grande, and adjacent areas of south-west Argentina[1], where it is typical of austral humid forests with *Nothofagus* and *Cupressus*, frequently with bamboo stands[1–4]. Plumage is predominantly black with white on the wings, rump and flanks. Males have the entire head red, while females have deep red only at the base of the bill[1,2,4]. Young have plumage similar to females but are browner, less bright, with a short crest and, frequently, white bars below[1].

The species occurs in pairs or family groups, and is noisy when feeding, often flying from tree to tree[1]. It nests within tree holes, laying 2–3 white eggs in October–December[1,4]. This male was photographed with a female on the trail between El Chalten and Glaciar Cerro Torre (49°19'S 72°55'W), Los Glaciares National Park, Argentina.

Though not threatened, *C. magellanicus* has a restricted geographic range in southern South America, comprising two Endemic Bird Areas (EBAs 061 and 062)[5]. As it depends on trees both to forage and nest[1], deforestation of the temperate forests of Chile and Argentina[5] may represent a threat to the Magellanic Woodpecker.

Male Magellanic Woodpecker *Campephilus magellanicus* (Frederico Ferreira de Vasconcelos)

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Common Potoo
Nyctibius griseus

Common Potoo *Nyctibius griseus* is widespread in southern Central America and throughout northern and central South America, from eastern Nicaragua south to northern Argentina.

In Ecuador it is considered uncommon to fairly common in the lowlands and quite widespread in the east occurring in *várzea* and riparian forest as well as the borders of *terra firme* forest[3].

In late December 2001 we spent ten days at Yuturi Lodge, on the río Yuturi, a tributary of the río Napo in eastern Ecuador (00°33'S 76°05'W)[3]. On 22 December we left the lodge at 05h30 for the Manduro trail where, on our approach to the riverbank, a Common Potoo was encountered in a typically upright position atop a spiny-covered stump projecting out of the water. It soon became apparent that the bird was perched with both its tail and tips of its longest primaries partially submerged in the water. We speculated that perhaps the bird perched thus in an attempt to remain cool during the heat of the day. Despite our close approach the bird did not perform a defence display[1] or leave the stump. We spent the next ten hours along the Manduro trail but on our return we found the potoo had left the stump, presumably to hunt. To our surprise a single egg was visible where the bird had been perched.

Water levels in this area vary considerably in response to rainfall and, on reflection, it seems probable that the water level rose after the nest site had been chosen, rendering the bird a choice between continuing to incubate whilst partially submerged or desert the nest. The availability of nest sites may be a limiting factor in potoo population density and good-quality sites are perhaps hard to find[2]. It is therefore interesting that the present site was the result of vegetation having been cut by a machete to maintain the

1

2

3

Figures 1–2. Common Potoo *Nyctibius g. griseus* incubating whilst partially submerged, río Yuturi, Ecuador, 22 December 2001 (David Cooper/Brenda Kay)

Figure 3. Egg of Common Potoo *Nyctibius g. griseus*, río Yuturi, Ecuador, 22 December 2001 (David Cooper/Brenda Kay)

channel leading to the trail. Thus, the lack of a more typical nest site nearby, at mid-height in a tree[2], may have resulted in this potoo's choice.

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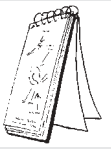
Neotropical Notebook



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

American White Pelican *Pelecanus erythrorhynchos* in interior Guatemala

American White Pelican *Pelecanus erythrorhynchos* breeds in western North America to northern Mexico, and winters along the Atlantic coast from Florida to northern Yucatán, the Pacific coast from California to Costa Rica and Panama, and the western Mexican lowlands[1,4,5,11,12]. Increasing numbers have been reported in Belize in the past 20 years[8] and there are recent reports from the Caribbean coast of Costa Rica[6], interior Belize and El Salvador[7]. American White Pelican is a vagrant to the Greater Antilles and Bahamas[13]. Whilst Brown Pelican *P. occidentalis* is a regular visitor in small numbers to major Guatemalan lakes (e.g. Atitlán, Lachuá, Petén Itzá, Yaxhá: KE pers. obs.), there are no previous reports of American White Pelican from interior Guatemala[2,5,9,10].

On 25 April 2003 we observed through a telescope at least five American White Pelicans at Lake Yaxhá, c.3 km from the Yaxhá archaeological site, Petén (17º03'N 89º26'W). A precise count was impossible because of the distance of the birds. Next day, we visited the area, near the archaeological site of Topoxté, where the birds had been the previous day and photographed eight pelicans (photo online at http://www.cayaya-birding.com/pubs.htm) standing in shallow water isolated from the main lake. The species had apparently not been seen previously by local residents in Yaxhá (G. Moretti pers. comm.) and is not mentioned in published records from the Petén[2,10]. Lake Yaxhá is part of the Maya Biosphere Reserve and is surrounded by vast tropical humid to semi-deciduous broadleaf woodland, but the south side is characterised by savanna. It is an important feeding area for waterbirds. In addition to both pelican species mentioned, the following waterbirds were present on 25–26 April 2003: Neotropic Cormorant *Phalacrocorax brasilianus*, Bare-throated Tiger-heron *Tigrisoma mexicanum*, Boat-billed Heron *Cochlearius cochlearius*, Great Blue Heron *Ardea herodias*, Great Egret *A. alba*, Snowy Egret *Egretta thula*, Little Blue Heron *E. caerulea*, Tricoloured Heron *E. tricolor*, Cattle Egret *Bubulcus ibis*, Green Heron *Butorides virescens*, Jabiru *Jabiru mycteria*, Ruddy Crake *Laterallus ruber*, Semipalmated Plover *Charadrius semipalmatus*, Black-necked Stilt *Himantopus mexicanus*, Northern Jacana *Jacana spinosa*, Greater Yellowlegs *Tringa melanoleuca*, Solitary Sandpiper *T. solitaria*, Spotted Sandpiper *Actitis macularius*, Least Sandpiper *Calidris minutilla*, Pectoral Sandpiper *C. melanotos*, Stilt Sandpiper *C. himantopus* and Laughing Gull *Larus atricilla*. In addition, Killdeer *Charadrius vociferus* and Pied-billed Grebe *Podilymbus podiceps* were observed on 29 December 1997 (KE pers. obs.). Nomenclature follows AOU[1].

Our observation of American White Pelican is consistent with inland records in El Salvador and Belize from the same period[7]. It seems to be the first record for interior Guatemala, and is remarkably far from the coast, as Yaxhá is 125 km from the Atlantic. Other inland records from Central America were nearer the coast (Cerron Grande, El Salvador[7], is 60 km from the Pacific, Crooked Tree, Belize[8], 30 km from the Atlantic). On the Caribbean coast of Guatemala, the species was not recorded during September 2000 to July 2001[3], but one was seen there by local fishermen in 1999 (R. Pineda pers. comm.). These observations suggest an extension to the winter range and an overall trend for increasing numbers to occur in Central America. Breeding data indicate that the overall population has been increasing since the 1970s[4], perhaps forcing part of the population to colonise new areas in winter. Equally, habitat change could be a contributory factor. Fisheries might offer serious competition to pelicans, preventing large concentrations of birds in traditional wintering areas. For instance, in Monterrico, on the Guatemalan Pacific coast, harvesting of small fish of c.15 cm is common in shallow lagoons used by American White Pelicans (KE pers. obs.).

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First documented record of Plain-breasted Ground-dove *Columbina minuta* in Honduras

On 3 August 2003 whilst birding in the Valle de Olancho, dpto. Olancho, Honduras, we observed a pair of apparent Plain-breasted Ground-doves *Columbina minuta*, c.8.3 km east of Juticalpa and just south (along the Carretera a La Empalizada) of the main east–west road in the region. The location comprised semi-arid savanna with much of the land being used for various agricultural purposes. Hedgerows, patchy forest and shallow depressions that contain water in the wet season dot the area. On one less-travelled road, just off the Empalizada road, *Columbina* doves were visiting rain-filled potholes. We identified several species including Inca Dove *Columbina inca*, Common Ground-dove *C. passerina* and Ruddy Ground-dove *C. talpacoti*. However, several individuals were different from these species.

Two doves we scrutinised were clearly *Columbina*, being generally grey with small heads, short tails and spotted wings. The presumed male (which had more colourful plumage) was blue-grey on the head, nape and throat, paler on the back, wings and underparts. The breast was greyish pink, which seemed vibrant at times in the light of the setting sun. We did not observe any scaling or strong iridescence on the bird. The maxilla was all black with a paler grey base to the lower mandible. Spotting on the wing feathers was confined to that part closest to the mantle, but we were unable to discern its coloration. The presumed female was similar but paler and overall duller with less blue-grey coloration on the head and neck. We approached the birds more closely and eventually they flew into an adjacent pasture, when we observed a rufous wing panel. They did not call and the total viewing time was 8–10 minutes.

We believe that they were a pair of Plain-breasted Ground-doves. We eliminated male and female Common Ground-doves by virtue of the lack of scaling or strong iridescence on either bird, the all-dark bills and limited spotting on the wings. Ruddy Ground-dove was carefully eliminated, first, by their paler appearance. Neither had any brown/rufous tones (except in the wings). The male was striking in having a distinct blue-grey head and mantle. In flight, we observed rufous in the wings, but less than on other species. We were unable to gain a direct size comparison with any of the other species present.

We returned next afternoon and again found a pair of Plain-breasted Ground-doves, which we photographed (the images will be deposited at VIREO, Philadelphia, USA). We noted the same field marks as the previous day, but, in addition, were able to clearly observe a purplish coloration to the wing markings and we were able to compare them directly to a nearby Common Ground-dove, which was noticeably larger. We observed five Plain-breasted Ground-doves (two pairs and a lone bird) during three days in the area, but the extensive habitat could easily support more. The species was previously unrecorded in Honduras[2,3], although suspected to occur[1]. Recent unsubstantiated reports indicate this species may also occur in western Honduras (D. Anderson & M. Bonta pers. comm.). We believe Plain-breasted Ground-dove has gone unrecorded in Honduras due to lack of observer coverage in appropriate habitat.

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Notes on the Red-throated Caracara *Ibycter americanus* in Honduras

Historically, the Red-throated Caracara *Ibycter americanus* ranged from southern Mexico to Bolivia and western Brazil[5]. Preferred habitat is reportedly humid broadleaf forests, edge and plantations in northern Middle America[3], and mature, high closed-canopy broadleaf forests in French Guiana[6]. Evidently, the species has dramatically declined over much of its range in Central and South America west of the Andes, for unknown reasons[2]. The last confirmed record in Honduras was in 1955[4]. Howell & Webb's range map implies that the species is probably extirpated in northern Middle America[3].

On 23 October 2002 we observed a large black bird making a loud *Ka-Ka-Ka-Kaaaa* call while perched atop a pine tree beside route 41 in dpto. Olancho, Honduras. The bird's head, entire back, tail and wings (above and below) were black, and the belly and undertail-coverts white. The bill was pale yellow with a sky-blue cere half the length of the culmen and the legs were orange. The throat and face below the eye were unfeathered and coloured red. All of these characteristics match Red-throated Caracara[2,5]. During the first few minutes it flew to different perches atop the pine trees, during which the bird gave a different *Kaaaa* call, very reminiscent of a Scarlet Macaw *Ara macao*. After a second individual responded from the valley below, the first bird flew to a branch halfway up another pine and commenced feeding on a wasp nest. Two minutes later a second bird joined it. For 15 minutes the first bird fed while the other waited, occasionally giving a whinnying *Kee ahh Kee ahh*. After the first individual flew away, the second started feeding on the wasp nest before it, too, departed. Subsequently, the first individual was relocated c.100 m away. In total they were observed from 11h45 until 13h00. Both individuals were photographed and the photograph published here (Fig. 1) is the first documentary evidence since 1955 that Red-throated Caracara is extant in Honduras[4].

Our sighting was 1 km south of the village Filo Chiquito, near Cerro Filo Chiquito, a mountain in the municipality of Esquipulas del Norte. The precise location of the sighting was 15°13'N 86°30'W, c.45 km east of La Unión, Olancho, along route 41. The birds were in a pine–oak–sweetgum forest at c.1,100 m. Residents of Filo Chiquito claimed familiarity with the species, which they referred to as the Ca-Ca Cacao, because of its distinctive call.

Several other recent observations of Red-throated Caracara have been made in Honduras. In 2000, Bonta reported hearing the bird in hills north of the Valle de Agalta in north-east Olancho and has collected numerous anecdotal reports from local people across the region. Between 1994 and 2002, F. Urbina (pers. comm.), an administrator of the Sierra de Agalta National Park, had seen and heard Red-throated Caracaras three times in the Valle de Agalta, where it is thought to be present during post-breeding dispersal[1]. On 18 February 2003, two were carefully observed along the river near Krautara, in lowland humid tropical forest of Patuca National Park, dpto. Gracias A Dios (H. Portillo & D. Graham pers. comm.).

Our sighting, along with nearly all previous Honduran reports[4], was from northern Olancho where the dominant habitats are savanna and pine–oak forests[1]. The rediscovery of this species in northern Olancho provides an opportunity for researchers to study, in more detail, its current distribution and habitat associations.

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Figure 1. Red-throated Caracara *Ibycter americanus*, Filo Chiquito, Esquipulas del Norte, Olancho, Honduras, 23 October 2002 (Adam Narish)

Verification of rare bird records from Trinidad & Tobago

A fourth batch of records, submitted during 2002, has been assessed by the Trinidad & Tobago Rare Birds Committee. In all 70 records were adjudged, representing 48 species. As a result, three species have been added to the official list of birds of Trinidad & Tobago. Of those assessed, in only five cases (7%) did the Committee feel that the identification was inconclusive. All locations mentioned are in Trinidad, unless designated Tobago. The records below follow the nomenclature of the American Ornithologists' Union (1998) and the species order of the *Checklist of the birds of Trinidad and Tobago* (Neotropical Bird Club 2000).

Cory's Shearwater *Calonectris diomedea*
One flushed by the Trinidad–Tobago ferry, several km south of Scarborough on 10 May 1998 (FEH *et al*.) On 17 May 1998, one flying south-east off Galera Point (FEH et *al*.). A tideline corpse found on 4 April 2002 in Blue Waters Bay, Tobago (RES).

Manx Shearwater *Puffinus puffinus*
Up to five present close inshore off Galera Point on 5 October–7 November 2002 (MK).

Purple Heron *Ardea purpurea*
Juvenile at Caroni rice fields on 24 September–10 October 2002 (MK) was the first record for Trinidad & Tobago and the second for South America. Photographs are posted at http://www.geocities.com/secaribbirds/ttpurpleheron.html.

Cocoi Heron *Ardea cocoi*
One at Buccoo marsh, Tobago, on 25–29 June 1998 (FEH *et al*.).

Rufescent Tiger-heron *Tigrisoma lineatum*
An adult close to the eastern edge of Nariva swamp on 3 February 2002 (GG).

White Ibis *Eudocimus albus*
An adult amongst a roosting flock of Scarlet Ibis *E. ruber* at Caroni swamp on 15 August 1985 (GW).

Glossy Ibis *Plegadis falcinellus*
Juvenile at Caroni rice fields on 10 October 2002 (MK).

American Wigeon *Anas americana*
Immature male on Bon Accord sewage lagoons, Tobago, on 10–11 January 2002 (MK).

Ring-necked Duck *Aythya collaris*
Adult male, commuting between Bon Accord and Lowlands, Tobago, on 26 November 2002–5 February 2003 at least (Rf, AJ, MK).

Comb Duck *Sarkidiornis melanotos*
Adult male at Caroni rice fields on 14–15 June 2002 (MK).

Masked Duck *Nomonyx dominicus*
Adult male on Pitch Lake on 26 May 1995 (FEH *et al*.) and a pair at Buccoo marsh, Tobago, on 25–29 June 1998 (FEH *et al*.).

Hook-billed Kite *Chondrohierax uncinatus*
Adult male over the Blanchisseuse road on 26 March 2002 (CS *et al*.) and another male behind Blue Waters Inn, Tobago, on 1 April 2002 (CS *et al*.).

Snail Kite *Rostrhamus sociabilis*
Immature at Caroni rice fields on 19 May 1998 (FEH). A female, also at Caroni rice fields, first recorded on 4 July 2000 (Cotinga 19: 76) remained throughout 2002 and was joined by a subadult male on 4–22 November 2002 (MK).

Crane Hawk *Geranospiza caerulescens*
One at Waller Field on 20 January 2001 (BS *et al*.) was the first accepted record for Trinidad & Tobago. Probably the same individual at Aripo Agricultural Station on 12 March 2001 (CS *et al*.). Two adults close to the coast road at Nariva on 27 March 2002 (CS *et al*.).

Swainson's Hawk *Buteo swainsoni*
Light morph over Grande Rivière on 16 May 1998. Probably the same individual over Matelot, 10 km further west, the following day (FEH *et al*.).

Great Black-hawk *Buteogallus urubitinga*
Two adults displaying on 16–17 March 2002 from the Saut d'Eau lookout (GG).

Black Hawk-eagle *Spizaetus tyrannus*
Two adults at Santa Flora on 18 June 2002 (JW).

Crested Caracara *Caracara plancus*
Subadult close to the coast road at Nariva on 27 March 2002 (CS *et al*.).

Aplomado Falcon *Falco femoralis*
Immature regularly over Caroni rice fields on 31 August–10 October 2002 (MK). A second bird at the same locality on 30 October 2002 (MK).

Yellow-breasted Crake *Porzana flaviventer*
One calling from a shallow freshwater marsh at Louis d'Or, Tobago, on 22 December 2002 (MK), was subsequently photographed on 22 February 2003 (NG *et al*.). The first record for Tobago, photographs are posted at http://www.geocities.com/secarib-birds/ttyellow-breastedcrake.html.

Paint-billed Crake *Neocrex erythrops*
One found exhausted in the Maraval Valley during March 1996 was taken into care at the Emperor Zoo, Port of Spain (per GG).

American Coot *Fulica americana*
Single adults at Buccoo marsh, Tobago on 6 February 2002 (MK) and 10 September 2002 (Rf).

Caribbean Coot *Fulica caribaea*
One at Buccoo marsh, Tobago, on 2 February 2002 (RES *et al*.).

Curlew Sandpiper *Calidris ferruginea*
Adult, moulting into breeding plumage, at Caroni rice fields on 1–5 May 2002 (MK). The first record for Trinidad & Tobago, but considered long overdue given recent records on both Barbados and Grenada.

Buff breasted Sandpiper *Tryngites subruficollis*
Five at Valsayn rice fields on 3 May 1998 (FEH *et al*.). Up to three at Caroni rice fields on 17–18 September 2002 (MK).

Ruff *Philomachus pugnax*
Immature female at Caroni rice fields on 29 December 2002–25 January 2003 (MK).

Pomarine Jaeger *Stercorarius pomarinus*
Two adults flying north past Galera Point on 30 April 2002 (MK).

Yellow-billed Cuckoo *Coccyzus americanus*
On Tobago, singles at Blue Waters Inn on 19 October 2002 (MW) and Bon Accord sewage lagoons on 21 December 2002 (MK). The latter is one of the very few presumed overwintering records for the species in the islands.

Short-eared Owl *Asio flammeus*
Correction to *Cotinga* 19: 77: two were present at Caroni rice fields on 16 September 2001.

Scaled Antpitta *Grallaria guatimalensis*
One calling from a densely forested slope close to Paria junction, Blanchisseuse Road, on 5 September 2002 (Rf).

Spotted Tody-flycatcher *Todirostrum maculatum*
Nest close to Fullerton swamp on 19 April 1998 (FEH *et al*.). Only the second documented nesting record for Trinidad.

Caribbean Martin *Progne dominicensis*
Adult male amongst Grey-breasted Martins *Progne chalybea* at Galera Point on 20 February 2002 (MK), providing further evidence of this species' winter status on Trinidad.

Cliff Swallow *Petrochelidon pyrrhonota*
Two at Caroni rice fields on 22–29 April 1998 (FEH *et al*.) and an adult in a mixed hirundine flock over Trincity ponds on 20 April 2002 (MK *et al*.).

Chestnut-sided Warbler *Dendroica pensylvanica*
Adult, moulting into breeding plumage, close to the river at Montevideo, Grande Rivière on 28 February 2002 (MK *et al*.).

Bay-breasted Warbler *Dendroica castanea*
Male at Waller Field on 20 January 2002 (RES *et al*.).

Summer Tanager *Piranga rubra*
First-summer male at Las Lapas on 28 January and 13 February 2002 (MK *et al*.).

Scarlet Tanager *Piranga olivacea*
Adult males at Morne Catherine on 27 April 1998 (FEH *et al*.) and Asa Wright Nature Centre on 14 April 2002 (SC). The vast majority of records from Trinidad are from the period 10–30 April.

Bobolink *Dolichonyx oryzivorus*
One over Chacachacare on 4 October 1998 (FEH *et al*.). Up to 50 at Caroni rice fields on 10–30 October 2002 (MK) and, on Tobago, one at Blue Waters Inn on 19 October 2002 (MW).

In addition to the above, acceptable records were received for a further 12 sightings of the following species whose status has already been established: Masked Booby *Sula dactylatra*, Little Egret *Egretta garzetta*, White-faced Whistling-duck *Dendrocygna viduata*, Bank Swallow *Riparia riparia* and Moriche Oriole *Icterus chrysocephalus*. One record received, a Mallard *Anas platyrhynchos*, was considered to be of escaped or feral origin.

Records considered inconclusive were of Wood Stork *Mycteria americana*, Herring Gull *Larus argentatus* and Grey Seedeater, *Sporophila intermedia* from Trinidad, and Grey Hawk *Asturina nitida* and Short tailed Hawk *Buteo brachyurus* from Tobago.

Records and contributions were received from the following (denoted by their initials in the text): Steve Cooper, Richard ffrench, Newton George, Geoffrey Gomes, Floyd E. Hayes, Alvaro Jaramillo, Martyn Kenefick, Bob Scott, Chris Sharpe, Roopnarine Singh, Graham White, Mark Wilson and Jerry Wittet.

The Committee comprises the following members: Martyn Kenefick (Secretary), Richard ffrench, Geoffrey Gomes, Floyd Hayes, Bill Murphy, Courtenay Rooks and Graham White. Records should be sent to Martyn Kenefick at the address below. Copies of the species review list and the rare bird report form are available at http://www.geocities.com/ttrbc.

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Sight records of bird species new to Suriname

On 19 March 2003 I was counting shorebirds at Weg naar Zee, near Paramaribo, when I observed an unusual gull, larger than a Laughing Gull *Larus atricilla*, with slate-grey wings and mantle, and pure white head and underparts, a yellow bill marked by a red gonys near the tip, and yellow legs. Given my extensive experience in The Netherlands, I immediately identified it as a Lesser Black-backed Gull *Larus fuscus graellsii*, a species not previously mentioned for the country[3,4]. O. Tostain (pers. comm. and in press) knows of c.15 observations of this species during the last ten years in French Guiana, which neighbours Suriname to the east. Hilty[4] mentioned several observations in Venezuela and Guyana, whilst ffrench & Kenefick[2] consider it to have become a regular visitor to Trinidad.

In June 2003 I executed a qualitative monitoring of the Tafelberg (Table Mountain), the only tepui in Suriname, situated in the Central Suriname Nature Reserve. Among interesting sightings, I observed five species of swifts, two not previously reported in the country, and an antwren that had also not been noticed prior to this.

The three known swifts, which were identified with few difficulties, were White-collared *Streptoprocne zonaris*, Band-rumped *Chaetura spinicauda* and Chapman's Swifts *C. chapmani*. On the morning of 25 June, I observed a group of more than 500 swifts foraging near the Augustus Falls. When first located the birds were very high and no coloration could be discerned, but the tail could be seen to lack a fork and the overall size was larger than that of Band-rumped and Chapman's Swifts, which I had observed the previous evening. Subsequently, they started to forage lower down and I was able to view them, in favourable light, against a forest background and against the falls. They were uniform smoky brown, without any suggestion of a pale throat or rump, excluding Ashy-tailed Swift *Chaetura meridionalis*. I observed the birds for several hours at distances of 20 m to a few hundred metres through 10 x 42 binoculars. After consulting Hilty[4], I reached the conclusion that they were White-chinned Swifts *Cypseloides cryptus*, given that they were not blackish like Black Swift *C. niger*, which I know well from Cuba. Spot-fronted Swift *C. cherriei* is very rare in the Guianan Shield[4], and thus might also be safely excluded. White-chinned Swift is known from a tepui in neighbouring Guyana[1]. As it is known to breed behind waterfalls[4], it perhaps breeds at Augustus Falls, which possibility I intend to check in the future.

On 20 June 2003, in the southern part of the Tafelberg, at 850 m, I observed three swift species together: Chapman's, White-collared and at least four individuals of an unknown swift, which appeared slightly larger than Chapman's Swift. It had brown upperparts with paler fringes to the feathers, and probably a forked tail, although I was unsure of this. The tail was tipped white, but I was unable to obtain clear views of the underparts, although they appeared largely brown. Once I observed a white throat, but the impression was very brief and I was unable to be certain of this feature. Most remarkable was a pure white spot covering the lower belly. The birds almost constantly gave a long, high-pitched, grasshopper-like call.

Following correspondence with Charles Collins, Sjoerd Mayer and Robin Restall, I reached the conclusion that the birds were probably White-tipped Swift *Aeronautes montivagus*, and after I heard a sound recording of that species, provided by Sjoerd Mayer, I was able to confirm this. Both White-chinned Swift and White-tipped Swift are known from the tepuis in Venezuela[4], Guyana[4] and Roraima, Brazil[4] (also Brian O'Shea pers. comm.), but there appear to be no previous records of either in Suriname[3].

During the periods 13–16 June and 24–26 June 2003, on the northern side of the Tafelberg, between and near the Augustus Falls and the Geyskes Falls, I observed an antwren species, which generally appeared similar to Todd's Antwren *Herpsilochmus stictocephalus*. It had rufous primaries and secondaries, and it called very differently from Todd's. They foraged in the canopy of 8 m-tall forest at an altitude of 550 m. It became clear that they were Rufous-winged Antwren *H. rufimarginatus*, and the species is apparently common in this area. *H. rufimarginatus* is included on an old internal list of birds recorded in Suriname, kept by STINASU (The Foundation for Nature Conservation in Suriname), but it is unclear on what basis, which also applies to its inclusion as a 'breeding species, sight record only' in Parker *et al*.[5]. It is not mentioned for Suriname in Haverschmidt & Mees[3], Hilty[4] or Ridgely & Tudor[6].

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Andean Tyrant *Knipolegus signatus signatus*: new to the Ecuadorian avifauna

Andean Tyrant *Knipolegus signatus signatus* is known only from Peru, where it occurs in montane forest from north Cajamarca, in the Cordillera del Condor, to south Junín, in central Peru, at elevations of 1,900–3,050 m[1–4].

On 7 December 2001 LN, Chris Canaday and Giovanni Rivadeneira found a male Andean Tyrant perched at 8–10 m in stunted forest in the Cordillera del Condor, near the Destacamento de Condor Mirador. It was carefully studied as the species was known to have not previously been recorded in Ecuador. The observation was made during an exploratory visit to plan future field work in this mountain range. It proved impossible to document the sighting, but the bird had a very upright posture and was uniformly dull black, whilst the bill was blue-grey with a black tip.

Subsequently, on 6 September 2003, LN located a male Andean Tyrant perched at 10–15 m in stunted forest, at 1,950 m in the same area, at 03°37'S 78°23'W, which was collected and prepared as a specimen by AS. It was an adult male with 95% skull ossification, no bursa, and the stomach contained insects. The bird was uniform dull black, not uniform plumbeous-grey with a paler abdomen as is typical of the *cabanisi* subspecies, which ranges from Argentina, along the Andean slope in Tucumán, to eastern Cusco, Peru, and the iris coloration was reddish brown, not bright red as in *cabanisi*. The specimen has been deposited at the Museo Nacional de Ciencias Naturales, Quito (catalogue no. 1228).

On 7–9 September 2003 AA and AS observed a female near where the male was collected. It was overall dark olive-brown with darker-streaked underparts and the wings were dusky with two buff wingbars.

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An aggregation of Purple Gallinules *Porphyrula martinica* on Santa Cruz, Galápagos

Purple Gallinule *Porphyrula martinica* is considered a vagrant to the Galápagos. The first record was of an adult found dead at sea off the north coast of Santa Cruz in 1964[2]. Subsequently, one was caught and photographed on Española in 1972[4], one was observed over a month at El Junco Lake, San Cristóbal, in 1984[3], with a report from La Toma, San Cristóbal[1], and a dead adult found on Plaza Sur in 1979/80 (Heidi Snell pers. comm.).

On 17 May 2003 we visited part of the Tortoise Reserve on Santa Cruz known as El Chato, which holds a large pond surrounded by trees, though much of the surface is covered by vegetation. At c.10h30, we observed several gallinules among some dead tree trunks in the water near the edge of the pond. We clearly identified three adults as Purple Gallinules. The pale blue frontal shield was very prominent, together with the red bill and yellow tip. The head, neck and breast were dark blue, and the remaining upperparts a paler blue-green. There was no white on the flanks. The legs and feet were bright yellow, clearly visible as the birds walked on the trunks; one was preening atop a vertical stump. Two adult-sized immatures were swimming in the water, but could not be identified to species with certainty. Common Moorhens *Gallinula chloropus* were also present on the pond, both adults and immatures. PC returned on 19 May, at c.14h30, and saw two adult Purple Gallinules in the same place.

On 30 May, at c.08h30 we revisited the pond accompanied by two staff from the Charles Darwin Research Station (CDRS). Immature Purple Gallinules, adult-sized, were positively identified, and whilst both

immatures and adults were observed on the dead tree trunks, most activity was within the pond vegetation. Individuals flew up from different areas and perched in view before disappearing again. The pure white undertail-coverts, long legs and large feet were particularly distinctive in flight, in both adults and immatures. At least six adults and three immatures were present.

On the afternoon of 14 June, DB again observed adults and immatures, one of the latter having blue coloration well developed on the neck- and breast-sides. Her last visit was in late morning of 26 June in heavy drizzle. Six, four adults and two immatures were visible simultaneously, some feeding on the pond vegetation, the others perched in the surrounding trees.

On 27 July, when water level in the pond had fallen considerably, PC failed to observe any Purple Gallinules. The following day a dying immature female Purple Gallinule was found in Puerto Ayora and brought to the CDRS, where a subsequent post-mortem revealed emaciation.

PC again observed two adults at the pond on 27 August. She has continued to visit the pond at monthly intervals and on each occasion has observed both adults and immatures in groups of two to five individuals. The distribution of calls in the vegetation and the appearance of birds in different areas of the pond suggest that many more are present. Her most recent observation was on 10 April 2004, when five adults were seen.

We were informed by a Galápagos National Park naturalist guide that two adult Purple Gallinules were observed at the same pond by a group she was guiding in October 2000 (Angelika Jahnel pers. comm.). Curry & Stoleson[3] suggested an association between the occurrence in Galápagos of several bird species, including Purple Gallinule, and El Niño-Southern Oscillation (ENSO) events. The last full-scale ENSO event in Galápagos was in 1998, and we speculate that a population may have been present since then, and breeding successfully. Our observations of immature individuals over a 10-month period are further evidence that breeding is taking place. This appears to be the first record of a group of both adult and immature Purple Gallinules in Galápagos, and is by far the largest group observed to date.

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A range extension for D'Orbigny's Chat-tyrant *Ochthoeca oenanthoides*

The genus *Ochthoeca*, chat-tyrants, is restricted to subtropical and temperate zones from Venezuela through the Andes to southern Argentina. These mid- to small-sized flycatchers show certain similarities with Old World chats in structure, foraging mode and territorial behavior. They are characterised by a prominent supercilium and, in most species, two wingbars. According to Fjeldså & Krabbe[1], *O. oenanthoides* ranges between 2,800 and 4,500 m, from La Libertad and Húanuco, in Peru, to Tucumán, in north-west Argentina. It has two subspecies: *polionota*, from La Libertad to northern Chile (Tarapacá), and *oenanthoides*, from extreme south-east Peru (Titicaca) to Argentina.

Previously, the most northerly record for the species was from Huamachuco (07°48'S 78°04'W; 3,169 m), on the west slope of the eastern Andes[5]. Most of the existing northernmost records are from the same area. The first record for the east slope of the Andes was obtained by T. S. Schulenberg (pers. comm.), in 1987, at Quebrada La Caldera, 7 km north-east of Tayabamba, La Libertad (02°21'S 90°10'W; 3,225 m).

In June–July 2001, a biological survey of Parque Nacional Río Abiseo (San Martin, Peru) was conducted. Most remarkable was the discovery of a population of *O. oenanthoides*, a species previously unknown from dpto. San Martin, representing a range extension of c.80 km, and only the second record from the east slope of the Andes. An adult female was collected (Museo de Historia Natural de San Marcos, MUSM 23932) and matches the description of *O. o. polionota* in Meyer de Schauensee[2]. Diagnostic of this subspecies are the absence of wingbars, as well as the generally brighter coloration compared to nominate *oenanthoides*. The area where the specimen was collected is at the south-west boundary of the national park (at 07°58'S 77°22'W), within Puna bunch-grass in the high basin of the río Abiseo, a tributary of the río Allpamachay, 21 km north-west of Pias, at 3,700 m. Dominant vegetation comprises the grasses *Calamagrostis*, *Festuca* and *Paspalum*. Three individuals were observed on a rocky slope, close to a small water source with reeds, frequented by cattle.

All three of the northernmost records for the subspecies *polionota*—from Allpamachay, Huamachuco[4,5], and Quebrada La Caldera—were obtained within the species' known elevation range[3]. It is thus possible that it is more widespread on the east slope of the Andes than presently known. A healthy population of the species was found by us, in May 2003 at Cayacuyan, a highly disturbed gold mine, 28.5 km south-west of Huamachuco, at 4,040 m.

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Figure 1. Albino Mottle-backed Elaenia *Elaenia gigas*, Amazonia Lodge, Manu Biosphere Reserve, Peru, January 2004 (R. & Y. Yábar)

An albino Mottle-backed Elaenia *Elaenia gigas* in Manu Biosphere Reserve, Peru

During January 2004, at Amazonia Lodge in the Manu Biosphere Reserve, at 500 m altitude, we observed a bird with a completely creamy-white body, pink bill, and black irides and legs. It occasionally appeared to show the crest typical of Mottle-backed Elaenia *Elaenia gigas*, a species with which we are very familiar in this area. On one occasion we played the vocalisation of Mottle-backed Elaenia, to which the albino responded. The bird regularly perched in the tops of trees from where it caught insects. We have seen no previous reports of albinism in this genus.

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New records of Grey-breasted Crake *Laterallus exilis* in Paraguay

Grey-breasted Crake *Laterallus exilis* has a widespread but apparently fragmented distribution from Guatemala to north-east Argentina[4,5,7]. There are just three documented records in Paraguay, from Estancia Golondrina (dpto. Presidente Hayes) on 6 August 1979[6], at Riacho Ñeembucú, north of Pilar (dpto. Ñeembucú) in January 1994[1], and three calling at Isla Yacyretá (dpto. Itapúa) in November 1995[2]. The first was initially considered to represent an exceptional southward range extension[6]. However, the subsequent records in Paraguay and the species' recent discovery in Argentina[3,4,5] suggest that it is more widespread than previously thought, a supposition supported by new observations in Paraguay.

On 4 September 2000, LB found a dead *L. exilis* beside one of the main buildings at Estancia Sombrero (dpto. Cordillera; 25°00'S, 56°38'W). An unsexed adult, it has been deposited at the Museo Nacional de Historia Natural del Paraguay (catalogue no. 001694). All rectrices were in pin, but otherwise the bird showed no signs of moult. Measurements are similar to those previously reported for the species[6,7].

On 21 October 2000, RPC and Alejandro Bodrati briefly heard (and RPC glimpsed) two small crakes believed to be *L. exilis* in marshy vegetation at Bahía de Asunción (dpto. Central; 25°16'S, 57°37'W). On 28 October 2000, RPC and AJL were able to confirm the identity as *L. exilis*. Two were observed, whilst a further 19 were heard in 13 distinct areas of the bay (giving the *dit-dit* call[4]—a series of *dit-dit-dit* notes). However, despite regular visits to Bahía de Asunción (over 100 between September 2000 and August 2003) the species was subsequently recorded only on 22 November 2000 (one heard by AJL), 22 January 2003 (one observed after playback by JK) and 2 February 2003 (one heard by RPC). If *L. exilis* is resident in Bahía de Asunción, it appears to be vocally active for a very limited period (primarily the austral spring). Alternatively, the species may undertake local movements between the bay and nearby wetlands, according to water-level fluctuations in the former.

As with the recent Argentine records[4,5], all of those recorded at Bahía de Asunción were in grassland areas periodically subject to flooding, whilst the Sombrero bird was found close to similar habitat. These new Paraguayan records confirm the species' presence in the country during the austral spring and summer, and suggest that *L. exilis* is considerably under-recorded throughout the south of its range. Indeed, the Bahía de Asunción records were only 2 km from the centre of Asunción, the Paraguayan capital. Greater observer awareness seems likely to be a factor in the recent increase in records of the species in Paraguay and Argentina. However, the distinctiveness of at least some of the vocalisations of *L. exilis*[4]

argues against the species having been overlooked until recently, and suggests that it might be expanding its range in the region.

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Additional records of Silvery Grebe *Podiceps o. occipitalis*, a Neotropical austral migrant, in Paraguay

Silvery Grebe *Podiceps occipitalis* has two races: *juninensis*, which breeds in high-Andean wetlands from Colombia to Argentina, and nominate *occipitalis*, which breeds in lowland Patagonian wetlands in Chile and Argentina, and is known to migrate north in the austral winter[3,7]. The only previously published record for Paraguay is a specimen collected on 15 June 1979 at Acaray Reservoir, Hernandarias, dpto. Alto Paraná (25°23'S 54°38'W), near the Paraná River in the Alto Paraná region (see Hayes[4] for definitions of geographical regions); the specimen is deposited at the Museo de Historia Natural de Itaipú Binacional, in Hernandarias[2,4,6]. Here we report additional observations and summarise the taxonomic and seasonal status of the Silvery Grebe in Paraguay.

On 8 July 1989, FEH observed a small grebe with a whitish neck in an impounded marsh at Estancia La Golondrina, dpto. Presidente Hayes (24°56'S 57°42'W), in the Bajo Chaco region. It was viewed through binoculars at a distance of c.100 m. At the time, FEH thought the bird was a basic-plumaged White-tufted Grebe *Rollandia rolland* and did not take any notes, but later concluded that it was a basic-plumaged Silvery Grebe following subsequent examination of specimens and further observations in Paraguay (see below).

On 3 August 1995, FEH and JAL observed three basic-plumaged Silvery Grebes among several hundred alternate-plumaged White-tufted Grebes at Laguna Salada, dpto. Presidente Hayes (22°31'S, 59°19'W; coordinates from a GPS), in the Alto Chaco region of Paraguay. The Silvery Grebes were observed through a 20–45˘ telescope from a distance of 350–500 m for a period of 15 minutes, and were identified by the pure white foreneck with only a narrow dark stripe along the hindneck; White-tufted Grebe, in contrast, always has a darker neck[3,7]. The cheeks appeared paler than the rest of the head, suggesting that they were moulting into alternate plumage. The throat was dusky coloured, which is typical of nominate *occipitalis*; in contrast, *juninensis* has a pure white throat[3]. Subsequently, three Silvery Grebes were seen on 10 August 1995 by J. Bates, K. Burns, S. Conyne, C. Griffiths, P. Kaestner, N. Klein, T. Schulenberg and B. Whitney, and ten were seen on 13 August 1995 by D. Finch and JEA. None was observed by a group of visiting ornithologists on 14 August 1995 (J. Wunderle pers. comm.).

JEA has returned to Laguna Salada on various occasions at all seasons but observed Silvery Grebes only twice: four on 24 July 1996, and at least five on 8 July 1997. None has been recorded subsequently at Laguna Salada despite relatively frequent visits (5–10 p.a.) by ornithologists from Guyra Paraguay (R. Clay pers. comm. 2004).

All of these records, including the specimen at Itaipú Binacional, were of basic-plumaged birds observed between 15 June and 13 August. Furthermore, the specimen (N. Pérez and A. Colmán pers. comm.) and the birds observed by FEH and JAL had dusky throats, which is characteristic of the nominate race *occipitalis* of southern South America. This race of the Silvery Grebe thus appears to be an uncommon Neotropical austral migrant[1,5] to wetlands of the Paraguayan Chaco and rarely to the Paraná River valley of eastern Paraguay, although there apparently have been no records since 1997.

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Saffron Toucanet *Baillonius bailloni* eating flowers in Rio de Janeiro, Brazil

During a visit to Itatiaia National Park, Rio de Janeiro state, on 19–22 June 2003, I observed three Saffron Toucanets *Baillonius bailloni* feeding on flowers of a *Tabebuia* sp., at 1,150 m (Fig. 1). The flowers were taken using the tip of the bill, whereupon the nectary, which was the only part to be consumed, was manoeuvred inside the mandibles, sometimes using one of the feet to hold the flower and usually dropping the petals. I have discovered no references to flowers in the diet of any of the Ramphastidae[1–5].

Figure 1. Saffron Toucanet *Baillonius bailloni* feeding on *Tabebuia* flowers, Itatiaia National Park, Rio de Janeiro, June 2003 (Eduardo Maciel)

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PUBLISHED RECORDS FROM THE LITERATURE

WEST INDIES

Barbados

Frost & Massiah[19] provide documentary evidence for three new species to the island: **Blackburnian Warbler** *Dendroica fusca*, **Canada Warbler** *Wilsonia canadensis* and **Baltimore Oriole** *Icterus galbula*, with a sight record of a fourth, **Chimney Swift** *Chaetura pelagica*.

Cuba

Recently published records from the island include the third record

of **Red-necked Phalarope** *Phalaropus lobatus* in November 2002[28] and the first detailed reports (including four specimens) of **Nutmeg Mannikin** *Lonchura punctulata*, in March 2003[47]. Other notable records include a new report of **Ruby-crowned Kinglet** *Regulus calendula*, the first winter sighting of **Tennessee Warbler** *Vermivora peregrina*, a new sight record of **Canada Warbler** *Wilsonia canadensis*, among other interesting reports from recent winters[12], whilst a study of waterbirds on Cayo Sabinal produced a number of novel records including the seventh record of **Great Black-backed Gull** *Larus marinus* and the third of **Common Black-headed Gull** *L. ridibundus*[5].

Dominica

Recent seabird reports from the island's waters include the first documented record of **Cory's Shearwater** *Calonectris diomedea* and a probable **Manx Shearwater** *Puffinus puffinus*[30].

Dominican Republic

Among further unusual reports from the country in recent years is the first nesting record of **Black Swift** *Cypseloides niger*, which was documented by photographs[15]. Rimmer *et al*.[45] report on the results of banding work in the Sierra de Neiba, which holds numbers of the globally threatened **Bicknell's Thrush** *Catharus bicknelli* in winter.

Grenada

Channel-billed Toucan *Ramphastos vitellinus* appears to have become established on the island as a result of an aviary being dismantled in the late 1980s[35]. Frost & Massiah[20] report on rare birds recorded on the island in August 2001, including a new record of **Ruff** *Philomachus pugnax*.

Nevis

Francis[16] reports on new records of **White-crowned Pigeon** *Columba leucocephala* and **Black Swift** *Cypseloides niger* on the island, both in April 2003.

Puerto Rico

New information reveals that **Northern Waterthrush** *Seiurus noveboracensis*, at least occasionally, remains year-round on the island[41].

St Martin

Scaly-breasted Thrasher *Margarops fuscus* has recently colonised the island, where previously it was considered an accidental visitor[9], whilst a **Chestnut-sided Warbler** *Dendroica pensylvanica* was trapped on the island in February 2002, one of the few records for the Lesser Antilles[10].

MIDDLE AMERICA

Costa Rica

The first nesting data for **Silvery-fronted Tapaculo** *Scytalopus argentifrons* have been presented[57]. *The Gone Birding Newsletter*[21,22] continues to provide an update on novel distributional and other data for birds in the country. Recent information presented therein include the first **Cory's Shearwater** *Calonectris diomedea* in the country (a moribund bird that was discovered and photographed in Tortuguero in March 2003), an offshore sight record of **Swallow-tailed Gull** *Creagrus furcatus* in April 2003, an **Orange-crowned Warbler** *Vermivora celata*, **Blue-headed Vireo** *Vireo solitarius*, **Bobolink** *Dolichonyx oryzivorus* and **Lincoln's Sparrow** *Melospiza lincolnii* all in late September 2003, as well as new high in-country altitudinal data for **Bat Falcon** *Falco rufigularis* and **Barred Forest-falcon** *Micrastur ruficollis*. In late-November 2003 and January 2004, there were separate reports of **American Bittern** *Botaurus lentiginosus* near the Coastal Highway (there are no records for over 100 years) and a **White-eyed Vireo** *Vireo griseus* was at Selva Verde Lodge in late-January 2004. In southern Costa Rica there was a report of a **Ruddy Foliage-gleaner** *Automolus rubiginosus* in November 2003, an unusually high **Brown-billed Scythebill** *Campylorhamphus pusillus* (at 2,500 m) and a **Yellow-throated Warbler** *Dendroica dominica* in late-December 2003.

Guatemala

New data from the Atlantic slope of the country suggest that, at least locally, the population of **Yellow-headed Parrot** *Amazona oratrix* may be in decline[14].

Mexico

Peterson *et al*.[42] present information on the avifauna of two dry-forest localities in Oaxaca, whilst among other papers recently published in the online journal *Huitzil* is a report of the first **Horned Lark** *Eremophila alpestris* for the Yucatán Peninsula[33] and the discovery of a breeding colony of **Sooty Terns** *Sterna fuscata* in Tamaulipas[23].

Panama

Angehr *et al*.[2] report on avifaunal surveys of the Serranía de Jungurudó, in the east of the country. Data are presented for 27 species, including several poorly known in Panama, the first documented records for Middle America of **Plumbeous Pigeon** *Patagioenas plumbea*, and the second Panamanian report of **White-winged Swallow** *Tachycineta albiventer*.

SOUTH AMERICA

Argentina

Masked Water-tyrant *Fluvicola nengeta* has recently been added to the list of Argentine birds, based on a record in Misiones province[31]. Many other new distributional records have been published recently, including the first record of **Wedge-tailed Grass-finch** *Emberizoides herbicola* for Córdoba province, and the first detailed provincial records of **White-vented Violetear** *Colibri serrirostris*, from three different localities[37]. New observations of poorly known species in Buenos Aires and La Pampa provinces included many observations of **Stripe-backed Bittern** *Ixobrychus involucris* at Bañados

del río Quinto, La Pampa[48]. **Puna Flamingos** *Phoenicoparrus jamesi* at Parque Provincial Laguna Llancanelo (RPLL) in January 1990 and 1991, **Flying Steamer-duck** *Tachyeres patachonicus* at laguna Blanca Calamuco, a **Kelp Gull** *Larus dominicanus* at RPLL in January 1989 and a **Black Skimmer** *Rynchops niger* at the same site in January 1989 were first records for Mendoza province, with the second provincial records for **Roseate Spoonbill** *Ajaia ajaja*, **Semipalmated Plover** *Charadrius semipalmatus* and **Sanderling** *Calidris alba*[51]. New data concerning the breeding biology of **White-sided Hillstar** *Oreotrochilus leucopleurus* has been presented from San Juan province[7]. The first definite Santa Fe records of **Least Grebe** *Tachybaptus dominicus* and **Scale-throated Earthcreeper** *Upucerthia dumetaria* have been published, as have the second provincial records for **Black-bellied Whistling-duck** *Dendrocygna autumnalis*, **Cinereous Harrier** *Circus cinereus* and **Yellow-bellied Elaenia** *Elaenia flavogaster*. The same authors also present the first Entre Ríos records of **Lesser Shrike-tyrant** *Agriornis murina* and **Orange-headed Tanager** *Thlypopsis sordida*, along with several other distributional novelties for both provinces[39]. The first definite record of **Peregrine Falcon** *Falco peregrinus* in Mendoza province involved a pair with a nest containing two chicks in December 1999[40]. The first observations of cavity nesting in three Patagonian species, **White-crested Elaenia** *Elaenia albiceps*, **Austral Thrush** *Turdus falcklandii* and **Patagonian Sierra-finch** *Phrygilus patagonicus*, have been described from Nahuel Huapi National Park, Rio Negro, between 2000 and 2002[38]. A new breeding colony of the globally threatened **Olrog's Gull** *Larus atlanticus* was located at an islet south-west of Punta Alta, Buenos Aires, in November 2001. A total of 340 active nests was counted, in four sub-groups, located within Kelp Gull *L. dominicanus* colonies[44]. Astié[3] provides the first published account of brood parasitism by **Shiny Cowbird** *Molothrus bonariensis* on **Black-chinned Siskin** *Carduelis barbata* for 70 years, and the locality at which the event occurred, in Mendoza province is the northernmost known for the siskin.

Bolivia

Hennessey *et al*.[27] provide details of the 502 species known from the Pilón Lajas Biosphere Reserve, which straddles dptos. La Paz and Beni, including data for several globally threatened or poorly known species in Bolivia, as well as the first information concerning an, as yet, undescribed species of *Phyllomyias* tyrannulet.

Brazil

A new record for Brazil was provided by the capture of a total of six **Piping Plovers** *Charadrius melodus* at a site in Rio Grande do Norte, in October and December 2000[4]. New records of the **Rio Branco Antbird** *Cercomacra carbonaria* extend its range west to 03º26'N 61º11'W on the rio Uraricoera (the first record for this tributary of the rio Branco) and south on the rio Branco to the mouth of the rio Anauá (01º00'N 61º22'W)[50], although the species has been recorded as far south on the rio Branco as 01º00'S by L. N. Naka & J. C. Minns (pers. obs.). Borges[8] reports on the relatively depauperate but highly interesting white-sand forest avifauna of the important Jaú National Park, Amazonas state. The first state record for Tocantins (a considerable range extension) for **Manu Antbird** *C. manu* has also been published recently[6]. **Blue Finch** *Porphyrospiza caerulescens* has recently been found further south than previously reported, in Lavras municipality, in southern Minas Gerais[53]. Roda *et al*.[46] report new observations and specimens for 13 globally threatened species in the perilously few remaining fragments of Atlantic Forest in the north-eastern states. Cleere[11] provides details of only the fourth specimen of **Plain-tailed Nighthawk** *Nyctiprogne vielliardi*, from Barra, Bahia (taken by E. Kaempfer in 1926), filling a gap in the species' known range. Vasconcelos *et al*.[55] provide details of records of 12 new species for the Serra do Caraça, Minas Gerais. New nesting data for the **Pauraque** *Nyctidromus albicollis* have recently been presented from the same state[54]. **Dusky-tailed Flatbill** *Ramphotrigon fuscicauda* has been reported for the time in eastern Acre[25]. **Indigo Grosbeak** *Passerina glaucocaerulea* has recently been documented for Rio de Janeiro state[34], and **Jabiru** *Jabiru mycteria* likewise for Rio Grande do Sul[49].

Colombia

Strewe & Navarro[52] report on significant new distributional data gathered for 20 species during recent surveys in the Santa Marta region, including a new species for South America, **Pine Warbler** *Dendroica pinus*, as well as novel altitudinal data for a further 26 species.

Ecuador

The first country records (tape-recordings) of **Zimmer's Tody-tyrant** *Hemitriccus minimus*, in Kapawi Ecological Reserve, have been reported[1], and the first **Whistling Heron** *Syrigma sibilatrix* (a sight record), in Orellana province, was also published recently[36]. The first concrete information concerning the nest and breeding biology of the globally threatened **Long-wattled Umbrellabird** *Cephalopterus penduliger*, based on observations in north-west Ecuador, has been published[29]. Further, the first known nests of the **Moustached Antpitta** *Grallaria alleni*, discovered in Ecuador and Colombia, have been described recently[17]. Freile & Chaves[18] report on the avifauna of Otonga, Cotopaxi province, presenting details for 20 species, among them several considered globally threatened or near threatened. Greeney *et al*.[24] present nesting data for 31 species gathered at Sacha Lodge, Napo province.

Netherlands Antilles

Prins *et al*.[43] provide details of the first specimen and breeding record of **Barn Owl** *Tyto alba* for Bonaire, whilst a separate paper provides information on the same species' status on Curaçao in the late 1980s[13].

Paraguay

The first documented country record of **Cinnamon Tanager** *Schistochlamys ruficapillus* involves a specimen found at the Museo de La Plata, and collected at Tacurupucú, dpto. Alto Paraná, in June 1920[58].

Peru

Alvarez Alonso & Whitney[1] report further on the avifauna of white-sand forests in the Iquitos region, documenting the presence of eight species previously unreported in Peru—**Grey-legged Tinamou** *Crypturellus duidae*, **Barred Tinamou** *C. casiquiare*, **White-winged Potoo** *Nyctibius leucopterus*, **Cherrie's Antwren** *Myrmotherula cherriei*, **Zimmer's Tody-tyrant** *Hemitriccus minimus*, **Helmeted Pygmy-tyrant** *Lophotriccus galeatus*, **Saffron-crested Tyrant-manakin** *Neopelma chrysocephalum* and **Pompadour Cotinga** *Xipholena punicea*—and two for which only sight or aural records were previously available, **Brown-banded Puffbird** *Notharchus ordii* and **Band-tailed Nighthawk** *Nyctiprogne leucopyga*, as well as providing new distributional information for a further five species that are poorly known in the country. A paper in *Wilson Bulletin* presents the first breeding data for the **Cinereous Mourner** *Laniocera hypopyrrha*, based on observations from Cocha Cashu Biological Station, dpto. Madre de Dios[32].

Trinidad & Tobago

Hayes[26] reports on the first sight record of **Northern Parula** *Parula americana* for Trinidad (in February 1998) and the fourth in Tobago (in the same month).

Venezuela

A recent paper presents information on 14 species in Mérida, including two new state records and several altitudinal range extensions[56].

OTHER RECORDS RECEIVED

Bahamas

Unprecedented numbers of **American Pipits** *Anthus rubescens* were present in January 2003, when flocks of up to 50 were found on Grand Bahama, Abaco and Eleuthera. On the latter island during the same period there were also 30 **Kirtland's Warblers** *Dendroica kirtlandii* at 12 new sites. **Magnificent Frigatebird** *Fregata magnificens* was discovered nesting in the Marls, Abaco, alongside Double-crested Cormorants *Phalacrocorax auritus*, the northernmost colony in the world. **Great Shearwater** *Puffinus gravis* has been reported from Bahamian waters several times previously, but one photographed off Highborne Cay, Exumas, in July 2003 was the first documented record and latest date in the year for the Bahamas. Also in 2003, several **Long-billed Dowitchers** *Limnodromus scolopaceus* were photographed and their calls recorded at Wilson Pond, New Providence, providing the first verifiable report for the Bahamas. A **Sandhill Crane** *Grus canadensis* was present on Andros in November and December 2003, yet another new species for the archipelago (all per TW).

Brazil

A member of the **Rufous-vented Ground-cuckoo** *Neomorphus geoffroyi* group was observed and tape-recorded at Alta Floresta, Mato Grosso, on 7 June 2003 (AL).

Cuba

Recent records (all 2003) from the island include: the second record of the western form of **Willet** *Catoptrophorus semipalmatus inornatus* at Playa, La Habana, on 7 November 2003 (AK, GMK), the sixth record of **Orange-crowned Warbler** *Vermivora celata* on Cayo Coco, on 13 November 2003 (KB, GMK), another report of **Northern Potoo** *Nyctibius jamaicensis* in the Zapata region, in mid-November (AK, GMK), and an additional report, involving a subadult, of **Lesser Black-backed Gull** *Larus fuscus* in La Habana harbour, on 25 November 2003 (GMK, EVNG). A **Nutmeg Mannikin** *Lonchura punctulata* in the grounds of the Sierra Maestra hotel, Bayamo, Granma province, on 9 November, represents a new site for this species that now appears to be colonising the island (see Published records from the literature). A **Brown Noddy** *Anous stolidus* off Marina Hemingway, Havana, on 17 November, was unusually late (SE).

Guyana

WB reports recent sight records of **Blue-crowned Manakin** *Lepidotrix coronata* and **Euler's Flycatcher** *Lathrotriccus euleri*, the former has not previously been recorded in the country and the latter has only recently been added to the list of species known to reliably occur.

Jamaica

Among many waterfowl at Great Pedro Pond, Treasure Beach, on 21–22 February 2004, were nine **Shovelers** *Anas clypeata*, 40 **Ring-necked Ducks** *Aythya collaris* and at least one **Lesser Scaup** *A. affinis* (B & RQ).

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Neotropical Notebook: compiled by **Juan Mazar Barnett**, **Guy M. Kirwan** and **Jeremy Minns**.

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Reviews

Handbook of the birds of the world: volume 8
edited by Josep del Hoyo, Andrew Elliott and David Christie, 2003. Barcelona: Lynx Edicions. 845 pages, 81 colour plates, 477 colour photographs and 681 distribution maps. UK £110.

The latest volume of *HBW* will be of great interest to students of Neotropical birds, as six of the nine families that it covers are essentially Neotropical—ovenbirds (Furnariidae), woodcreepers (Dendrocolaptidae), typical antbirds (Thamnophilidae), ground antbirds (Formicariidae), gnateaters (Conopophagidae) and tapaculos (Rhinocryptidae)—whilst the other three, broadbills (Eurylaimidae), asities (Philepittidae) and pittas (Pittidae) occupy only 13% of this volume. The list of authors of the sections relevant to our region reads like a 'Who's who' of Neotropical ornithology—Isler, Krabbe, Marantz, Remsen, Schulenberg, Whitney, Zimmer, etc.—authoritative authors indeed. In contrast, I was struck by the lack of artists who specialise in the Neotropics amongst those commissioned to paint the plates—with the exception of one plate by Doug Pratt all the others have been painted by British artists, none of whom, as far as I am aware, have spent a great deal of time in the field in the Neotropics. But more on the plates later…

Volume 8 follows the now well-established pattern of previous volumes with lengthy introductions to each family lavishly illustrated by colour photographs and then detailed species accounts accompanied by colour plates and distribution maps. A number of changes suggested to Lynx by readers and reviewers of previous volumes have been made to this volume and these include: listing the photographs in the index both by English and scientific name, adding major rivers to the distribution maps, adding page numbers to the list of References of Scientific Descriptions, and including important sound recordings in the reference lists. In addition, the editors decided that as many of the Neotropical species covered in this volume are less well documented in the ornithological literature than many of those dealt with in earlier volumes, more detail than usual should be included in the species accounts, much of which has never been published before.

As with recent volumes in the series, the so-called 'Foreword' is in fact an excellent essay entitled 'A brief history of classifying birds' by Murray Bruce. This occupies 25 pages followed by eight pages of references and explains in some detail the gradual development of ornithological classification over the last few centuries. Essentially, it sets the scene for the order to be followed in the volumes of *HBW* that will cover the Passerines, of which this is the first, of course. Part of the introduction continues this theme and whilst not of particular relevance to the Neotropics, I was fascinated to learn that recent research indicates that New Zealand wrens (Acanthisittidae) may be the last-surviving members of a group of primitive passerines long separated from the rest of the order. Apparently these wrens and the Australasian families of scrub-birds (Atrichornithidae) and lyrebirds (Menuridae) don't fit 'easily' into the suboscine or the oscine passerines, and probably should be treated as a separate group coming before the suboscines. However, as this volume was well into production before this finding became common knowledge the editors have elected to place the three families between the suboscines and the oscines.

The family introductions are superb reading once again—full of pertinent facts and frequently containing information about a species which isn't included in the specific account. This seems to be especially true of the sections on Systematics, which often discuss the reasons for the taxonomy followed. For example, it's here that you'll discover why two species of pitta *Pitta* sp. have been 'lumped', and why none of the 15 subspecies of Olivaceous Woodcreeper *Sittasomus griseicapillus* have yet been split. And brace yourself for Krabbe and Schulenberg's account of the current situation with the *Scytalopus* tapaculos—37 species treated here, with many more to be split!

Splendid colour photographs illustrate the family introductions. Several photographers are now actively seeking photographs of seldom-taken species specifically for *HBW*, and recent photographs therefore predominate, but it was nice to see a much older photograph of African Broadbill *Smithornis capensis* taken by Eric & Dorothy Hosking being included. Ovenbirds and woodcreepers don't really make for stunning photographs, being essentially rather dull in coloration but a few striking images do stand out, especially Edson Endrigo's splendid portrait of two Chotoy Spinetails *Schoeniophylax phryganophilus*. The patterns and colours of antbirds, on the other hand, offer great photographic potential and there are many outstanding images including two gorgeous close-ups of White-plumed Antbird *Pithys albifrons* by Doug Wechsler and a full-page portrait of the recently rediscovered White-masked Antbird *P. castanea* by José Álvarez Alonso.

The plates are generally very good, as we might expect from the quality of the artists chosen, but inevitably because of their differing styles some perhaps look better or more pleasing than others. I consider the shapes and postures of some of the ground antbirds to be not quite correct, with many birds appearing too horizontal or slightly tilted forward. The plumages look accurate and I'm sure they've been thoroughly researched against skins and other reference material, but I do suspect that this lack of correct 'jizz' may be due to lack of experience of

the birds in life. Hilary Burn's typical antbirds on the other hand are quite stunning—and dare I say it—just as good as Guy Tudor's. Her *Drymophila* and *Hylophylax* antbirds are some of the best paintings of Neotropical birds that I've ever seen. It's also very useful to finally have top-quality depictions of species such as Marsh Antwren *Stymphalornis acutirostris* and Orange-bellied Antwren *Terenura sicki*. Presumably at the request of the authors or editors, the artists have really worked on illustrating subspecies in this volume with, for example, eight of the 15 subspecies of Olivaceous Woodcreeper being portrayed and no less than both sexes of all eight subspecies of Variable Antshrike *Thamnophilus caerulescens*—16 paintings of one species that take up almost all one plate!

As mentioned, the species texts have been lengthened and in some cases are quite long now, especially compared to many of those in the first few volumes. The text for Strong-billed Woodcreeper *Xiphocolaptes promerophyrinchus*, for example, fills a full page and quarter—and this is small print on a big page! The texts include much information never published before and the authors have cast their nets wide in trawling for facts. Ironically, the day before I read that the vocalisations of Scallop-breasted Antpitta *Grallaricula loricata* are unknown, I received an e-mail from a friend in Venezuela stating that he had just seen the species and recorded its voice! Oh well, I guess almost all books are bound to be out of date as soon as they are published!

HBW also seems to be becoming even better value for money. This volume has 845 pages, compared to 613 pages for volume 7 and 589 pages for volume 6 (with, of course, a similar increase in the number of plates and photographs), and yet it costs the same! This trend is one that I'm sure we'd all be glad to see continue.

This is yet another fantastic volume in the *HBW* series and contains unprecedented quantities of information for the Neotropical families it covers. It can be thoroughly recommended. My only dilemma is how to make use of this 4-kg volume in the field? Will there ever be a CD-ROM version I wonder?

David Fisher

Annotated checklist of the birds of Argentina *by Juan Mazar Barnett and Mark Pearman, 2001. Barcelona: Lynx Edicions. 96 pp. UK9.99.*

Let me save some of you some time and cut to the chase: this book is invaluable to anyone interested in the avifauna of South America's southern cone. It is a 'must have', being a fine piece of scholarship with a lot of information in a small package. The inclusion of birds in the list is objective and fair, and as such supercedes any previously published lists of Argentine birds. For the visiting birder it is an authoritative list that also can be used to check off species as you bird this wonderful nation. For those who want to learn more detail about Argentina's birds there is a wealth of information on habitat and migratory movements coded into the list. But, even more importantly, a fine set of appendices and notes at the end greatly add to the value of this book. So read on for the details.

Preceding the species accounts, there is a short introduction, definition of life zones (habitat data), definition of symbols (codes informing migratory status, taxonomic information, etc) and the acknowledgements. The introduction presents a short overview of historical avifaunal lists of Argentina, notes on general taxonomy and linear sequence followed, as well as information on Spanish names used. There are also short summaries of the type of information incorporated in the very useful appendices. Following these introductory pages is a series of helpful maps. The first is a fine map of Argentina outlining the nine life zones used here. For those not well versed in Argentina's geography it may be difficult to determine where these life zones are exactly, as there is no political or other geographic references in the map. This is a minor point partially overcome by the maps in the following pages. The next map shows the offshore boundaries used in the book for pelagic species. Note that the list includes the Falkland Islands (Malvinas), South Georgia, the Scotia Arc, the South Shetlands, South Orkneys (label inadvertently omitted from the map), Antarctic Peninsula and that part of Antarctica claimed by Argentina. The authors state, regarding the inclusion of these spots, 'In spite of the controversy that this might generate, we followed the criteria that these areas are directly related to the continent and to the Antarctic in a biogeographical sense'. I agree with them, and greatly appreciate that this list has valuable information on the distribution of birds in these Antarctic and subantarctic places. Furthermore, it will make this list useful to the many visitors to the Antarctic that commence their journey in Ushuahia, or Punta Arenas, as all birds that they see are included. Finally, there is a map labelling the different provinces of Argentina. My only quibble with this is that it is a slightly different projection than the life zone map two pages previous, and therefore it becomes slightly tricky to compare the two in order, e.g. to determine where the Yungas forest begins and ends.

This is an entirely bilingual list, as easy to use in English as in Spanish. The inclusion of two languages still permit a small book easily carried in the pack or pocket. Order follows a traditional sequence, the authors choosing this more conservative approach pending stabilisation of higher-level re-organisation of birds. Orders and families are well labelled and set off attractively and clearly by black or grey title bars respectively. The species are then found below the title bars. A total of 998 species including the 16 endemics are listed. Fifty-four others are treated as hypothetical due to lack of evidence on occurrence; these are not part of the main list. One omission I found is from the introductory section; nowhere do the authors detail the criteria for inclusion in their list. Reading the appendix of hypothetical species it is clear that the criteria for inclusion was some form of physical evidence, such as a specimen, sound recording, video or photograph, which should have been made clear in the introduction. The main body of the list has each species identified by its scientific, English and Argentine names. There are nine

columns of check boxes for the user to use as they wish. Furthermore, for each species, codes describe the life zone where found (habitat in general terms), as well as migratory status. There is a clever use of capitals and lower case letters in the life zone codes, with lower case noting habitats that are used only in an accidental manner, or that were used historically. The codes at the far right of the page also point to information on taxonomic status and name changes, both Spanish and English, as well as whether the species is accidental, introduced, a rarity or new country record. For more details, these codes also refer you to the appendices (see below). At the bottom of each page the codes are defined, so that you do not have to flip to the introduction every time you forget what a specific code means. This is a user-friendly touch. Overall, the layout is clear and attractive, and refreshingly uncluttered for a coded checklist. The boxes in the checklist are large enough for a tick mark, or perhaps a number, but not for writing notes.

For me, the real fun came on reaching the appendices. There is a lot of great, new or just plain hard-to-find information that has been summarised here, and I think to a great extent the appendices are as important a contribution as that of the objective and complete list of Argentina's birds. The appendices are preceded by three sections, the first listing information on endemics and birds previously considered endemic, the second noting introduced species, and the final outlining which species are globally threatened. I am not clear as to why these three sections are not also listed as appendices, of which there is a total of six. The first treats hypothetical species, i.e. those lacking physical evidence of occurrence. There are many records included here, with appropriate citations, and all in all are fine clarification of status of these species. I will note that the hypothetical list includes observations by the authors, a sign of honest application of inclusion criteria! The second appendix treats new country records post Narosky and Yzurieta's field guide. Again, much interesting information, all fully referenced, is included here. It is clear that the authors went to much trouble to track down records and information for this list, given the detail of treatment. The third appendix treats rarities, those species found five or fewer times in the country. I note that, for some reason, a sighting I made of Least Tern *Sterna antillarum* was either missed or not included here, although other sightings from the same paper are included. I am not worried about a situation where the authors may have chosen not to include my report for lack of details, but it would make the list more informative if some of the published reports not included were discussed with reference to why they were omitted. The next appendix treats species erroneously cited for Argentina. This section is a fine idea. I think it is important in a country list to detail historical errors or confusion, and fix these. Without adequate clarification, erroneous records such as these can gain a life of their own. Some of the species noted here have been re-printed here and there; hopefully the attention given to them in this work will prevent the spread of faulty information.

The penultimate appendix deals with taxonomic changes incorporated in the list. These are situations where the authors choose to differ with the various works accepted as standards of taxonomy for South American birds. In most cases these are species splits, some are changes in genera and others are lumps. All are based on published data, so there are no taxonomic changes without a sound base here, as has become so common in the popular ornithological literature. The authors are to be commended for keeping the taxonomy of their list conservative, and changes adequately backed up by data! One taxonomic issue that I did not see dealt with was the split of the Antarctic Shag *Phalacrocorax bransfieldensis* and South Georgian Shag *P. georgianus* from the Imperial Shag *P. atriceps*. This may be because this split was accepted in the *Handbook of the birds of the world*, but given that it is controversial and relatively new it probably should have been dealt with here. Finally the sixth appendix is divided into two sections: a) changes in vernacular Spanish names and b) English vernacular name changes. This is where I must voice a certain amount of disagreement with the authors in their name changes, although they were following an international committee's suggestions. I think that the stability of names greatly overwhelms the need for English names to be appropriate, make sense, or give adequate information on relationships. So why change Rufous-chested Dotterel *Charadrius modestus* to Rufous-chested Plover, when the former name has been used for years? That this plover has been re-classified, as belonging to the genus *Charadrius*, does not mean that a stable English name needs to be changed. My guess is that it probably doesn't belong in *Charadrius*, but that is a separate issue. One of the ways to identify a Grey-flanked Cinclodes *Cincolodes oustaleti* is to look for the buff wash on the flanks; admittedly its name is a poor one. However, it has been around for a long time and when we say Grey-flanked Cinclodes a lot of people know which species is intended, so why change this, particularly to a patronym that is difficult to pronounce? These are certainly philosophical issues where people may differ in opinion, and perhaps I do not need to voice them here, but given that a bird checklist is in its most basic sense a list and validation of names I think that the authors should have detailed the reasons for the name changes, and to some extent made the case for them. I do not think that English name changes should never happen, in fact one of the changes included here I suggested, but one must tread carefully and make a valid argument for them. Stability is valuable. I do commend the authors for seeking a standardised list/body to follow, although these proposed names have not been formally published. Harris's Hawk *Parabuteo unicinctus* is noted to have a changed English name in the main list, but it is missing from the final appendix. The book closes with a bibliography, set of abbreviations (I would have suggested these be included after the introduction, rather than the end of the book) and a thorough index.

The quibbles I note above are minor and nothing detracts from the quality and usefulness of this

checklist, which is a role model for such works. What I will say is that the information in the appendices is so valuable, and such a significant contribution, that I wish all of the species had been dealt with in such detail. I wonder how many users will actually be out in the field putting little tick marks on their list as opposed to those who would rather have seen less space devoted to the check boxes, and more to a short discussion of the status of each of Argentina's birds. I know this is too much to ask, and it would be a great deal of work, but those thorough and data-rich appendices whet my appetite for more information. I hope that the rest of the series of checklists that are being planned hold Mazar Barnett and Pearman as their standard, for they made an outstanding job in producing this list.

Alvaro Jaramillo

Lista anotada de las aves de Bolivia. Quinta edición *by A. Bennett Hennessey, Sebastian K. Herzog and Francisco Sagot, 2003. Santa Cruz: Asociación Armonía/BirdLife International. 238 pp, not including index. Price unknown.*

This handy field list of birds of Bolivia is small enough to fit easily in a coat pocket yet is packed with an array of critical information. In addition to providing a complete list of bird species, with scientific and English names, recorded from Bolivia, for each species the following information is provided, in coded form: (1) distribution by Bolivian department, (2) distribution by life zones, (3) distribution by habitat type, (4) elevational range, (5) seasonal status, (6) conservation status, (7) list of officially protected areas in which recorded, (8) subspecies known from Bolivia, (9) alternative generic and species-level taxonomy, and (10) local names for most species, not only in Spanish but also, where appropriate, in Aymara, Chimane, Guaraní, Tupi-Guaraní, Guarayo and Quechua. This latter feature will certainly be useful for travelling birders and scientists alike. Clear explanations are given in the introductory text (in English and Spanish) for the terms used in each information category.

The authors clearly intend this checklist to be a field reference, not a technical reference. Thus, a bibliography that would have provided the reader with sources for the information, especially new records over the last 15 years, has been jettisoned 'for the sake of portability and ease of use in the field.' Therefore, those seeking a technical reference to cite on Bolivian distribution will not be able to use this booklet. This is unfortunate, because it would seem to me that referencing new national and departmental records to an abbreviated, fine-print bibliography would have only added perhaps two pages (less than 1%) to a booklet of nearly 250 pages. Perhaps the authors will consider such an upgrade for future editions.

The classification used follows the conservative yet very up-to-date classification of the American Ornithologists' Union South American Checklist Committee (SACC), which in turn largely follows the recently published massive revision of the Howard & Moore world checklist. With my personal involvement in both the above projects, my view is obviously biased in their favour, but I nonetheless compliment the authors for their resisting the numerous changes in species limits, often with little more than anecdotal support, and novel English names, that have emerged with almost every new South American bird book in the last 15 years. With one exception, the only deviations from the AOU species limits involve cases based on published information that is also currently under AOU review or has already been incorporated into more recent AOU SACC versions. A reasonably thorough review of the text did not reveal a single typographical or spelling error, and the authors are to be commended for their attention to detail and accuracy.

Set against the background of my overwhelmingly favourable view of this project, my three minor, interrelated quibbles will take up an undeserved amount of space. However, because these quibbles hopefully have relevance to any distributional works, I hereby broadcast them. First, the authors stated that '*…nowadays most distributional data are gathered by field ornithologists and bird watchers rather than by museum collectors*'. This unfortunately perpetuates a false dichotomy that disappeared a half-century ago; in fact, 'nowadays' those who collect specimens for museums consider themselves 'field ornithologists' as well, with specimen collecting just one dimension of their ornithology. Second, the authors stated that '*whereas the checklist of Remsen & Traylor is based almost exclusively on specimen records, we also accepted records documented by tape recordings and credible sight records*.' In fact, the Remsen & Traylor checklist (an earlier annotated list of Bolivian birds) included records supported by archived tape-recordings or photographs as well as sight records, as is clearly outlined in that work. Unfortunately, in contrast to the Remsen & Traylor checklist, in which non-specimen records are marked as either audio/photographic or sight, one cannot tell from the *Lista* what the quality of evidence is to support the various distributional records. Third, the authors wrote*: 'we opted for the risk of erroneously including some misidentifications, rather than omitting many records (in most cases by experienced observers) because no specimens were collected*.' As noted above, this is dead wrong with respect to the Remsen & Traylor checklist, but more importantly, it botches the real dichotomy that exists in terms of quality of evidence supporting distributional data. As any honest observer knows, regardless of experience, mistakes are made regularly in field identification. Whereas specimens, tape-recordings, photographs, and videos share the attribute of being tangible evidence that can be re-examined independently by others, sight records, even those supported by sketches and extensive written details, differ fundamentally in that this brand of evidence has already made a one-way, irreversible pass through the most-biased of all filters, the human brain, and thus cannot be re-evaluated in the same way as evidence produced without this filter. Of course problems exist with veracity of specimen records,

photographs, and other tangible evidence, but those problems differ fundamentally from the those that permeate sight records. I would recommend that all distributional works categorise the evidence that supports records in a way that allows users to evaluate their accuracy, namely 'asterisk' any record not supported by archived, tangible evidence. Thus even specimens, video, photographs or tapes that are not deposited in some sort of accessible archives would also be 'demoted' to the same general category as sight records.

These minor problems do not detract from the utility of this list for the field ornithologist or visiting birder. The authors should be highly commended for producing an indispensable aid for field work in Bolivia.

J. V. Remsen, Jr.

Field guide to the birds of Machu Picchu, Peru *by Barry Walker, illustrated by Jon Fjeldså, 2002. Second edn. Lima: National Trust Fund for Natural Protected Areas (PROFONANPE) & The Machu Picchu Program. 217 pp, 31 colour plates. UK£20.*

Since its discovery in the early years of the 20th century, the Inca city of Machu Picchu has attracted an estimated six million visitors. It now boasts its own field guide, written and illustrated by two of the people who know Peruvian birds best, and which covers in some detail the over 400 species recorded within the boundaries of the sanctuary, including the 14 threatened and near-threatened species. Following an introduction to the area we are straight into the species accounts. Each comprises the expected information on identification, but also boasts brief life history and ecology data, and some good places to find many of the species within the region covered by this guide. The plates are taken and adapted from *The birds of the high Andes* (one of the beauties of modern technology) and are followed by a checklist of the birds of the area, replete with information on abundance, foraging height, elevational range and habitat preferences. There is also a list of expected additions to the Machu Picchu list, a detailed colour map of the region, a glossary and bibliography. Let me admit to not being one of the millions who has wound his or her way to Machu Picchu, but I am certain to take this along as a companion when I do. Anyone intending to go there (or indeed many other Andean localities in the country) are certain to find it useful and a lot less weight than its 'parent' guide. It also boasts a typo that I really cannot resist repeating: on one of the first pages we are informed that the artist was born in !942. Such an extraordinary feat of longevity certainly merits the exclamation mark.

Guy M. Kirwan

Birding in Venezuela *by Mary Lou Goodwin, 2003, Fifth edn. Barcelona: Lynx Edicions. 332 pp, several line drawings and maps. €15.*

Now in its fifth incarnation, *Birding in Venezuela* sports a neat new design and 'proper' softback cover courtesy of its 'new' publishers, Lynx Edicions. At over 330 pages, it is nearly 50 pages heavier than the fourth edition (reviewed in *Cotinga* 9: 96–97) due to the addition of new sites and, where appropriate, revised information for old ones. For many readers, I am sure Mary Lou's guide will require no introduction, but for those that do the country is divided into six regional sections, each packed with up-to-date information concerning the best birding sites, with bird lists for many. All that you would expect from a site guide is here, and some more, although some readers (myself included) might bemoan the relative lack of detailed maps. Those that are presented are clear and easy to follow, so hopefully we might successfully plead the case for more of the same standard to be included in the near-inevitable sixth edition. There is a huge quantity of hard-won personal advice for those considering a birding visit to Venezuela, be it their first trip or their tenth. Indeed, the entire book reads almost like an alternative introduction to travel in this fantastic country, due, in large part, to the rather odd style of the work, with frequent footnotes and interjections from the book's editor, Clemencia Rodner, and Mary Lou's travelling companion, Pamela Pierce. This aspect of the book you will either love or hate, I suspect, but you certainly can't fault its originality. Given the existence of a brand-new, absolutely first-rate field guide (see review in *Cotinga* 20: 119–122) one could be forgiven for thinking that Venezuela is *the* place to go (despite recent political problems), and I, for one, am very pleased to recommend both Venezuela as a birding destination and this book as a companion and front-seat guide.

Guy M. Kirwan