

Conservación Colombiana

Número 24 • 27 octubre 2016

©2016 Fundación ProAves • Bogotá • Colombia • ISSN 1900-1592

Special edition, dedicated to peace and
biodiversity conservation in Colombia

*Edición especial dedicada a la paz y a la
conservación de la biodiversidad en Colombia*

Conservación Colombiana

Journal for the diffusion of biodiversity conservation activities in Colombia.

Revista para la difusión de acciones de conservación de la biodiversidad en Colombia.

ISSN 1900–1592. Non–profit entity no. S0022872 – Commercial Chamber of Bogotá

ISSN 1900–1592. Entidad sin ánimo de lucro S0022872 – Cámara de Comercio de Bogotá.

Edición octubre de 2016. Publicada el 27 de octubre de 2016.

Conservación Colombiana es una revista científica publicada por la Fundación ProAves, institución que tiene como misión “proteger las aves silvestres y sus hábitat en Colombia a través de la investigación, acciones de conservación puntuales y el acercamiento a la comunidad”. El propósito de la revista es divulgar las acciones de conservación que se llevan a cabo en Colombia, para avanzar en su conocimiento y en las técnicas correspondientes. El formato y tipo de los manuscritos que se publican es variado, incluyendo reportes de las actividades de conservación desarrolladas, resultados de las investigaciones y el monitoreo de especies amenazadas, proyectos de grado de estudiantes universitarios, inventarios y conteos poblacionales, planes de acción o estrategias desarrolladas para especies particulares, sitios o regiones y avances en la expansión de la red de áreas protegidas en Colombia. Conservación Colombiana está dirigida a un público amplio, incluyendo científicos, conservacionistas y en general personas interesadas en la conservación de las especies amenazadas de Colombia y sus hábitats.

Fundación ProAves de Colombia

www.proaves.org

Dirección: Carrera 20 No. 36–61, La Soledad, Bogotá

Teléfonos: +57–1–2455134 / 57–1–3403229; Fax: +57–1–340 3285

Fotografía portada / Cover photograph

Serranía de los Churumbelos, Cauca, Colombia, 1,900m. Proyecto EBA *Evaluacion de la Biodiversidad de los Andes* Colombia, campamento "Nabú", Julio de 1999. Paul Salaman.

Fotografía contraportada / Back cover photograph

Imagen de la nueva especie de mariposa descrita en esta edición, vista ventral. © Natural History Museum, Londres.

Editor General: *Monica Parada.*

Equipo editorial: *Thomas Donegan, Paul Salaman, Alonso Quevedo, Oswaldo Cortes y Juan Carlos Verhelst-Montenegro*

Permisos y derechos de autor

Toda reproducción parcial o total de esta obra está prohibida sin el permiso escrito de los autores y de la Fundación ProAves. Conservación Colombiana está cobijada por la ley colombiana de derechos de autor, Ley 23 de 1982, Ley 44 de 1993 y Decisión 351 de la Comisión del Acuerdo de Cartagena de 1993.

Conservación Colombiana es publicada gracias al apoyo de nuestros donantes:



Contenidos — Contents

Conservación Colombiana 24	
<p>Editorial – la paz y la conservación <i>Editorial – peace and conservation</i></p> <p>Fundación ProAves de Colombia</p>	3-4
<p>A remarkable new butterfly species from western Amazonia (Lepidoptera: Nymphalidae: Satyrinae) <i>Una notable nueva especie de mariposa de la Amazonía occidental (Lepidoptera: Nymphalidae: Satyrinae)</i></p> <p>Blanca Huertas, Gerardo Lamas, Giovanni Fagua, James Mallet, Shinichi Nakahara & Keith Willmott</p>	5-11
<p>Revision of the status of bird species occurring or reported in Colombia 2016 and assessment of BirdLife International's new parrot taxonomy <i>Revisión del estado de las especies de aves que han sido reportadas para Colombia en el 2016 y evaluación de la nueva taxonomía para loros de BirdLife Internacional</i></p> <p>Thomas Donegan, Juan Carlos Verhelst, Oswaldo Cortés-Herrera, Trevor Ellery & Paul Salaman</p>	12-36
<p>Pelagic surveys in the Colombian Caribbean reveal changes in marine bird distribution patterns during the migration period <i>Estudios pelágicos en el caribe de Colombia demuestran cambios en la distribución de las aves marinas durante periodos de migración</i></p> <p>Adrian Digby, Carolina González & Laura Pinillos</p>	37-39
<p>Instructions for authors <i>Instrucciones para autores</i></p>	40-42

Editorial – la paz y la conservación

Al momento de publicar esta edición especial, el proceso de paz en Colombia pende de un hilo. Con la firma de un acuerdo de paz entre el gobierno y las FARC el pasado 24 de agosto, se esperaba terminaran más de cinco décadas de guerra civil en el país y sus impactos a la población y a los bosques de Colombia. Sin embargo, los términos de este acuerdo fueron rechazados por un estrecho margen en un referendo el 2 de octubre. La negociación del acuerdo sigue en marcha, y varios grupos nacionales y la comunidad internacional han hecho importantes llamados por la paz en uno de los países con mayor biodiversidad del mundo. En el mismo mes, el premio Nobel de la Paz 2016 fue galardonado al presidente Juan Manuel Santos en espera se siga con el compromiso de continuar las negociaciones para un acuerdo de paz duradero en Colombia. Desde la conservación, esperamos la paz traiga más oportunidades de estudiar y entender los hábitats de Colombia de una manera que no ha sido posible antes.

A pesar de las dificultades del conflicto, la Fundación ProAves ha tomado varias medidas importantes para la protección de los bosques y la biodiversidad de Colombia a través del establecimiento de reservas naturales, programas de educación ambiental e investigación en campo. Es importante destacar que nuestra red de 27 reservas, casi todas registradas en el sistema nacional de áreas protegidas (SINAP) o en proceso de registro, garantizan la conservación de hábitats para el 70% de las especies de aves amenazadas que habitan en Colombia y otras muchas más especies. Estas reservas hasta el momento se concentran en la zona Andina, el Chocó, el valle del Magdalena y la Sierra Nevada de Santa Marta, en donde históricamente se han registrado la mayor concentración de especies amenazadas. Con la posibilidad de estudiar y realizar más acciones de conservación en aquellos bosques más afectados por el conflicto, se mejoraría esta cobertura no solo para las aves sino también para otras especies de fauna y flora que aun están por estudiar.

En esta edición, se describe una nueva especie de mariposa para la ciencia y su nombre está dedicado a la paz. Esta notable mariposa, se encuentra en la región amazónica occidental de Colombia y en hábitats similares en Ecuador y Perú. En Colombia, esta especie vuela en una de las regiones más afectadas en la actualidad por el conflicto y por la deforestación, la pérdida de hábitats y, sin duda, la extinción de especies. Según datos del IDEAM, más de 140.356 hectáreas de bosque se han perdido en Colombia en el año 2014 y 45% de estas (cerca de 60.000 hectáreas) han sido transformadas por la agricultura y la tala ilegal en la franja occidental de la amazonia. El descubrimiento de especies en hábitats amenazados, llama la atención sobre la importancia de proteger los bosques remanentes de Colombia. Esta es probablemente una de las cientos de especies presentes en Colombia que siguen siendo desconocidas para la ciencia.

Las aves son el grupo faunístico más conocido y también son el indicador más preciso que tenemos sobre la riqueza de la biodiversidad de un país. En este ejemplar de *Conservación Colombiana*, se restablece la posición de Colombia como la nación con mayor diversidad de aves en el mundo, con 1.927 especies registradas actualmente. Este es el más reciente de una serie anual de artículos revisando nuevos registros y cambios taxonómicos relevantes para las aves de Colombia y su conservación. En grupos menos estudiados como los invertebrados, Colombia aparece atrás de algunos otros países en cuanto a su biodiversidad. Sin embargo, esto pueda ser resultado de la falta de datos, estudios, especialistas y recursos para otros grupos.

Pese a que Colombia posee gran parte de su territorio en el mar, las aguas territoriales han sido menos atendidas por científicos y conservacionistas. Como contribución al estudio de estos importantes hábitats, presentamos aquí los resultados de un estudio de monitoreo de las aves marinas del caribe y nuevos datos sobre su distribución en Colombia.

Esperamos que los resultados publicados por los investigadores en esta edición y otros que desarrollan científicos dentro y fuera del país sobre la diversidad de Colombia, brinden apoyo adicional para los diferentes actores y gobiernos para establecer los temas de biodiversidad como prioridad en la nueva agenda política.

Fundación ProAves de Colombia

Referencias

Acuerdo final para la terminación del conflicto y la construcción de una paz estable y duradera. 2016.

https://www.mesadeconversaciones.com.co/sites/default/files/24_08_2016acuerdofinalfinalfinal-1472094587.pdf
24 August 2016.

IDEAM - Instituto de Hidrología, Meteorología y Estudios Ambientales. 2015. "Aumenta Deforestación en Colombia para 2014." Press release and related materials, 20 November 2015.

Editorial – peace and conservation

At the time we go to press with this special edition, the peace process in Colombia hangs in the balance. A peace accord signed on the 24 August by the government and the FARC group would have ended more than five decades of civil war and subsequent impacts for Colombia's people and forests. However, the terms of this accord were narrowly rejected in a referendum on 2 October. A renegotiation of the accord is now in progress and a call for peace in one of world's most biodiverse countries has been made by many national groups and the international community. This same month, the 2016 Nobel Peace prize was awarded to President Juan Manuel Santos and it is hoped that this can reinvigorate the process for a lasting peace agreement in Colombia. As conservationists, we hope that peace can bring more opportunities to study and understand Colombia's habitats in a way that has not been possible before.

Despite the difficulties of the conflict, Fundación ProAves has taken several important steps towards protecting Colombia's biodiversity and forests through its nature reserves, environmental education programmes and field research. Importantly, our network of 27 reserves, almost all of which are registered as national protected areas or in the process of registration, conserve habitats for 70% of Colombia's threatened bird species and many other species. These reserves are currently concentrated in the Andean region, the Chocó, the Magdalena valley and Santa Marta mountains, where the greatest concentration of threatened species has historically been found. With the possibility now opening of studying and undertaking conservation actions in those forests most affected by the conflict, this coverage should be able to increase, not just for birds but also for other species of fauna and flora which lack more detailed studies.

In this special issue, a new butterfly species for science is described and its name is dedicated to the peace process. This remarkable ringlet butterfly is found in the western Amazonian region of Colombia and similar habitats of neighbouring countries Ecuador and Peru. In Colombia it flies in one of the regions worst affected by the conflict and currently most impacted by deforestation, habitat loss and, without doubt, species extinctions. According to IDEAM data, over 140,356 hectares of forest were lost in Colombia in 2014 and 45% of this (over 60,000 hectares) were converted due to agriculture and illegal logging in the western fringe of Amazonia. The discovery of previously unknown species in threatened habitats draws attention to the need to protect them. This is one of the probably hundreds of species occurring in Colombia that remain unknown to science.

Birds are the best-known faunal group and so are the most accurate indicator we have of a nation's biodiversity richness. This edition of *Conservación Colombiana* also includes an article re-establishing Colombia's position as the world's most biodiverse nation for birds, with 1,927 species now recorded in the country. In this latest of an annual series of papers, new records and taxonomic changes relevant to Colombia's birds and their conservation are analysed in detail. In less well-studied groups such as invertebrates, Colombia appears to lag behind a small number of other countries in its biodiversity. However, this is at least in part due to a lack of data, specimens, specialists and resources.

Although much of its territory is sea, Colombia's territorial waters have often been overlooked by scientists and conservationists. As a contribution to the study of these important habitats, we present here the results of some ground-breaking monitoring of marine birds and new data on their temporal distributions in Colombia.

It is hoped that the findings published by researchers in this special edition, and other studies concerning the biodiversity of Colombia will help garner additional support for peace in Colombia, and for different actors and governments to put biodiversity issues at the top of a new political agenda.

Fundación ProAves de Colombia

References

- Acuerdo final para la terminación del conflicto y la construcción de una paz estable y duradera. 2016. https://www.mesadeconversaciones.com.co/sites/default/files/24_08_2016acuerdofinalfinalfinal-1472094587.pdf 24 August 2016.
- IDEAM - Instituto de Hidrología, Meteorología y Estudios Ambientales. 2015. "Aumenta Deforestación en Colombia para 2014." Press release and related materials, 20 November 2015.

A remarkable new butterfly species from western Amazonia (Lepidoptera: Nymphalidae: Satyrinae).

*Una notable nueva especie de mariposa de la Amazonía occidental
(Lepidoptera: Nymphalidae: Satyrinae).*

**Blanca Huertas¹, Gerardo Lamas², Giovanni Fagua³, James Mallet⁴,
Shinichi Nakahara⁵ & Keith Willmott⁵**

¹ Natural History Museum London, UK. Email: b.huertas@nhm.ac.uk

² Museo de Historia Natural de la Universidad Nacional Mayor de San Marcos, Lima, Perú.

³ Universidad Javeriana, Bogotá, Colombia.

⁴ Harvard University, Cambridge, USA.

⁵ McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, University of Florida, Gainesville, USA.

Abstract

A distinctive new species of butterfly in the subtribe Euptychiina (Nymphalidae: Satyrinae), which is widespread throughout the upper Amazon in Colombia, Ecuador and Peru, is here described. The species is provisionally placed in the genus *Magneptychia* Forster, 1964, although this is likely to change as the higher level taxonomy of Euptychiina is resolved and the genus is reviewed in detail.

Keywords: Systematics, Euptychiina, Colombia, Peru, Ecuador.

Resumen

Se describe una nueva especie de mariposa distintiva de la subtribu Euptychiina (Nymphalidae: Satyrinae), distribuida en la región amazónica de Colombia, Ecuador y Perú. La especie se ubica provisionalmente en el género *Magneptychia* Forster, 1964, lo que puede cambiar cuando se haya resuelto la sistemática de Euptychiina y el género se revise en detalle.

Palabras clave: Sistemática, Euptychiina, Colombia, Perú, Ecuador.

Introduction

The taxonomy of the Neotropical satyrine subtribe Euptychiina remains one of the most unresolved of any butterfly group, both at the species and higher levels, due to its high species richness, cryptic morphology, limited variation in wing pattern/morphology among some species, generally dull coloration and, in some clades, variability in wing pattern and paucity of useful genital characters (e.g. Peña & Lamas 2005; Murray & Prowell 2005; Peña *et al.* 2006, 2010; Marín *et al.* 2011). Furthermore, the subdued dark wing coloration of many species has apparently resulted in these butterflies often being overlooked by collectors and thus being poorly represented in many collections. *Magneptychia* Forster, 1964 is one of the largest genera of Euptychiina (Lamas 2004; Peña *et al.* 2006), including over 30 described species, with at least another 10 awaiting formal description (Lamas 2004). These butterflies inhabit tropical wet forests throughout the Neotropical region, from sea level to around 2000m elevation. Some species can be among the most locally abundant butterflies in the understorey and edges of primary and secondary forests.

The diversity of *Magneptychia* is due, at least in part, to the genus actually comprising a heterogeneous assemblage of species. Forster (1964: 125) characterized

it as '*distinguished by the robust structure and larger [wing] span, by the fundamental lack of an eye spot on the upper wing surface...and not significantly, by the different structure of the male apparatus with an essentially stronger uncus*' [translation from German]. These characters are clearly unreliable as synapomorphies since revisionary works on related genera as well as phylogenetic studies have shown that the genus is not monophyletic (Murray & Prowell 2005, Peña *et al.* 2006, Marín *et al.* 2011, Huertas 2014), containing perhaps a half dozen or more generic level clades, and is in need of a comprehensive revision. Recently, Costa *et al.* (2016) suggested that all species apart from the type and two close relatives should be excluded from *Magneptychia*, since they do not share several putative synapomorphies with those three species they proposed to retain in the genus. While we agree that the generic classification of *Magneptychia* is in strong need of revision, Costa *et al.* (2016) provided no new generic combinations for excluded species, and in the absence of a phylogenetic study to clarify the limits of genera, we continue to treat *Magneptychia* in the sense of authors immediately prior to Costa *et al.* (2016).

The focus of this paper is to describe a distinctive new euptychiine species, which we provisionally place in *Magneuptychia*. A few specimens belonging to the new species described herein remained for well over a century scattered among the various collections at NHMUK and more recently in other museums without being named. What are thought to be some of the oldest known specimens were brought to the former BMNH through the bequest of the James John Joicey Collection in 1934. Joicey had purchased the Henley Grose-Smith Collection in 1910 and the latter included five specimens of which two were labelled only 'Ecuador', one 'Yahuas Terr, Peru' and one without data. The latter, was subsequently illustrated by D'Abbrera (1988: 786-787) and labelled as '*Euptychia?* sp'. However, a further, possibly older specimen was later found by BH in the MFNB, collected by the German naturalist Paul Hahnel (1843-1887), who collected in the Amazon from 1879 to 1887 for Otto Staudinger (Staudinger 1890; Michael 1926). At MUSM, there is a large series of specimens collected in the 1990s, and identified by GL as a new species, that was also listed by Lamas (2004) as "*Magneuptychia* n. sp. [6]". During her revisionary work on Euptychiina, BH found recently collected specimens with full data in various collections and from different localities across western Amazonia. In this paper, we combine all field and collection data and formally name the new species.

Methods

Magneuptychia specimens were examined in major public and private collections in Europe and the Americas. In addition, specimens were collected by GJ & JM, KW & SN, and GL during field work in Colombia, Ecuador and Peru, respectively. The following acronyms are used in the text to denote the museum collections studied. In a few cases specimens, data and/or photographs were sent by the relevant curators or other researchers or field observers, when direct examination was not possible (see Acknowledgements). Relevant available online data and published works were also consulted.

DATR	David Trembath collection, United Kingdom.
FLMNH	McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, University of Florida, Gainesville, USA.
FRPI	Francisco Piñas Rubio collection, Quito, Ecuador.
JFLE	Jean François Le Crom collection, Bogotá, Colombia.
KWJH	Keith R. Willmott & Jason P. W. Hall collection, Gainesville, USA.
MECN	Museo Ecuatoriano de Ciencias Naturales, Quito, Ecuador.
MEFLG	Museo de Entomología Francisco Luis Gallego, Universidad Nacional, sede Medellín, Colombia.
MFNB	Museum für Naturkunde, Berlin, Germany.

MPUJ	Museo de Historia Natural de la Pontificia Universidad Javeriana, Bogotá, Colombia
MUA	Museo de la Universidad de Antioquia, Medellín, Colombia.
MUSM	Museo de Historia Natural de la Universidad Nacional Mayor de San Marcos, Lima, Perú.
NHMUK	Natural History Museum (former BMNH British Museum of Natural History), London, United Kingdom.
SHNA	Shinichi Nakahara collection, Gainesville, USA.

All specimens were photographed using digital cameras and images of the holotype were processed using Adobe© Photoshop CS2 version 9.0. Nomenclature for wing veins and cells follows Comstock & Needham (1918) and Peña & Lamas (2005). Genitalia terminology follows Klots (1970). We refer to dorsal forewing, dorsal hindwing, ventral forewing and ventral hindwing as DFW, DHW, VFW, and VHW, respectively.

Genitalia dissections were made using standard protocols, with maceration in a 10% aqueous solution of potassium hydroxide (KOH). Due to the number of females available and the lack of complete comparative material, dissections of females were limited and data relating to such dissections were not studied as comprehensively as for the male genitalia.

Systematics

Magneuptychia pax sp. nov.

Huertas, Lamas, Fagua & Willmott

'*Euptychia?*' sp.: D'Abbrera 1988: 786-787, figs. (Peru? Ecuador).

Magneuptychia sp. n. 1: Lamas, Robbins & Harvey. [1997]: 65.

Magneuptychia [n. sp.]: Lamas, 2004: 220 (no. 1416).

Magneuptychia sp. 3: Piñas, 2004: 34, figs. 271-272.

Holotype: (Fig. 1A). Male, [Colombia, Putumayo], n[ea]r. Villa Garzón, Los Naranjos [1°34'13"N, 75°43'W], 8 Aug[ust]. 1977. J. Mallet *leg.* BMNH 2011-63. BMNH(E) 1720531 (deposited in NHMUK).

Allotype: (Fig. 1B). Female [Colombia, Putumayo], Puerto Limón, marshy forest [1°2'N, 76°33'W] 26 Apr[il]. 1977. J. Mallet *leg.* BMNH 2011-63. BMNH(E) 1720530 (deposited NHMUK).

Diagnosis

Magneuptychia pax n. sp. broadly resembles other species in this genus due to its size, general coloration and patterning, but it is distinguished from all other Euptychiina species by the broad, white hindwing marginal border, which extends from the postdiscal ocelli to the wing margin, and otherwise dark brown wing ground colour. The ventral surface wing pattern in general resembles that of several species currently placed in *Magneuptychia*, such as *M. fugitiva* Lamas, 1997, but



Figure 1. *Magneuptychia pax* n. sp. **A.** (above) Male holotype dorsal view (left) and ventral view (right). **B.** (below) Female allotype dorsal view (left) and ventral view (right).

this species differs in having two dots, instead of one pale dot, in the VHW ocelli. The ocelli are similar in this respect to those of *Magneuptychia gera* (Hewitson, 1850), but while the latter species and its likely relatives often have white shading in ventral marginal areas, as in *M. pax*, they also have an extra ocellus in VHW cell 2A-Cu2, which is lacking in *M. pax*. Preliminary molecular analyses (M. Espeland *et al.*, in prep.) support the diagnosis of this new species as being highly distinct from other Euptychiina.

Description of the male

See Fig. 1A. **Head:** Eyes hairy, dark brown; palpi approximately twice as long as head, brush-like black and white, antennae brown. **Thorax:** Dark brown. **Abdomen:** Dark brown with hair-like scales. **Wings:** Forewing mean length 21.2 mm (n=9). DFW brown, with slightly darker submarginal and two marginal lines. DHW predominantly brown, except for broad white marginal band from tornus to M2-M1, broadening in middle where extending in from wing margin to as far as middle of cell Cu1-M3; one darker brown submarginal line and two dark brown marginal lines, latter closely parallel to wing margin, former more strongly undulate; indistinct, black submarginal ocellus in cell Cu2-Cu1,

with dark yellow ring. VFW with brown ground colour except for a whitish grey marginal band enclosing darker brown submarginal line and two darker brown marginal lines, latter closely parallel to wing margin, former more undulate; broad, dark brown discal and post-discal bands extending across almost all of wing, except at costa; small, black, dark-centred ocellus with a dark orange border and small greyish centre present in R5-M1. VHW with similar brown ground colour except for broad white marginal band enclosing one darker brown submarginal line and two marginal lines, as on DHW; row of five submarginal ocelli, those in cells Cu2-Cu1, M2-M1 and M1-Rs black with a narrow yellow ring and silver dot at centre, first two ocelli large, last small, ocelli in cells Cu1-M2 ovoid, brown with a narrow yellow ring and large silver spot at centre; broad, dark brown discal and post-discal bands extending across wing, latter kinked outwards at vein M1. **Abdomen and genitalia:** (Figs. 2A-D). As illustrated. Eighth tergite largely membranous, sclerotized portion reduced to a narrow anterior strip; uncus relatively long, straight and even in width except tapering at the very end; subuncus directed dorsally of uncus and slightly shorter than it, much narrower than uncus and curved inwards at tip; tegumen small and mitre-shaped; valvae hirsute, especially on distal and

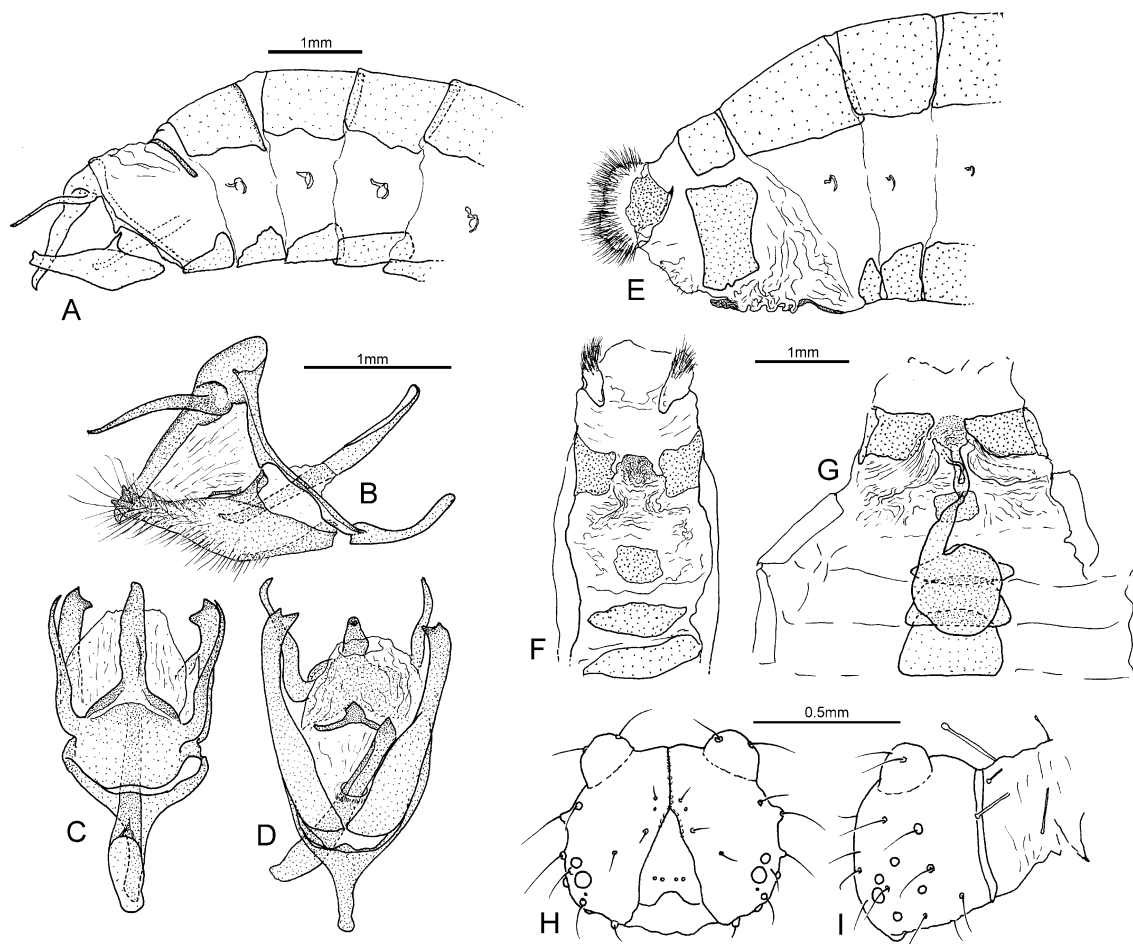


Figure 2. Illustration of structures in *Magneptychia pax* n. sp. **A.** Male abdomen. **B-D.** Male genitalia **E.** Female abdomen **F-G.** Female genitalia. **H.** Head capsule of first instar larva.

ventral sides, terminating in double prongs; saccus short, narrow; phallus slender, lacking cornuti, slightly more sclerotized in the central part, a little wider proximally and slightly flared distally at tip in ventral view; no visible juxta; 'V'-shaped sclerotized band, isolated, on ventral surface of tuba analis.

Description of the female

See Fig. 1B. As illustrated; similar to male holotype, not significantly smaller, wings more rounded, ground colour paler, ventral ocelli showing more clearly on DHW.

Wings: Forewing mean length 20.6 mm (n=4).

Abdomen and genitalia: (Figs. 2E-G). As illustrated. Eighth tergite relatively reduced in size; intersegmental membrane between 7th and 8th segments soft, pliable and expanded greatly ventrally to form a series of wrinkled ventral folds, also forming small, lightly sclerotized 'plate' underlying ostium bursae; lamella postvaginalis an isolated, small, square plate; lamella antevaginalis a large, rectangular lateral plate, not meeting ventrally and isolated from 8th tergite; ductus bursae unsclerotized, leading to a small, rounded corpus bursae, ductus seminalis origin near ostium bursae.

Wing pattern variation

Some specimens have only a weak ocellus in R5-M1 in the HW dorsal, while in other specimens it is lacking altogether. Some specimens have white scales on the base of the antennae. In the HW the black submarginal ocellus in cell Cu2-Cu1 is variable in size and the dark yellow ring may vary from distinct to very indistinct.

Immature stages

One dissected female contained a first instar larva. The head capsule is rounded in anterior view, with two short, rounded dorsal head 'horns' (Fig. 2H).

Paratypes

Colombia: (n=6♂ 1♀). *Amazonas:* 1♂, Puerto Nariño, [3°45'S, 70°22'W], 27 Sep 1994++, J. F. Le Crom *leg.* (JFLE); *Caquetá:* 3♂, Serranía de Chiribiquete, Río Cuñaré, Verde Biche Bosque, 0°32'4"N, 72°37'57"W, 19 Feb 2001, G. Fagua *et al. leg.* (MPUJ); 1♂, Solano, Vereda El Quince, 0°48'11"N, 75°11'58"W, 204m, Jama. 4 Sep 2007, 1505h. C. Sañudo *leg.* Catálogo 15058 93-CP 36- (MEFLG); 1♂, Solano, Vereda El Quince,

Parcela la Sombra, 0°48'11"N, 75°11'58"W, Jama. 204m, 4 Sep 2007, C. Sañudo & F. Muñoz *leg.* MUA-INN 111-71 (MUA); *Putumayo*: 1♀, Río Caquetá, nr. José María, Los Naranjos, [1°34'13"N, 75°43'W], 200m, 3 Aug 1977, J. Mallet, D. Jackson and P. Garcia-C. *leg.* FLMNH-MGCL-195896 (FLMNH).

Ecuador: (n=5♂ 5♀). *Orellana*: 1♂, 28 km SE Coca, track NNE of Pindo 13 oil well, [0°39'40"S, 76°49'W], 260m, 19 Aug 2010, D. A. Trembath, A. Neild *leg.* No. 22961 (DATR); 1♂, km 21 Coca-Loreto rd., 0°29'31"S, 77°8'19"W, 300m, 8 Mar 1995, K. Willmott & J. Hall *leg.* (FLMNH); 1♀, Lagunas de Cuyabeno, La Ormiga, 0°1'S, 76°11'W, 250m, 18 Sep 1996, K. Willmott *leg.* (KWJH); *Pastaza*: 1♂, Río Curaray, Oriente, Lorocachi, 1°37'15"S, 75°59'30"W, 250m, 20 Feb 1996, C. Carpio *leg.* (37. Images 271, 272) (FRPI); 1♀, Río Pastaza, Kapawi village, 2°32'16"S, 76°50'10"W, 260m, 23 Jul 2009, K. R. Willmott & J. P. W. Hall *leg.* FLMNH-MGCL-145665 (FLMNH); 1♀, Yutsuntsa, along trail to Makusar, 2°21'5.02"S, 76°27'18.3"W, 13 Jul 2014, S. Nakahara & S. Padrón *leg.* (SHNA); *Sucumbios*: 1♀, Cuyabeno Lodge, across lagoon, [0°0'18"S, 76°10'23"W], 224m, 7 Dec 2010, J. D. Turner *leg.* FLMNH-MGCL-150974 (FLMNH); *No data*: 1♂, 'Ecuador', Ex. Grose Smith 1910, Joicey Bequest Brit. Mus. 1934-20, BMNH(E) 1720540, B.M. SLIDE 32034. 1♂, same data BMNH(E) 1720533; 1♀, same data BMNH(E) 1720534 (NHMUK).

Peru: (n=10♂ 20♀). *Loreto*: 1♂, Arcadia 0°59.37'S, 75°18.55'W, 150m, 5 Nov 1993, G. Lamas *leg.*; 1♀, same data but 4 Nov 1993, R. K. Robbins *leg.*; 3♂, same data but 5 Nov 1993; 2♀, same data but 4 Nov 1993, G. Lamas *leg.*; 1♀, same data but 8 Nov 1993; 1♀, same data but 7 Nov 1993, R. K. Robbins *leg.*; 1♀, Castaña, 0°48'S, 75°14'W, 150m, 24 Oct 1993, R. K. Robbins *leg.*; 1♀, same data but 30 Oct 1993; 1♂, Río Pucauro, Coconilla, 2°42'S, 75°6'W, 160m, 17 Jul 2003, J. J. Ramírez *leg.*; 1♂, Explornapo-ACEER, Río Sucusari, [3°15'28"S, 72°55'3"W], 140m, 22 Sep 1995, G. Lamas *leg.*; 1♀, same data but 16 Sept 1995; 1♂, same data but 13 Sept. 1995, J. Grados *leg.*; 1♂, 1♀, same data but R. K. Robbins *leg.*; 1♀, same data but 5 Sept 1995; 1♀, same data but 19 Sept 1995, A. Caldas *leg.*; 2♀, Puerto Almendra, 3°50'S, 73°23'W, 120 m, 3 Sep 1995, D. J. Harvey *leg.*; 2♀, Río Aguas Negras, 0°31'24"S, 75°15'24"W, 150m, 3 Mar 1994, G. Lamas *leg.*; 1♀, same data but 5 Mar 1994; 1♀, same data but 8 Mar 1994; 1♂, Tierra Hermosa, 3°34'S, 73°13'W, 140m, 8 Oct 2013, J.J. Ramírez *leg.*; 1♀, Picuroyacu, 3°37'S, 73°16'W, 115m, 19 Oct 2015, G. Lamas *leg.* (all in MUSM); 1♀, Pebas [3°19'S, 71°51'W, 120m], H[a]h[ne]/Euptych. sp?. nobis ignota. Genitalia vial n. M 9100 by Lee D. Miller (MFNB); 1♀, Pebas [3°19'S, 71°51'W, 120m], Amazons, M. de Mathan *leg.*, Rothschild Bequest B.M. 1939-1. BMNH(E) 1719068;

1♀, Yahuas Terr. [3°21'S, 71°59'W], Joicey Bequest Brit. Mus. 1934-20. BMNH(E) 1720535 (NHMUK). *No data*: 1♂, 'Peru'. BMNH(E) 1720532 (NHMUK).

No locality: (1♂). Ex. Grose Smith 1910. Joicey Bequest Brit. Mus. 1934-20. BMNH(E) 1720534 (NHMUK).

Distribution

Magneptychia pax n. sp. has been found to date only in a limited area of western Amazonia, where it is confirmed from specimens collected in Colombia (north to Caquetá), Ecuador and Peru (south to Loreto). All known localities are situated within 4 degrees of the Equator, suggesting a specialisation to warmer habitats within western Amazonia. This species is known to range from 115 to 300 metres above sea level (Fig. 3).

Etymology

The name *pax* is the nominative singular of a third declension Latin noun, meaning 'peace'. The name is non-variable. *Magneptychia pax* n. sp. is dedicated to the peace process in Colombia and to every person affected there by a conflict that has lasted more than five decades, including in the remote forests that this butterfly inhabits. This dedication is made in the hope that a lasting peace agreement can be reached and to focus attention on the need for conservation of Amazon forests and improvement in conditions for research and scientific discovery in that region.

Ecology

During fieldwork in Serranía de Chiribiquete, Colombia, *Magneptychia pax* n. sp. was a common species in the understory of Amazonian forests that were transitional between flooded and *terra firme* forest. This species was found in natural forest edges and clearings, such as near riverbanks or in the transitional areas from forest to sandy or rocky areas. It seemed to particularly prefer white sand forests and forest edges. The species was collected at this locality only during expeditions in February, although it has been recorded in other months of the year elsewhere. However, it was not present in a recent study of stunted tepui-top habitats in the Chiribiquete region (Huertas *et al.* 2015). The ecological preferences of the new species in Colombia are notable because many other *Magneptychia* are more often found in the interior of dense lowland forest, with closed canopy and a sparse understory. The white markings on the new species may assist matching to pale substrate in sand forest edge habitats. In Ecuador, the species is known only from flat, eastern lowland forest, most often near black water rivers, where individuals were encountered flying singly in the understory of primary forest from 1100hrs to 1330hrs.

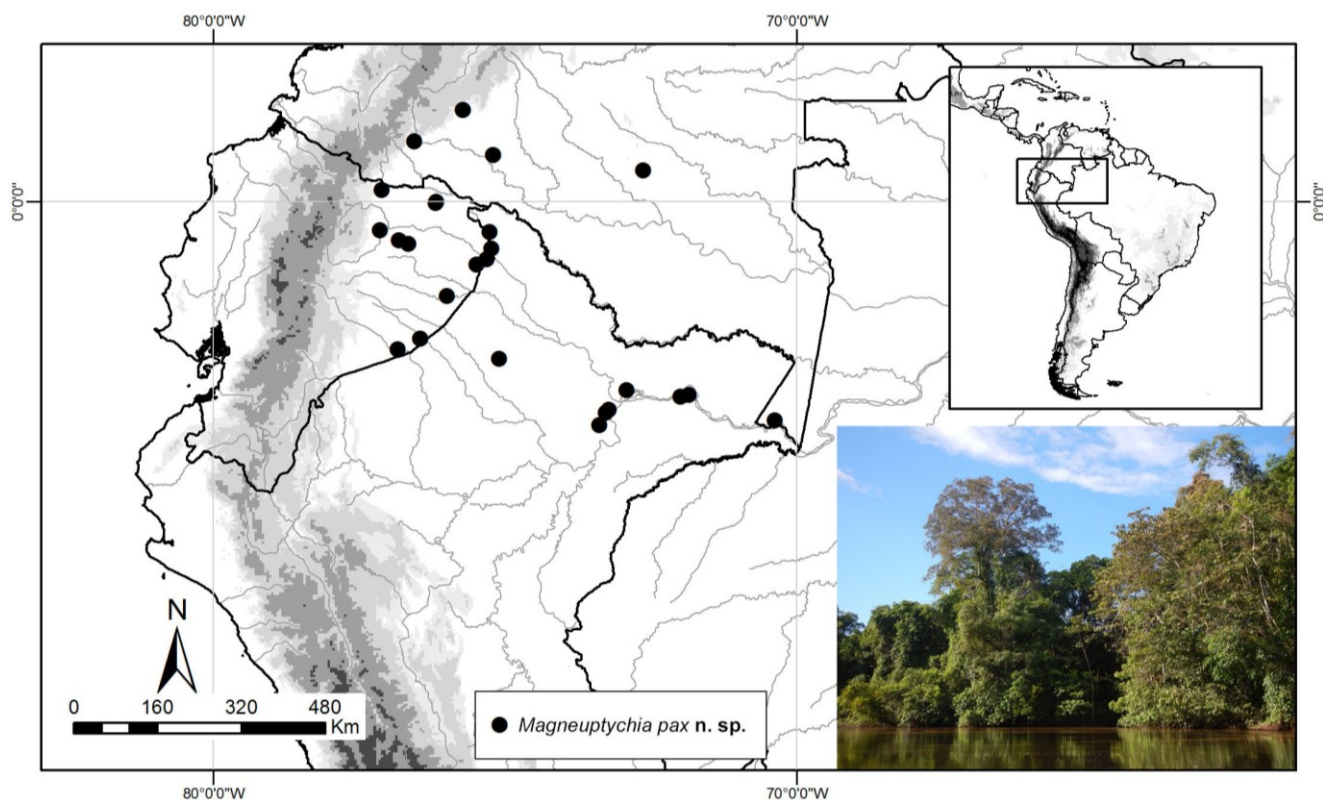


Figure 3. Map of northern South America showing localities where *Magneptychia pax* n. sp. has been recorded. Photo: Orellana, Parque Nacional Yasuní, Río Yasuní, vicinity of 'Baradero' trail, Ecuador by KW.

Discussion

A priority for a much-needed broader taxonomic revision of *Magneptychia* will be the delimitation of new genera, which will in turn permit more detailed study of species relationships. Work is underway in developing morphological and molecular datasets (Systematics of Euptychiina project, unpublished data) to produce a more robust higher-level classification. A separate challenge arises from the number of undescribed species in *Magneptychia*. The existence of distinctive (and often phylogenetically significant) undescribed species such as *M. pax* remains a barrier to a proper understanding of the group. Thus, although taxonomic revisions are our ultimate goal for a number of Euptychiina genera, including *Magneptychia* (see <http://www.flmnh.ufl.edu/museum-voices/euptychiina/>), we believe it is helpful to describe the more distinctive species that it will be essential to include in higher level phylogenies, even if their generic placement is provisional. Other authors have followed this approach in recent years with the descriptions of several *Magneptychia* species (e.g., Brévignon 2005, Brévignon & Benmesbah 2012, Zacca *et al.* 2014).

The relationships of this new species remain unclear. Preliminary sequence data from several nuclear and mitochondrial genes (Espeland *et al.*, unpublished data) suggest that *M. pax* may not have any very close relatives and is not closely related to type species *M. libye* (Linnaeus, 1767) and so could ultimately require its own

genus. However, at present, description of a genus would be premature given that work is underway to better resolve the phylogeny of Euptychiina. Such work will help inform a more appropriate generic classification for this and many other species that are currently assigned to *Magneptychia* due to historical reasons or by default. The restricted region from which *Magneptychia pax* is known remains rather inaccessible and poorly explored, not only due to innate complexity of the Amazon landscape but also due to political instability in these habitats particularly in Colombia. Western Amazonia supports many other undescribed euptychiine taxa (Fagua & Sánchez unpublished; von Hildebrand unpublished; Huertas 2014), and more detailed exploration of remote Amazonian localities, and white sand forest regions in particular, is warranted.

Acknowledgements

We thank fellow curators and collectors for facilitating visits, loans and for sending data and photos from specimens; BH sincerely acknowledges assistance received from Dr Wolfram Mey (MFNB), Fernando Valencia and Alexis Acosta (MUA), Jean François LeCrom (JFLE), Francisco Piñas Rubio (FRPI), Andrew Neild and David Trembath. Sincere thanks to NHM staff Dr Klaus Sattler for helping with German translations, the butterfly collections' team of volunteers helping with curation of Euptychiina, library staff who provided help with references and the Photo Unit team Harry Taylor

and Jonathan Jackson who provided photos of the type specimens. KW thanks Jon D. Turner. GF thanks Fernando Gast Harders (Chiribiquete Project), and Patricio von Hildebrand (Fundación Puerto Rastrojo) for their support. The specimens from Serranía de Chiribiquete (Colombia) were collected during the initiative “Inventory of the National Natural Park of Chiribiquete” made by the GEMA group (Group of Exploration and Environmental Monitoring) with researchers from the Alexander von Humboldt Institute (IAvH) and Fundación Puerto Rastrojo, Colombia. Research on Ecuadorian butterflies and euptychiines in general was supported in part by the Florida Museum of Natural History and FLMNH Museum Associates, the National Geographic Society (Research and Exploration Grant #5751-96) and the National Science Foundation (grants #0103746, #1256742). We also thank S. Villamarin, the MECN and Ecuadorian Ministerio del Ambiente for arranging the necessary permits for research in Ecuador. KW also thanks Jason Hall for many years of collaboration in research on Ecuador's butterflies, and Julia and Jamie Robinson Willmott for their fine company in the field. BH thanks Thomas Donegan for his continuous support and fruitful discussions to improve this manuscript. Finally, thanks to Dr David Lees (NHM) and two other anonymous reviewers for their comments on this paper.

References

- Brévignon, C. 2005. Description de nouveaux Satyrinae provenant de Guyane française (Lepidoptera, Nymphalidae). *Lambillionea* 105(3)(1): 393-404.
- Brévignon, C. & Benmesbah, M. 2012. Complément à l'inventaire des Satyrinae de Guyane (Lepidoptera: Nymphalidae), pp. 36-52, 4 pls., 1 tab. In: Lacomme, D. & L. Manil (eds.), *Lépidoptères de Guyane. Tome 7. Nymphalidae*. Paris, Association des Lépidoptéristes de France.
- Comstock, J.H. & Needham, J.G. 1918. The wings of insects. *American Naturalist* 32: 231-257.
- Costa M., Vilorio, A.L., Attal, S., Neild A.F.E., Fratello S.A. & Nakahara S. 2016. Lepidoptera del Pantepui. Parte III. Nuevos Nymphalidae Cyrestinae y Satyrinae. *Bulletin de la Société entomologique de France* 121(2), 2016: 179-206.
- D'Abbrera, B. 1988. *Butterflies of the Neotropical Region, Part V. Nymphalidae (conc.) and Satyridae*. Victoria, Australia: Hill House. Pp. 679-877.
- Forster, W. 1964. Beitrage zur Kenntnis der Insektenfauna Boliviens XIX. Lepidoptera III, Satyridae. *Veröffentlichungen der zoologischen Staatssammlung München* 8: 51-188, pls. 27-35.
- Hewitson, W. C. 1850. Descriptions of some new species of butterflies. *Annals and Magazine of natural History* (2)6(36):434-440, pls. 9-10 (1 December).
- Huertas, B. 2014. *Evaluating the conservation status of Neotropical butterflies and the impact of systematics on threat assessments*. PhD Thesis, University College London, Division of Biosciences.
- Huertas, B., Moorwood, A., Forero, F., Kirby, R., Rodriguez, A. & Doyer, T. 2015. What's the point? New biodiversity records from a rapid assessment of a tepuy in PNN Serranía de Chiribiquete during the filming of the National Geographic documentary 'Wild Colombia' and the feature film 'Colombia Magia Salvaje'. *Conservación Colombiana* 23:82-90.
- Klots, A.B. 1970. *Lepidoptera*, pp. 97-110 In: Tuxen, S.L. ed. *Taxonomist's Glossary of Genitalia of Insects*. Copenhagen, Munksgaard. 359 p.
- Lamas, G. 2004. *Nymphalidae. Satyrinae. Tribe Satyrini. Subtribe Euptychiina*, pp. 217-223. In: Lamas, G. (ed.) Checklist: Part 4A. Hesperioidea - Papilionoidea. In: Heppner, J. B. (ed.) *Atlas of Neotropical Lepidoptera. Volume 5A*. Gainesville, Association for Tropical Lepidoptera; Scientific Publishers.
- Lamas, G., Robbins, R.K., Harvey, D.J. [1997]. Mariposas del alto Río Napo, Loreto, Perú (Lepidoptera: Papilionoidea y Hesperioidea). *Revista peruana de Entomología* 39: 63-74.
- Marín, M.A., Peña, C., Freitas, A.V.L., Wahlberg, N. & Uribe, S.I. 2011. From the phylogeny of the Satyrinae butterflies to the systematics of Euptychiina (Lepidoptera: Nymphalidae): History, progress and prospects. *Neotropical Entomology* 40(1): 1-13.
- Michael, O. 1926. *Erinnerungen aus Süd-Amerika. Dr. Paul Hahnels letzte Reise nach dem Amazonas!* Frankfurt am Main, Verlag des Internationalen Entomologischen Vereins. 96 + [1] pp., 4 pls.
- Murray, D.L. & Prowell, D.P. 2005. Molecular phylogenetics and evolutionary history of the neotropical satyrine subtribe Euptychiina (Nymphalidae: Satyrinae). *Molecular Phylogenetics and Evolution* 34(1): 67-80.
- Piñas, F. 2004. *Mariposas del Ecuador. Vol. 11b. Familia: Nymphalidae. Subfamilia: Satyrinae*. Quito, Compañía de Jesús. v + 90 pp. + CD.
- Peña, C. & Lamas, G. 2005. Revision of the butterfly genus *Forsterinaria* Gray, 1973 (Lepidoptera: Nymphalidae, Satyrinae). *Revista peruana de Biología* 12(1): 5-48.
- Peña, C., Nylin, S., Freitas, A.V.L., Wahlberg, N. 2010. Biogeographic history of the butterfly subtribe Euptychiina (Lepidoptera, Nymphalidae, Satyrinae). *Zoologica Scripta* 39(3): 243-258.
- Peña, C., Wahlberg, N., Weingartner, E., Kodandaramaiah, U., Nylin, S., Freitas, A. V.L & Brower, A.V.Z. 2006. Higher level phylogeny of Satyrinae butterflies (Lepidoptera: Nymphalidae) based on DNA sequence data. *Molecular Phylogenetics and Evolution* 40(1): 29-49.
- Staudinger, O. 1890. Lebesnskizze des Dr. Paul Hahnel. *Deutsche entomologische Zeitschrift "Iris"* 3(1): 128-132.
- Zacca, T., Siewert, R.R., Mielke, O.H.H. & Casagrande, M.M. 2014. A new species of *Magneuptychia* Forster, 1964 (Lepidoptera: Nymphalidae: Satyrinae) from Brazilian savannah. *Zootaxa* 3795(1): 71-78.

Revision of the status of bird species occurring or reported in Colombia 2016 and assessment of BirdLife International's new parrot taxonomy

Revisión del estado de las especies de aves que han sido reportadas para Colombia en el 2016 y evaluación de la nueva taxonomía para loros de BirdLife Internacional

Thomas Donegan¹, Juan Carlos Verhelst^{1,2}, Trevor Ellery³,
Oswaldo Cortés-Herrera¹ & Paul Salaman^{1,2,4}

¹ Fundación ProAves, Cra. 20 #36–61, Bogotá, Colombia. Email: tdonegan@proaves.org

² Project BioMap, Bird Group, the Natural History Museum, Tring, HP23 6AP, United Kingdom

³ Rockjumper Birding Tours, Bogotá, Colombia

⁴ Rainforest Trust, 7078 Airlie Road. Warrenton, VA 20187.

Abstract

Rufous-headed Woodpecker *Celeus spectabilis*, Western Striolated Puffbird *Nystalus obamai*, Orinoco Softtail *Thripophaga cherriei* and Cocha Antshrike *Thamnophilus praecox* are each newly added to the Colombian bird checklist, based on photographic records. Foothill Schiffornis *Schiffornis aenea* and Buff-throated Tody-Tyrant *Hemitriccus rufigularis* are added based on archived sound recordings. Little Chachalaca *Ortalis motmot* is added as unconfirmed based on sight records only. Beautiful Treerunner *Margarornis bellulus* is added based on a “Bogotá” specimen. White-winged Dove *Zenaida asiatica*, which is common on San Andrés island, is now also treated as confirmed on the mainland of Colombia, following recent records there. Specimen and photographic records of Fiery-throated Fruiteater *Pipreola chlorolepidota* and Capuchinbird *Perissocephalus tricolor* result in their elevation to confirmed status. Various records of subspecies new to Colombia are discussed. We analysed taxonomic proposals by del Hoyo & Collar (2014) in parrots (Psittaciformes), based on new studies of specimens, our own fieldwork data and published molecular studies. We adopt the following proposed splits, specimens relating to which are all illustrated: Turquoise-winged Parrotlet *Forpus spengeli* of northern Colombia from Blue-winged Parrotlet *F. xanthopterygius* of Amazonia (or Green-rumped Parrotlet *F. passerinus* of northern South America); Pacific Parakeet *Pyrrhura pacifica* of south-western Colombia from Maroon-tailed Parakeet *P. melanura* of Amazonia; Scarlet-fronted Parakeet *Psittacara wagleri* of the Colombian and Venezuelan Andes from Cordilleran Parakeet *P. frontatus* of southern Ecuador and Peru; Northern Festive Parrot *Amazona bodini* of the Amazon drainage from Southern Festive Parrot *A. festiva* of the Orinoco; Red-lored Parrot *Amazona autumnalis* of western Colombia from Lilacine Amazon *A. lilacina*, which may occur in extreme south-west Colombia; and Southern Mealy Parrot *Amazona farinosa* of South America to western Panama from Northern Mealy Parrot *A. guatemalae*, which is found elsewhere in Central America. We go further in also splitting Upper Magdalena Parakeet *Pyrrhura chapmani* from *P. melanura*. We propose re-evaluating subspecies ranges within Cordilleran Parakeet, with subspecies *minor* apparently occurring north into Ecuador and nominate *frontatus* better restricted to coastal Peru (as set forth in the original description of *minor*). We also split: the Santa Marta Wood-Wren *Henicorhina anachoreta* from Grey-breasted Wood-Wren *H. leucophrys*; Black-billed Thrush *Turdus ignobilis* into three species and Lesser Elaenia *Elaenia chiriquensis* into two species, based on periodical literature. Several amendments to genus and species names, English names and linear order are made, following recent publications. The Colombian checklist increases again to 1,937 species (excluding escapes), of which 1,859 are documented by “confirmed” records on the mainland.

Keywords: Species limits, new records, parrotlet, parakeet, Amazon, Psittacidae.

Resumen

Las especies *Celeus spectabilis*, *Nystalus obamai*, *Thripophaga cherriei* y *Thamnophilus praecox* se agregan al listado de aves de Colombia, todas basadas en registros fotográficos. *Schiffornis aenea* y *Hemitriccus rufigularis* se agregan basadas en grabaciones archivadas. *Ortalis motmot* se agrega como una especie sin confirmar, solamente basada en registros visuales. *Margarornis bellulus* se agrega basado en un espécimen de “Bogotá”. *Zenaida asiatica*, una especie común en la isla San Andrés, se confirma en la región continental de Colombia siguiendo registros recientes allí reportados. Registros de especímenes y fotografías de *Pipreola chlorolepidota* y *Perissocephalus tricolor* son ahora elevados al estado de 'especies confirmadas'. Se discuten varios registros de subspecies nuevas para Colombia. Se discuten las propuestas taxonómicas del Hoyo & Collar (2014) en los loros (Psittaciformes), considerándose estudios de especímenes, observaciones en el campo y las conclusiones de estudios moleculares realizados por otros autores. Se separan: *Forpus spengeli* del norte de Colombia de *Forpus xanthopterygius* de la Amazonia (o *Forpus passerinus* del norte de Suramérica); *Pyrrhura pacifica* del suroccidente de Colombia de *P. melanura* de la Amazonia; *Psittacara wagleri* de los Andes de Colombia y Venezuela de *P. frontatus* del sur de Ecuador y Peru; *Amazona bodini* del drenaje del río Amazonas de *A.*

festiva del río Orinoco; *Amazona autumnalis* del occidente de Colombia de *A. lilacina*, que podría ocurrir en el extremo suroccidente de Colombia; y *Amazona farinosa* de Suramérica hasta el occidente de Panamá de *A. guatemalae*, que se encuentra en otras partes de Centroamérica. Separamos también *Pyrrhura chapmani* de la parte superior del valle del río Magdalena, de *P. melanura* del oriente colombiano. Proponemos una re-evaluación de las distribuciones de las subespecies dentro de *Psittacara frontatus*, con la subespecie *P. f. minor* presente desde el norte de Perú hasta el sur de Ecuador y la subespecie nominal *P. f. frontatus* restringida a la costa de Perú (como se propone en la descripción original de *minor*). También hemos separado: *Henicorhina anachoreta* de Santa Marta de *H. leucophrys*; *Turdus ignobilis* en tres especies y *Elaenia chiriquensis* en dos especies, basados en publicaciones científicas recientes. Finalmente, se realizaron varias modificaciones a los nombres de géneros y especies, nombres en inglés y el orden lineal del listado. Nuevamente, el listado de aves de Colombia aumentó a 1,937 especies (excluyendo especies exóticas que no han establecido poblaciones) de las cuales 1,859 han sido documentadas a través de registros confirmados en el área continental.

Palabras clave: Límites de especie, nuevos registros, cotorras, periquitos, Psittacidae.

Introduction

This is the 15th year of the national checklist of the Birds of Colombia, published in four printed editions (Salaman *et al.* 2001, 2008b, 2009, 2010), used as the basis for three field guides (McMullan *et al.* 2010, 2011, McMullan & Donegan 2014) and which is now available online (Donegan *et al.* 2015b, 2016). Various annual updates discussing new records, evaluating older ones and incorporating taxonomic changes have been published as part of this work (Salaman *et al.* 2008a, Donegan *et al.* 2009, 2010, 2011, 2012, 2013, 2014, 2015a). This paper sets out details of new records, taxonomic changes and other updates to the Colombian list since our last publication in December 2015. In Donegan *et al.* (2015a), we analysed in detail many of the new taxonomic proposals by del Hoyo & Collar (2014) which are relevant to Colombia. In this paper, we consider splits for Parrots (Psittaciformes), which were pending in Donegan *et al.* (2015a).

Species added

Little Chachalaca *Ortalis motmot*

Sight records by F. Gary Stiles in Stiles & Beckers ([2016]) date from 25 March 1998. This species was not previously considered to occur west of the Venezuelan border. It is added in category "Obs" owing to the lack of photographic or other confirmation. Further records would be welcome, given that chachalacas are sometimes held in captivity. However, this species seems more likely than not to represent a wild population based on the authors' accounts and the observation localities.

Rufous-headed Woodpecker *Celex spectabilis*

Carantón Alaya *et al.* (2016) and Williams (2016) have each published details of this species' occurrence in Colombia. The first authors found the species at Piamonte, Cauca, providing photographs. The latter author included photographs of this species taken by Carlos Ferney Castro Fuentes near Puerto Guzmán, Putumayo, Colombia. The photographs are, in each case, unmistakable. This species is known from close to the Colombian border in Ecuador. With no concerns around escapees, it can be added to Colombia's list as confirmed.

Western Striolated Puffbird *Nystalus obamai*

Various records are reported for Colombia by Williams (2016), including sound recordings since 9 September 2015 and a photograph on 29 February 2015 from "Fin del Mundo", near Mocoa, Putumayo. Video recordings of this species using a soil cavity, apparently for nesting, have been made available online. Observers who contributed to these records include Jean David Ramírez, Margarita Nieto, Daniel Piedrahita, Rodrigo Gaviria, Luis Miguel Renjifo and Julian Pantoja. The published photograph is unmistakable. This species is recently described (Whitney *et al.* 2013) and a welcome addition to Colombia's checklist. With no concerns around escapees, it can be added as a confirmed species.

Orinoco Softtail *Thripophaga cherriei*

Stiles & Beckers ([2016]) have published two photographs of this species from Colombia, one of which clearly shows the diagnostic orange chin. The first record was on 2 March 2012 by Jurgen Beckers and subsequent observations were made on 6 January 2013 by Pablo Flórez, near Matraca on the border of the río Guaviare. Recent birding trips have also recorded the species (T. Ellery *in litt.* 2016). Orinoco Softtail is a threatened species, known only from the region of the type locality on the opposite side of the río Orinoco in Venezuela and other localities nearby in Venezuela (Lentino *et al.* 2007). Confirmation of its occurrence in Colombia is expected (Hilty & Brown 1986) and there can be no doubts as to provenance of the birds; its occurrence some distance to the south of Venezuelan records is welcome news for conservation.

Beautiful Treerunner *Margarornis bellulus*

A Bogotá specimen is reported by Verhelst-Montenegro (2015), which allows the species to be added to Colombia's checklist under denotation "Bog". It likely occurs on the border with Panama, but there are no recent records. Although Panama used to be part of Colombia, other species are included on the list on an unconfirmed basis based on plausible "Bogotá" or "Colombia" specimens and there is no reason that this species should be an exception.

Cocha Antshrike *Thamnophilus praecox*

Williams (2016) published details of records made by Ottavio Janni, Jurgen Beckers and Flor Peña of at least three birds at río Caucaýá, Puerto Leguizamo, Putumayo on 30 January 2016. A photograph of the monochrome black male is presented, showing its only diagnostic mark – the off-black post-ocular bare skin. Sound recordings are also available on xeno-canto.org (XC302791). We accept this as the first confirmed record for Colombia. Like the previous species, Cocha Antshrike has a small range in Amazonian Ecuador (Ridgely & Greenfield 2001) and is a near-threatened species, so its discovery in Colombia is most welcome.

Foothill Schiffornis *Schiffornis aenea*

Williams (2016) reports sound recordings by Juan David Ramírez, Margarita Nieto, Paul Betancur, Daniel Piedrahita, Rodrigo Gaviria, Luis Miguel Renjifo (=LMF? [*sic*]) and Julian Pantoja on 29 February 2016 near Fin del Mundo, Mocoa, Putumayo (sound recording XC306626). This follows the taxonomic revision of the species in Donegan *et al.* (2011). In that paper, we noted that *aenea* might already have been recorded in Colombia: "*it may occur at the east base of the East Andes in Colombia. However, there are no known specimens to date reported on Biomap and the sole Putumayo specimen (FMNH 287276: San Antonio, Valle del Guamuéz) is identified as of amazonum. Salaman et al. (2002)'s record was not identified to subspecies.*" Whilst that FMNH specimen still requires verification, the species can now be considered present in Colombia. We hope that the authors will publish more details of their observations in due course. Until publication of a sonogram, which we do not wish to prejudice here, the species is treated as unconfirmed.

Buff-throated Tody-Tyrant *Hemitriccus rufigularis*

As reported by Copete (2016a) and on Colombia Birding's facebook page, individuals observed and sound recorded by Diego Calderón and Brayan Coral Jaramillo at Nuevo Mundo, Resguardo Indígena Jardín de la Sierra, Orito, Putumayo (XC322164-6, 322779) on 22 May 2016 represent the first records for Colombia. As above, we hope that the authors will publish more details of their records in due course. Until publication of a sonogram, which we do not wish to prejudice here, the species is treated as unconfirmed.

Changes of status

White-winged Dove *Zenaida asiatica*

Strewe *et al.* ([2016]) have published details of observations from the Santa Marta region of Colombia, including a diagnostic photograph. This dove is common on San Andrés island, but previous records for continental Colombia (Hilty & Brown 1986) were considered incorrectly identified (Donegan *et al.* 2009). The species can now be considered confirmed on mainland Colombia, moving from category "SA" to the

main Colombian list. This was also the first confirmed record for South America and is doubtless a result of a range expansion for a species which thrives in open areas.

Fiery-throated Fruiteater *Pipreola chlorolepidota*

Previously known in Colombia from a series of sight records, some of them our own (e.g. Salaman *et al.* 1999, 2002). Two specimens reported by Gómez-Bernal *et al.* (2016) and a black-and-white photograph in the same publication mean that this species can now finally be treated as confirmed for Colombia.

Notes on other species

Capuchinbird *Perissocephalus tricolor*

Observations and a published photograph from Sabanita, Inirida 2012 by Jurgen Beckers (Stiles & Beckers [2016]) were rightly claimed as the first confirmed records for Colombia. This species had been included on the checklist since Salaman *et al.* (2001) based on sight records of Kingston *et al.* (1992) and Newman (2008), although erroneously without denotation of its hypothetical status. Online photographs (on www.surfbirds.com) by Pablo Flórez in Guania were also taken in October 2014.

Both this species and *P. chlorolepidota* were previously recorded in Colombia by separate Cambridge University expeditions in the 1990s, to what were then largely unstudied regions. Both species have now been reconfirmed by field researchers and birding tours to regions which have more been "out of bounds" for a long time.

Yellow-throated Tanager *Iridisornis analis*

In Donegan *et al.* (2015a), a photographic record by Delgado-C. *et al.* (2014) was accepted as the first confirmed record for Colombia. However, similar to Capuchinbird, it had wrongly been treated as confirmed and not "Obs".

Newly added subspecies

Foothill Elaenia *Myiopagis o. olallai*

As noted by Copete (2016b), the nominate subspecies of this flycatcher has been reported for the first time in Colombia, documented through sound recordings by Diego Calderón and Brayan Coral Jaramillo at Nuevo Mundo, Resguardo Indígena Jardín de la Sierra, Orito, Putumayo (XC322164-6, 322779) on 21-24 May 2016. These follow the discovery of a population in the Central Andes and Perijá range (Cuervo *et al.* 2008a, b) and Serranía de San Lucas, and the recent description of some of these northern populations as subspecies *coopmansii* (Cuervo *et al.* 2014).

Cocoa Thrush *Turdus fumigatus orinocensis*

Stiles & Beckers ([2016]) report Colombia's first record of this subspecies, again near Matraca on the border of the río Guaviare. There is a published photograph but no dates for the records are specified. Biomap Alliance Participants (2016) also report several specimens.

New subspecies records based on museum specimen data

Verhelst-Montenegro (2015) reported the following new subspecies for Colombia based on the museum specimen data of Biomap Alliance Participants (2016), although without *ex post facto* verification of the specimens concerned or studies of geographical variation. As a result of this method, a number of records are flagged for further investigation, whilst others where relevant records must presumably be of the subspecies concerned are accepted.

The following are accepted as subspecies present in Colombia (although not necessarily with the full distribution specified on specimen labels reported in the paper):

- Crested Bobwhite *Colinus cristatus barnesi*;
- Marbled Wood-Quail *Odontophorus gujanensis medius*;
- Squirrel Cuckoo *Piaya cayana circe*;
- Common Nighthawk *Chordeiles minor chapmani*;
- Blue-chinned Sapphire *Chlorestes notata obsoleta*;
- White-plumed Antbird *Pithys albifrons albifrons*;
- Rufous-capped Antthrush *Formicarius colma nigrifrons*;
- Streaked Tuftedcheek *Pseudocolaptes boissonneaui orientalis*;
- Rusty-winged Barbtail *Premnornis guttuliger venezuelanus*;
- Black-billed Treehunter *Thripadectes melanorhynchus melanorhynchus*;
- Rusty-backed Spinetail *Cranioleuca vulpina apurensis*;
- Pale-breasted Spinetail *Synallaxis albescens josephinae*;
- Pale-eyed Pygmy-Tyrant *Atalotriccus pilaris venezuelensis*;
- Red-eyed Vireo *Vireo olivaceus solimoensis*;
- Campina Thrush *Turdus (ignobilis) arthuri* (see below); and
- White-eared Conebill *Conirostrum leucogenys cyanochroum*.

The following subspecies reported for Colombia in the same study were not considered valid by Dickinson & Remsen (2013) and Dickinson & Christidis (2014), respectively:

- Barn Owl *Tyto alba hellmayri*; and
- Streaked Tuftedcheek *Pseudocolaptes boissonneaui oberholseri*.

The following subspecies were considered new records in Verhelst-Montenegro (2015) but have been considered to occur in Colombia by authors of other recent texts including data on subspecies distributions in Colombia:

- Red-rumped Woodpecker *Veniliornis kirkii continentalis* (McMullan & Donegan 2014);
- White-crested Elaenia *Elaenia albiceps chilensis* (see McMullan & Donegan 2014, Dickinson & Christidis 2014);
- Common Bush-Finch *Chlorospingus flavopectus phaeocephalus* (McMullan & Donegan 2014);
- Hooded Tanager *Nemosia pileata nana* (McMullan & Donegan 2014);
- Ruddy-breasted Seedeater *Sporophila minuta centralis* (Dickinson & Christidis 2014); and
- Palm Warbler *Setophaga palmarum palmarum* (McMullan & Donegan 2014).

McMullan & Donegan (2014)'s subspecies maps represent only a preliminary attempt at depicting the textual subspecies range descriptions of the *Handbook of the Birds of the World* series, Dickinson & Remsen (2013), Dickinson & Christidis (2014) and other authors. Despite this, the following reported new subspecies require further study of specimens and geographical variation prior to acceptance for Colombia on account of previously reported subspecies distributions:

- Lesser Nighthawk *Chordeiles acutipennis micromeris*;
- White-collared Swift *Streptoprocne zonaris albicincta*;
- Brown Jacamar *Brachygalba lugubris obscuriceps*;
- Barred Forest-Falcon *Micrastur ruficollis concentricus*;
- Black-faced Antthrush *Formicarius analis zamorae*;
- Chestnut-crowned Antpitta *Grallaria ruficapilla nigrolineata*;
- Ocellated Tapaculo *Acropternis orthonyx infuscatus*;
- Bar-bellied Woodcreeper *Hylexetastes stresemanni stresemanni*;
- Fork-tailed Flycatcher *Tyrannus savana circumdatus*;
- Short-crested Flycatcher *Myiarchus ferox australis*; and
- White-necked Thrush *Turdus albicollis spodiolaemus*.

BirdLife Checklist Splits and Lumps: the Parrots

As discussed in Donegan *et al.* (2015a), del Hoyo & Collar (2014) split or lumped a number of non-passerine species based on the "species scoring system" of Tobias *et al.* (2010). In our last paper, we considered most of these new taxonomic proposals in detail for species occurring in Colombia. In light of criticisms of del Hoyo & Collar (2014)'s taxonomy (Remsen 2015, Bakker 2015, Sangster 2015), rather than adopt all the changes

wholesale, we considered proposed splits or lumps for various species which occur in Colombia in detail. Parrots (Psittaciformes) were pended until this year, owing to the large number of new taxonomic proposals that needed considering. These were also pended due to the difficulty of mist-netting this group, which limits our own personal data and photographic records, and a wish on our collective part to carry out a more in-depth study of specimens, which was done at the American Museum of Natural History, New York, USA (hereafter, AMNH).

In the accounts below, the diagnostic features of species recognised by del Hoyo & Collar (2014) are denoted by referring to the scores given in their assessments. Further information on the scoring system should be reviewed in Tobias *et al.* (2010) and del Hoyo & Collar (2014).

Initial observations on parrot taxonomy and comparator sympatric groups

In our previous study, we concluded that bird species in some families show different levels of within-species and between-species variation to others (Donegan *et al.* 2015a), meaning that Tobias *et al.*'s (2010) universal test of species may not always be apt. In parrots, particularly, voice is a less useful character. Human experience of domesticating parrots has demonstrated voice to be learned, not innate, and potentially highly variable even within an individual (never mind a species). There are relevant molecular studies published in relation to three of the groups split by del Hoyo & Collar (2014) which we consider here (Russello & Amato 2004, Wenner *et al.* 2012, Smith *et al.* 2013). Other molecular studies to date on Neotropical species have focused on higher level taxonomy (de Kloet & de Kloet 2005, Tavares *et al.* 2004, 2006, Wright *et al.* 2008, Schirtzinger *et al.* 2012), different genera to those studied here (Eberhard & Bermingham 2005, Kirchman *et al.* 2012) or species limits and population level issues in different species (e.g. Eberhard & Bermingham 2004, 2005, Ribas *et al.* 2005, 2006, 2007, 2009, Ribas & Miyaki 2004, 2007). As a result, a detailed review of specimens seemed in order.

All the parrot species newly recognised by del Hoyo & Collar (2014) and discussed here are allopatric. It is not possible to test in the field whether they interbreed. For such populations, it is important to consider the differentiation observed between other parrot species pairs which occur in sympatry. If the differences observed between such species are equivalent to those between allopatric populations, then the allopatric populations can confidently be split (cf. Helbig *et al.* 2002, Remsen 2005). This was the approach we adopted in Donegan *et al.* (2015a) to the non-passerine groups assessed therein. Among the least-perceptible differences between sympatric



Figure 1. Specimens of male Blue-winged Parrotlet *F. xanthopterygius* (left two birds) and Dusky-billed Parrotlet *F. modestus* (right two). (i) AMNH 819833 (Luisiana, río Apurimac, dpto. Cuzco, Peru); (ii) AMNH 781785 (as above); (iii) AMNH 145928 (Astrillero, SE Peru); (iv) AMNH 185214 (San José abajo, Ecuador).



Figure 2. Specimens of female Blue-winged Parrotlet *F. xanthopterygius* (left two birds) and Dusky-billed Parrotlet *F. modestus* (right two). (i) AMNH 308984 (Santo Isidoro, Brazil); (ii) AMNH 281453 (Rosarinho, Rio Madeira, Brazil); (iii) AMNH 310240 (Rio Negro, Brazil); (iv) AMNH 18525 (San José abajo, Ecuador).

Neotropical parrot species occur in the genus *Forpus*. In Amazonia, the Blue-winged Parrotlet *F. xanthopterygius* and Dusky-billed Parrotlet *F. modestus* occur in broad sympatry (Erize *et al.* 2006, Schulenberg *et al.* 2007, Von Perlo 2009). The former was widely referred to as *F. crassirostris* in the past, until Whitney & Pacheco (1999), although Smith *et al.* (2013) suggest that *crassirostris* may require splitting once more.

Figures 1-2 show differences between specimens of these sympatric *Forpus* species. Males differ in the shade and extent of blue on the rump, the shade of green on the underparts, upper mandible coloration and the yellower face of *F. xanthopterygius*. Females differ principally in the more extensive yellow wash on the face of *F. modestus*, with very minor green shading differences also evident.

Another sympatric pair of parrots are the Scarlet Macaw *Ara macao* and Red-and-Green Macaw *Ara chloropterus*, which are (or used to be) sympatric over much of lowland South America. These differ principally in the yellow versus green wing coverts, speckled versus unspeckled face and overall shading of the red plumage.

In this section, we consider the plumage differences of parrots proposed for split treatment by del Hoyo & Collar (2014) in light of whether or not they exceed the differences shown between these sympatric populations in plumages.

Turquoise-winged Parrotlet *Forpus spengeli*
Blue-winged Parrotlet *Forpus xanthopterygius*

Having started with *Forpus* as a comparator, we first consider del Hoyo & Collar (2014)'s proposal (and that of

Bocalini & Silveira 2015) to separate the morphologically distinctive northern Colombian population *spengeli* from the Blue-winged Parrotlet *Forpus xanthopterygius* of Amazonia. This proposal has been accepted by Gill & Donsker (2016) but was rejected by Dickinson & Remsen (2013) and is yet to be considered by Remsen *et al.* (2016).

The Turquoise-winged Parrotlet had an interesting early history, being described twice by independent contemporaneous authors (Hartlaub 1885, Ridgway 1887). Both of them ranked what we now call *spengeli* as a species and neither of them considered it close enough to *F. crassirostris* or *F. xanthopterygius* to bear any discussion of its differences from these taxa in the diagnosis or discussion. Hartlaub (1885) instead noted that the wing coloration was close to that of Green-rumped Parakeet *Forpus passerinus* (then referred to as *passerina*) whilst the rump colour resembles that of Mexican Parrotlet *F. cyanopygius*. Ridgway (1887) distinguished his "*Psittacula exquisita*" again from *F. cyanopygius* and also from *guianensis* (which is now treated as a subspecies or synonym of *passerinus*). Species rank for *spengeli* was retained by Ridgway (1916, who recognised the synonymy of *exquisita*), Cory (1918) and other authors. Peters (1937) apparently first lumped *spengeli* with *xanthopterygius*. Other authors to have followed Peters (1937) in treating *spengeli* as a subspecies of Amazonian *xanthopterygius* or *crassirostris* include Hilty & Brown (1986), Forshaw (1989), Dunning (1987), Rodner *et al.* (2000), Salaman *et al.* (2001, 2008, 2009, 2010), Rodriguez-Mahecha & Hernández-Camacho (2002), Dickinson (2003), Restall *et al.* (2006), Erize *et al.* (2006), McMullan *et al.* (2010, 2011) and McMullan & Donegan (2014).

Alternative taxonomic proposals have arisen in more recent literature. Juniper & Parr (1998) suggested again that *spengeli* may be more closely related to *F. cyanopygius* or may be a different species. Smith *et al.* (2013) found *spengeli* to be embedded in their phylogeny within Green-rumped Parakeet *Forpus passerinus*, apparently being most closely related to Jamaican populations of that species in an mtDNA phylogeny and unrelated to *F. xanthopterygius*. However, these authors were unable to extract nuclear markers or therefore confirm the results with a different molecular marker and it is noteworthy that their molecular and combined trees for other taxa differed from the mtDNA tree in several respects. It is possible that *passerinus* and *spengeli* are closely related and recently diverged or that there has been relatively recent insertion of mtDNA between the two populations, owing to rare incidents of hybridisation and the proximity of their distributions. Further molecular research involving nuclear markers is needed. Lumping *spengeli* with *passerinus*, as done by Dickinson & Remsen (2013), would revert to a treatment previously adopted by Meyer de Schauensee (1964).



Figure 3. Male specimens of Turquoise-winged Parrotlet *Forpus spengeli* (left two birds) and Blue-winged Parrotlet *Forpus xanthopterygius* (right two birds). (i) AMNH 474924 (formerly a captive bird, Tring aviary, UK); (ii) AMNH 133024 (La Playa, Baranquilla, Colombia); (iii) AMNH 208980 (Santo Isidoro, Brazil); (iv) AMNH 474872 ("Camp. wood", Peru).



Figure 4. Female specimens of Turquoise-winged Parrotlet *Forpus spengeli* (left two birds) and Blue-winged Parrotlet *Forpus xanthopterygius* (right two birds). (i) AMNH 833893 (Calamar, Colombia); (ii) AMNH 44610 (Cartagena, Colombia); (iii) AMNH 308983 (Santo Isidro, Ecuador); (iv) AMNH 279076 (Rio Madeira, Brazil).



Figure 5 (left). Male specimens of Green-rumped Parakeet *F. passerinus* (left two birds) and Turquoise-winged Parrotlet *Forpus spengeli* (right two birds). (i) AMNH 474938 (plain of Cumaná, Venezuela), (ii) AMNH 150195 (El Cuji, Lara, Venezuela); (iii) AMNH 133023 (La Playa, Baranquilla, Colombia); (iv) AMNH 133024 (as previous).



Figure 6 (above). Female specimens of *F. passerinus* (left two) and *F. spengeli* (right two). (i) AMNH 474946 (Altagracia, Venezuela); (ii) AMNH 474945 (as previous); (iii) AMNH 44610 Cartagena; (iv) AMNH 833893 (Calamar, Colombia).

Males of *spengeli* differ strikingly from *xanthopterygius* in the shade of blue on the wings and rump, the extent of blue on the wings (restricted to the coverts in *spengeli*) and minor differences in green shading (Fig. 3). Females differ, similarly to *modestus* versus *xanthopterygius*, in the extent of yellow on the face and shade of green on the body (Figs. 4, 7). Del Hoyo & Collar (2014) scored

rump coloration (3), wing coloration (2) and the yellow head of the female (2), which is conservative. Additional scores could be considered for some of the other differences highlighted here. These differences are in similar features to those by which sympatric *F. modestus* and *F. xanthopterygius* differ from one another, but the extent of differentiation in the shade and pattern of blue feathering in males is more dramatic. In terms of habitat usage, *Forpus spengeli* is restricted to more arid habitats near the coast, whilst *F. xanthopterygius* is a humid Amazonian forest species. Finally, molecular data (Smith *et al.* 2013) demonstrate no sister relationship between *spengeli* and *xanthopterygius*. As a result, the separation of *spengeli* from *F. xanthopterygius* is supported by multiple lines of evidence.



Figure 7. Close-up showing differences in female head coloration between Turquoise-winged Parrotlet *Forpus spengeli* (AMNH 833893, left) and Blue-winged Parrotlet *Forpus xanthopterygius* (AMNH 279076, right).

More difficult to evaluate as an alternative to species rank is the recent proposal to treat *spengeli* as a subspecies of Green-rumped Parakeet *F. passerinus* of the Guajirá peninsula in Colombia and Venezuela eastwards (Smith *et al.* 2013, Dickinson & Remsen 2013).

The differences in male plumages, particularly the rump and to a lesser extent wing coloration (Fig. 5), are striking. Comparing specimens of Venezuelan populations attributed to subspecies *viridissima*, which were available for direct comparison, differences are not just in rump coloration. There are also differences in the shade of green on the crown and sides of the head, which is yellower in *spengeli*, the base coloration to the underparts, which is greyer in *spengeli*, the wing markings, which are more extensively marked in *spengeli* and bluer, as well as the tail, which is paler green below the blue rump in *spengeli*, and the carpal and underwing, which are bluer in *spengeli*. Females are similar to one another, but *spengeli* has more extensive yellow

feathering in the face, particularly in the region proximate to the lower mandible (Figs. 6, 8).

These populations are close to sympatric with respect to one another in northern Colombia. Todd & Carriker (1922) and Hilty & Brown (1986) considered *spengeli* to occur east to the western Santa Marta region, with *passerinus* replacing this species on the southern and eastern flanks of Santa Marta. A specimen of *spengeli* from Sevillano, Ciénaga, Magdalena (Museum of Comparative Zoology no. 141863), near the west base of Santa Marta, appears normal for *spengeli*. Darlington (1931) set out details of observations of *F. spengeli* from the semi-arid plains of Ciénaga and Aracataca to the west of Santa Marta and the species was also reported at Ciénaga by Moreno-Bejarano & Álvarez-León (2006). These observations are supported by specimens (Carnegie Museum 3545: Darwin Alliance Participants 2016). Specimen data suggests that *F. passerinus* have also been collected in Ciénaga municipality (Darwin Alliance Participants 2016) and there is another series from Fundación, Magdalena (all at the Carnegie Museum), but these seem to be misidentified based on Todd & Carriker (1922). Darlington (1931) noted the preference of *spengeli* for open woodland and shrubs, as did Todd & Carriker (1922) as regards *passerinus*.



Figure 8. Turquoise-winged Parrotlet *Forpus spengeli*. January 2015, south dpto. Magdalena. Trevor Ellery.

Darlington (1931) further noted that as one enters into the Santa Marta range, *spengeli* becomes rarer in the more humid and dense forests there. This is consistent with our observations. *Forpus spengeli* is most frequently found in the Ciénega "hinterlands" – San Basilio and to the west. It seems to prefer arid, dry savannah habitats inland from the Ciénega and is rare on the coastal strip. It can sometimes occur near the coast but Orange-chinned Parakeet *Brotogeris jugularis* and Brown-throated Parakeet *Aratinga pertinax* dominate there. Several other bird species distributions seem to peter out in the region just west of Santa Marta. For example, Bronze-brown Cowbird *Molothrus armenti* is not seen east of Salamanca and Chestnut-winged Chachalaca *Ortalis garrula* has not been seen far east of Santa Marta. *Forpus spengeli* seems to occur south and east of Baranquilla and Ciénega but not actually near Baranquilla itself or to the west.

Forpus passerinus in contrast does seem to occur along the dryer coastal strip east of Santa Marta towards Tayrona National Park, but peters out some way to the east of there. It is common in the Guajira peninsula but becomes less common as the humid zone takes over west along the coast. What is more interesting is the situation around Valledupar – many Guirja birds occur all the way down the valley to Valledupar, including *Forpus passerinus*. The dry savannah habitat that these parrots prefer extends east to west pretty much consistently from Cartagena to south of Valledupar. However, these habitats to the south-west of the Santa Marta mountains have not been studied, either historically or recently to our knowledge. Clearly *spengeli* could occur well to the east and a contact zone is possible. It is certainly not clear what ecological barriers would separate the species in the areas south of the Sierra and to the south of Valledupar.

Todd & Carriker (1922) reported Colombian subspecies *cyanophanes* to have more extensive blue markings on the wing than *passerinus* and that Fundación specimens of *spengeli*, from near the south-western foothills of Santa Marta, have reduced blue on the wing compared to those from Ciénega, which is <50 km away. Todd & Carriker (1922) refer only to *spengeli*'s slightly smaller size; any female *Forpus* is doubtfully separable in the field (Hilty & Brown 1986). The results of the mitochondrial DNA study could be explained by rare gene flow between the *cyanophanes* subspecies of *passerinus* and *spengeli*, perhaps to the south of the Santa Marta mountains, where known populations are distributed at most 50 km from one another, a short distance for strong-flying birds like *Forpus*. Perhaps some hybridisation occurs eventually, but to date there are no photographs or specimens from the region where the two may come into contact. What we do know is that *passerinus* and *spengeli* maintain their plumage differences despite a lack of obvious barriers to their sympatry.

The near-sympatry in northern Colombia and striking male plumage differences (clearly on a par with that shown between sympatric *Forpus*) make us reluctant to lump *spengeli* with *passerinus*. We therefore provisionally accept this proposed split, although we appreciate that those who place a greater emphasis on molecular rather than morphological characters and distributions may disagree with this approach.

Chocó Parakeet *Pyrrhura pacifica*

Maroon-tailed Parakeet *P. melanura*

Upper Magdalena Parakeet *Pyrrhura chapmani*

Chocó Parakeet *P. pacifica* occurs in the Colombian and Ecuadorian Chocó. Under del Hoyo & Collar (2014)'s arrangement, Maroon-tailed Parakeet *P. melanura* occurs in Amazonia and the upper Magdalena valley. Historically, (e.g. Cory 1918) *pacifica* has been lumped with *melanura*, including since the original description, although other forms such as *souancei* and *berlepschi* were described as species and treated as such by Cory (1918). Several previous authors have attempted to split these species, e.g. Juniper & Parr (1998), Salaman *et al.* (2001) and Restall *et al.* (2006). Ridgely & Greenfield (2001) noted that *pacifica* "may deserve species status", considering it to be "very distinct" in its shorter tail and grey, not white, eye ring. Rodner *et al.* (2000) also noted that this and some other forms may represent separate species, citing Juniper & Parr (1998). However, most authors lump them with *melanura* (Hilty & Brown 1986, Fjeldså & Krabbe 1990, Rodríguez-Mahecha & Hernández-Camacho 2002, McMullan *et al.* 2010, 2011, Dickinson 2003, Dickinson & Remsen 2013, McMullan & Navarrete 2013, McMullan & Donegan 2014, Gill & Dinkser 2016, Remsen *et al.* 2016). Neither Dunning (1987) nor Erize *et al.* (2006) mapped the range of *pacifica*, but they had no separate account for it, whilst Salaman *et al.* (2008, 2009, 2010) omitted subspp. *pacifica* and *chapmani* due to errors in adding subspecies when lumping previously split taxa to follow Remsen *et al.* (2016). Previous molecular studies (Ribas *et al.* 2006) have only sampled Amazonian populations.

Remsen *et al.* (2016, Proposal 2016) rejected a proposal to split *pacifica*, although apparently largely motivated by semantic issues related to commentary on biogeographical and geological matters in the proposal. Donegan in Remsen *et al.* (2016) provided provisional data available to us, commenting that "*pacifica* is geographically isolated from other populations and separated by the Andes in one of its highest parts. It occurs only in southwestern Colombia and is not found in the Cauca or Magdalena valleys. Most of the rest of the group occurs east of the Andes. However, ... subspecies *chapmani* ... occurs in the southern Central Andes (so 'west of the Andes') but close to the Amazonian distribution of *melanura* and subspecies *souancei* of the Colombian east slope ... at higher elevations than *melanura*. The distribution and plumages of this group in



Figure 9, first part. Photographs of specimens of (left to right) three Pacific Parakeets *Pyrrhura pacifica*, two Upper Magdalena Parakeets *Pyrrhura chapmani* and three Maroon-tailed Parakeets *P. melanura*. For details, see below caption.



Figure 9, cont'd. Photographs of specimens of (left to right) three Pacific Parakeets *Pyrrhura pacifica*, two Upper Magdalena Parakeets *Pyrrhura chapmani* and three Maroon-tailed Parakeets *P. melanura*. (i) AMNH 156769 (Huilca, Ecuador); (ii) AMNH 117617 (Buenavista, Nariño, Colombia, paratype); (iii) AMNH 117616 (as previous); (iv) AMNH 115770 (La Candela, Huila, Colombia, paratype), (v) AMNH 115772 (as previous); (vi) AMNH [full no. not noted, starts 4340] (rio Vaupés, Colombia) (subsp. *melanura*), (vii) AMNH [full no. not noted, ends 878] (Amazonas, Ecuador) (subsp. *souancei*); (viii) AMNH 474719 (Loreta, Peru) (subsp. *berlepschi*, paratype).

Colombia are well-summarised in [Rodríguez & Hernandez (2002)]. Subspecies *melanura* has extensive mottling on the upper breast; *pacifica* has much reduced speckling, and in *chapmani* the speckling extends to a nuchal collar. The plate in [Restall *et al.* 2006] somewhat exaggerates the darkness of the orbital ring of *pacifica*, as can be seen in photos from the ... ProAves database. ... Any consideration of this group probably needs also to consider the correct placement of other subspecies, particularly *chapmani* ... [A] more detailed analysis including a consideration of voice, biometrics and molecular data of the whole group is needed to take this one forwards, in light of the lack of vocal differences and puzzling distributions. The proposal to split *pacifica* may well be correct as part of dealing with this group, but such a treatment may be an incomplete and overly simplified approach.”

Del Hoyo & Collar (2014) noted that *P. pacifica* differs from *P. melanura* in its blackish vs white eyering (3); green vs blackish forehead (2); shorter wing and much shorter tail, albeit based on n=3 in AMNH (mean 96 vs 118) (allow 2).

We examined the series of *Pyrrhura* at AMNH, including the specimens shown in Fig. 9. We concur with the description of differences between *pacifica* and *melanura* set out in del Hoyo & Collar (2014). We also noted one further difference: *pacifica* has greener primaries than some other populations in Colombia and Ecuador (although Peruvian Amazon populations veer towards *pacifica* somewhat in this respect).



Figure 10. Maroon-tailed Parakeet *P. melanura*. San José del Guaviare, Meta. Oswaldo Cortés.

The Huila population, *chapmani*, emerges as an even stronger candidate for species rank from our review of specimens, based on plumage differences. It has the bluest primaries of all *melanura* group populations (2), a darker head than all the other populations (2), a more extensive buffy nuchal region (3) and more extensive mottling on the breast (ns1). Ridgely & Robbins (1989) also noted that *chapmani* is the largest of all forms of the broader *melanura* (allow 2 for wing length and 2 for tail length). Subspecies *chapmani* occupies different habitats to the other taxa, at high elevations in the less humid upper Magdalena valley (at 1600-2800 m elevation: Ridgely & Robbins 1989, Rodríguez-Mahecha & Hernández-Camacho 2002) rather than (principally) low elevations in humid forest and adjacent upslope regions (2). The plumage differences between *chapmani* and other taxa in our view exceed those between *pacifica* and *melanura*, as do biometric differences, mandating species rank for *chapmani* under the Tobias *et al.* (2010) scoring system. This represents a partial return to the taxonomy of Juniper & Parr (1998) and Salaman *et al.* (2001), who split both *pacifica* and *chapmani* (although these authors also split *souancei*) and is consistent with Ridgely & Robbins (1989)'s findings that *chapmani* and *pacifica* represent distinctive populations, whilst other subspecies in this group are weakly differentiated.

Illustrations of subspecies in del Hoyo & Collar (2014) appear to be somewhat misleading, with *chapmani* showing an orange (not buffy) cheek patch and primaries which are too green. In contrast, *berlepschi* is shown as being more different than it really is, with more grey on the head than shown in specimens we have studied, and differences in mantle coloration, when no members of the *melanura* group seem to differ in this aspect. The illustration in Schulenberg *et al.* (2007) is more accurate. Pacific Parrotlet is moreover depicted as having darker base coloration, when this is really just an artefact of its less extensive mottling (Figs. 9, 11).

This is the sort of group where the species scoring system of Tobias *et al.* (2010) is probably well-suited to dealing with a taxonomic controversy – in a group like parrots where voice is unhelpful and there are substantial but borderline plumage differences. The differences between *pacifica*, *chapmani* and *melanura* seem just about sufficient in the context of sympatric parrots and this genus in particular. We therefore propose the following new sequence for these birds:

1. Pacific Parakeet *Pyrrhura pacifica*. Monotypic. Chocó of Ecuador and Colombia
2. Upper Magdalena Parakeet *Pyrrhura chapmani*. Monotypic. Upper Magdalena valley in Huila.
3. Maroon-tailed Parakeet *P. melanura* (including subspecies *souancei* and *berlepschi*) of Amazonia.

Newly recognised *chapmani* should become a conservation priority, as it is restricted to forest across a small range that has undergone significant deforestation. While it is known from just a few localities, thankfully there are recent records in xeno-canto from two nature reserves in Huila.

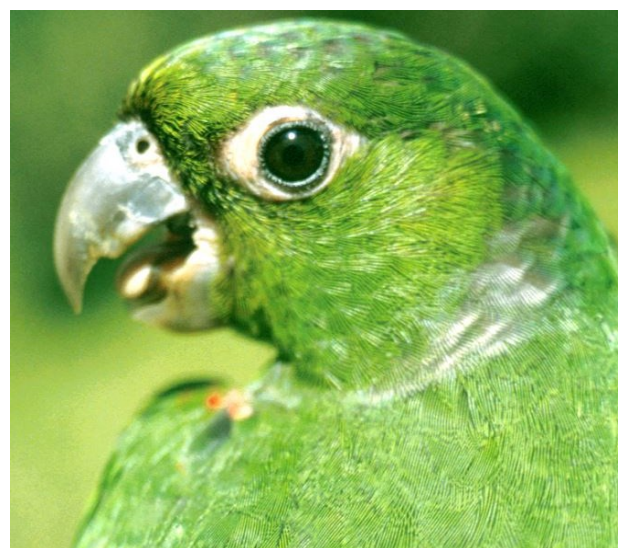


Figure 11. Pacific Parakeet *P. pacifica*. RNA Pangan, Paul Salaman.

Scarlet-fronted Parakeet *Psittacara wagleri* Cordilleran Parakeet *P. frontatus*

Scarlet-fronted Parakeet *Psittacara wagleri* is found in the Colombian Andes, Santa Marta mountains, the Venezuelan Andes and other mountains in Venezuela. The Cordilleran Parakeet *P. frontatus* does not occur in Colombia, being found in the Andes of southernmost Ecuador and Peru, so this split would involve separating an extralimital population for Colombia. Cordilleran Parakeet has historically been considered a separate species (e.g., Cory 1918, Carriker 1933). Some authors (Sibley & Monroe 1990, Rodner *et al.* 2000, Ridgely & Greenfield 2001, Restall *et al.* 2006) have mooted a possible split, the latter noting that *frontatus* (with *minor*) “is perhaps better regarded as a full species”. However,



Figure 12. Scarlet-fronted Parakeet *Psittacara wagleri* (left three) and Cordilleran Parakeet *P. frontatus minor* (right three). (i) AMNH 474367 (Camaná, Venezuela) (subspecies *transilis*); (ii) AMNH 108752 (Palmira, Cauca, Colombia); (iii) AMNH 133010 (Alto Bonito, Antioquia, Colombia) (*wagleri*); (iv) AMNH 803056 (Peru); (v) AMNH 170919 (Loja, Ecuador); (vi) AMNH 156318 (San Lucas, Ecuador).

it was treated as conspecific by Peters (1937) and this has been widely followed, including by the authors cited above and others (e.g. Meyer de Schauensee 1964, Hilty & Brown 1986, Forshaw 1989, Fjeldsá & Krabbe 1990, Rodríguez-Mahecha & Hernández-Camacho 2002, Dickinson 2003, Erize *et al.* 2006, Restall *et al.* 2006, Schulenberg *et al.* 2007, Remsen *et al.* 2016, McMullan *et al.* 2010, 2011, Dickinson & Remsen 2013, McMullan & Navarrete 2013, McMullan & Donegan 2014, Gill & Donsker 2016, Remsen *et al.* 2016).

Cordilleran Parakeet was considered by del Hoyo & Collar (2014) to differ from Scarlet-fronted Parakeet in its "large white vs fairly small dull grey periorbital patch (3); pale grey vs dark brownish iris (2); red on crown running from just above commissure (so including lores) back to meet periorbital ring vs running from above green lore back to above periorbital ring (leaving supercilium green) (2); more red on carpal area (ns[2]); considerably larger size (even when including the smaller *minor*) (on basis of published values [in Forshaw 1989] at least 2); habitat consisting of dry forest and open country vs moist and humid forest (1) [Forshaw 1989]. " The two are allopatric, with a distribution gap from southern Colombia to southern Peru. This is indicative of two populations with different habitat or ecological requirements. These differences are supported by our study and are striking, even when comparing the smaller of the *frontatus* subspecies (Fig. 12).

Further study is needed in relation to the ranges of the two currently recognised subspecies of *P. frontatus* which result from this re-arrangement. Widespread errors are evident from the literature, based on our brief review of AMNH specimens. These subspecies differ considerably from one another in size (Fig. 13), as discussed further by Carriker (1933) in the description of *minor*. According to Forshaw (1989), Fjeldsá & Krabbe (1990), Ridgely & Greenfield (2001), Dickinson & Remsen (2013) and del Hoyo & Collar (2014), *minor* occurs in inter-Andean valleys of North and South-Central Peru, whilst the nominate form occurs from Loja in Ecuador south to Tacna in South Peru. However, specimens at AMNH include smaller individuals, best referred to as *minor*, from Loja in Ecuador. Specimens at AMNH attributable to the larger nominate form *frontatus* are from Huaricanga on the coast north of Lima. Carriker (1933) compared *frontatus* specimens only from the Pisco valley (Dept. Ica) and upper Santa valley (Libertad), treating *frontatus* as a species of the "coastal valleys". His type locality for *minor* was in the Marañon valley of Peru. These two taxa seem more likely to replace one another on a N/S basis, with *frontatus* restricted to the coastal range of Peru. The status of inter-Andean populations in Cuzco was not investigated here.



Figure 13. Cordilleran Parakeet *P. frontatus* subspecies (left two: subsp. *minor*; right two: nominate subsp.). (i) AMNH 803056 (Peru); (ii) AMNH 170919 (Loja, Ecuador); (iii) AMNH 461750 (Huaricanga, Pativilca valley, Peru); (iv) 461571 (as above).



Figure 14. Scarlet-fronted Parakeet *Psittacara wagleri*. RNA El Dorado, Santa Marta, Colombia. Oswaldo Cortés.

Red-lored Amazon *Amazona autumnalis*

Lilacine Amazon *A. lilacina*

[Diademed Amazon *A. diadema*]

Proposed split *lilacina* occurs in the Ecuadorian Chocó, including close up to the border in Colombia. Widespread *autumnalis* is the only species confirmed to occur in Colombia. There are no records of *lilacina* in Reserva Natural de Aves Pangan, for example (Salaman *et al.* 2010). It might occur in the mangroves and lowland forests south of the coastal city of Tumaco in Nariño and should be searched for there, but no records exist to date to our knowledge.

Subspecies *lilacina* and *diadema* were both originally described as separate species and considered separate species from *Amazona autumnalis* by several early authors (e.g., Cory 1918), but Peters (1937) treated them as conspecific. This lump has been widely followed (Meyer de Schauensee 1964, Hilty & Brown 1986, Sick 1993, Dunning 1987, Forshaw 1989, Ridgely & Gwynne 1989, Howell & Webb 1995, Rodner *et al.* 2000, Rodríguez-Mahecha & Hernández-Camacho 2002, Dickinson 2003, Russello & Amato 2004, Erize *et al.* 2006, Van Perlo 2009, Dickinson & Remsen 2013, McMullan & Navarrete 2013). Ridgely & Greenfield (2001) referred to *diadema* as a separate species but did not provide any detailed justification for this and did not split *lilacina*, so this may have been just a typo. Collar (1997) and Restall *et al.* (2006) noted that *lilacina* and *autumnalis* may represent different species, but they have not been split in a recent publication until Del Hoyo & Collar (2014).

Russello & Amato (2004) sampled *lilacina* and *autumnalis*, finding these to have strong support as sisters, with low differentiation (*c.*0.002 substitutions/site), but they did not sample *diadema*.

Del Hoyo & Collar (2014) considered *lilacina* to differ from *autumnalis* in its "all-black upper mandible (2), red of forecrown continuing over the eye (2); lilac of crown not extending onto nape (2); paler, clearer green cheek (ns[1]); possibly no red on chin (ns[1]); narrow, sharp edges of wing-coverts and flight-feathers (ns[1]); retiring, non-aggressive behaviour (quite different at least from *autumnalis*) (ns[1]); smaller bill (... 1)." An unpublished recent taxonomic study included in a PhD thesis (Pilgrim 2010) also apparently supports species rank.

According to del Hoyo & Collar (2014), the isolated Brazilian Amazon population *diadema* differs in having nares which are covered in red feathers (not naked), with the rest of the red patch on its face sharply delineated to form a distinct rectangle, allowing extension of blue from the crown (3), powdery dorsum, like *farinosa* (1), lower mandible black but upper mandible pale below nares (2), with head flatter and longer in lateral profile (1).



Figure 15. Red-lore Parrots. From left to right: Diademed Parrot *A. diadema*, Lilacine Parrot *A. lilacina* and three Red-lore Parrots *A. autumnalis*. (i) AMNH 475284 (Brazil); (ii) AMNH 475281 (no locality data); (iii) AMNH 133039 (subsp. *salvini*, Antioquia, Colombia); (iv) AMNH 44629, (subsp. *salvini*, Panama); (v) AMNH 326039 (subsp. *autumnalis*, Honduras).



Fig. 15 cont'd. Red-lored Parrots. From left to right: Diademed Parrot *A. diadema*, Lilacine Parrot *A. lilacina* and three Red-lored Parrots *A. autumnalis*. (i) AMNH 475284 (Brazil); (ii) AMNH 475281 (no locality data); (iii) AMNH 133039 (subsp. *salvini*, Antioquia, Colombia); (iv) AMNH 44629, (subsp. *salvini*, Panama); (v) AMNH 326039 (subsp. *autumnalis*, Honduras).

We concur that *A. lilacina* is a quite different bird from both *diadema* and *autumnalis* (Fig. 15). It has virtually no blue on the crown but extensive yellowish-green plumage on the face and throat, carpal edgings and vent and a dark bill.

The split of *diadema* from *autumnalis* is less clear-cut. The more extensive blue scaling on the mantle of *diadema* is a noteworthy feature (Fig. 15), but the head patterning and overall coloration is more similar to *autumnalis*. The difference in nare feathering can be seen in online photographs of live birds but was not obvious in specimens we inspected. Differences in the shape of the red patch on the lores are less impressive when one considers variation in this feature both within *autumnalis* and between the nominate subspecies and *salvini*. It is not necessary for us to express any view on the rank of *diadema*, as it is extralimital as regards Colombia.

Northern Festive Parrot *Amazona bodini*

Southern Festive Parrot *A. festiva*

These are two riparian parrots. The northern form, *bodini*, is found in the Orinoco drainage, including in eastern Colombia. The more familiar *festiva* occurs in the Amazon drainage, including in eastern Colombia and along the Río Negro. The two taxa appear to be allopatric.

Northern *bodini* was originally described as a separate species from *A. festiva* (Finsch 1873) and treated specifically by several authors (Cory 1918), until Peters (1937) lumped them. Conspecific treatment has been widespread and essentially unchallenged subsequently (Meyer de Schauensee 1964, Hilty & Brown 1986, Dunning 1987, Forshaw (1989), Rodner *et al.* 2000, Salaman *et al.* 2001, 2008, 2009, 2010, Rodríguez-Mahecha & Hernández-Camacho 2002, Dickinson 2003, Restall *et al.* 2006, Erize *et al.* 2006, McMullan *et al.* 2010, 2011, Dickinson & Remsen 2013, McMullan & Donegan 2014, Remsen *et al.* 2016, Gill & Donsker 2016).

Del Hoyo & Collar (2014) cited *bodini*'s "green (not royal blue) outer vanes of primaries (3), powder-blue vs emerald green cheeks (2), multicolored crown beginning red and mottling to violet-blue and green vs red-fronted emerald-green crown with strong blue postocular patch (distribution of colours well-marshalled) (2)". This description rather understates and low-scores the differences in head and face plumage. The shade of green on the mantle and sharpness of supercilium can be added to the listed features (Fig. 16). Forshaw (1989) also reports 12 mm on average longer tails in male *bodini*. The differences between these birds are overall so impressive that we feel quite comfortable accepting this split based on plumage.



Figure 16. Males of (left) Northern Festive Amazon *A. bodini* (AMNH 475307, Altigracia, Orinoco, Venezuela) and (right) Southern Festive Amazon *A. festiva* (AMNH 230926, Puerto Inidiana, río Amazonas, Ecuador).

Southern Mealy Parrot *Amazona farinosa*

Northern Mealy Parrot *A. guatemalae*

These parrots have been widely lumped since Ridgway (1916), for example in Cory (1918), Meyer de Schauensee (1964), Hilty & Brown (1986), Dunning (1987), Forshaw (1989), Ridgely & Gwynne (1989), Howell & Webb (1995), Rodríguez-Mahecha & Hernández-Camacho (2002), Dickinson (2003), Restall *et al.* (2006), Erize *et al.* (2006) and Dickinson & Remsen (2013). Del Hoyo & Collar (2014) suggested separating Mealy Parrots across a divide in western versus eastern Panama. Colombian and other South American populations would remain known as *A. farinosa*. This split was previously proposed by Wenner *et al.* (2012)'s molecular study, who considered these populations to be 3.5–5.4% distinct in mtDNA and mutually monophyletic. This builds on the findings of Russello & Amato (2004), who also found considerable molecular differentiation between these populations. Gill & Donsker (2016) are among authors to have accepted this split.

Del Hoyo & Collar (2014) noted the following differences of *guatemalae*: "yellow vs red lower carpal edge (2); blue-suffused (or blue) crown with broader, more heavily streaked nape feathers forming frequently or usually ruffled ruff or cape [compared to a yellow crown in *farinosa*] (3); blackish vs pale bill (2); black bristles on nares more extensive, and black shaft streaks on face (lores to below eye) (ns[1]); less powdery plumage (ns[1]); more oblong, less circular and slightly less broad white eye-patch (mensural score: allow 1)".

In light of the molecular study and these differences, we accept this split.

Decisions pended

Del Hoyo & Collar (2014) split Sinu Parakeet *Pyrrhura subandina*, Perija Parakeet *P. caeruleiceps* and other taxa from Painted Parakeet *P. picta*. We have been unable as yet to make direct comparisons of specimens of these taxa, but note that these recommendations were based on those of Joseph (2002) and Joseph & Stockwell (2002).

Del Hoyo & Collar (2014) further split Black-legged Parrot *Pionites xanthomerius* (which occurs in Leticia, Amazonas) from Yellow-tailed Parrot *P. xanthurus* and Green-thighed Parrot *P. leucogaster*. These are currently lumped under *P. leucogaster*, which following this split would be restricted to southern and eastern Amazonia. As this species is so poorly known in Colombia, we make no comment.

Other splits

Santa Marta Wood-Wren *Henicorhina anachoreta*

Grey-breasted Wood-Wren *H. leucophrys*

We support this long-overdue split, based on Caro *et al.* (2013), Burbridge *et al.* (2015) and Cadena *et al.* (2015). Remsen *et al.* (2016) and Gill & Donsker (2016) have both accepted this taxonomic separation.



Figure 17. Santa Marta Wood-Wren *Henicorhina anachoreta*. Reserva Natural de Aves El Dorado. Oswaldo Cortés.

It would be good to see a broader revision of Colombian *Henicorhina*, involving molecular and vocal analyses. Clearly, White-breasted Wood-Wren *H. leucosticta* comprises multiple species in Colombia, with populations of the northern Chocó, western lowlands and eastern Colombia each doubtless ultimately requiring treatment in different species (Smith *et al.* 2014). Grey-breasted Wood-Wren *Henicorhina leucoprphys* itself includes at least one other strong candidate for species rank in Colombia (*brunneiceps*, which is near-sympatric with respect to the nominate subspecies in the West Andes: Salaman *et al.* 2003) and includes other undescribed subspecies (Donegan & Salaman 2014).

Lesser Elaenia *Elaenia chiriquensis*
Coopmans' Elaenia *E. brachyptera*

We recognize the split of *E. brachyptera*, which occurs on Andean slopes close to the equator in the Chocó and east slope, from widespread lowland *E. chiriquensis*, which occurs in eastern and northern Colombia. This is based on Rheindt *et al.* (2015). Remsen *et al.* (2016) and Gill & Donsker (2016) have each already accepted this split also.

Black-billed Thrush *Turdus ignobilis*
Campina Thrush *Turdus arthuri*
"Varzea Black-billed Thrush" *Turdus debilis*

We confidently split these three species, based on the convincing analyses of Cerqueira *et al.* (2016). All three species are considered to occur in Colombia by these authors, with *T. ignobilis* widespread in the Andes, *T. arthuri* rare in easternmost Colombia and *T. debilis* in southern Amazonia. The form *arthuri* is known from ten specimens in Colombia (Verhelst-Montenegro 2015). Cerqueira *et al.* (2016) understate the range of *ignobilis*, which extends north to Serranía de San Lucas (Donegan 2012). Gill & Donsker (2016) have proposed "Amazonian Thrush" or "Hellmayr's Thrush" for *debilis*. We prefer the former. As other species are named "Varzea Thrush" and "Black-billed Thrush", Cerqueira *et al.* (2016)'s proposed name of "Varzea Black-billed Thrush" for *debilis* is confusing and better avoided.



Figure 18. Black-billed Thrush *T. ignobilis*. Soatá, Santander. September 2010. Oswaldo Cortés.

Genus names, linear order, spellings, English names and pended proposals

The following changes to names and orders, which are either under consideration or have been accepted by Remsen *et al.* (2016), are relevant to Colombia and adopted here. Proposal numbers and, where appropriate, key references supporting these changes are cited below:

- 648B. Revise the classification of the Phalacrocoracidae: linear sequence (Remsen) (Kennedy & Spencer 2014).
- 675. Change South American siskins from the genus *Sporagra* to the genus *Spinus* (Beckman & Witt 2015).
- 683. Change the English name of *Gallinago jamesoni* (J.V. Remsen).
- 685. Modify linear sequence of (A) genera and (B) species in Conopophagidae (Batalha-Filho *et al.* 2014).
- 688. Rearrange linear sequence of species in *Celeus* (Picidae) (Benz & Robbins 2011).
- 703. Elevate Steatornithidae and Nyctibiidae to rank of Order (Prum *et al.* 2015).
- 705. Correct the scientific names of (A) *Leptotila cassini* and (B) *Amazilia saucerrottei* based on evidence in the original descriptions (R. T. Chesser).
- 706. Change the linear sequence of genera in the family Odontophoridae (Hosner *et al.* 2015).
- 713. Merge *Pseudoscops clamator* into *Asio* (Wink *et al.* 2009).
- 725. Change the spelling of *Porphyrio martinicus* to *Porphyrio martinica* (Schodde & Bock 2016).

Table 1. Summary of changes resulting in changes of numbers of species in particular categories and new species total. For key to codes used in header, see Donegan *et al.* (2016).

Change	Species	Conf.	Obs.	Obs Bog	SA.	SA Obs	Obs+	Bog	Ext	Int	Int Obs	Esc	Esc Obs	Total
Feb 2016 Checklist totals		1,845	44	1	12	7	3	4	1	3	1	[9]	[7]	[1,937] 1,921
Species added	Little Chachalaca <i>Ortalis motmot</i>		+1											
	Rufous headed Woodpecker <i>Celeus spectabilis</i>	+1												
	Western Striolated Puffbird <i>Nystalus obamai</i>	+1												
	Orinoco Softtail <i>Thripophaga cherriei</i>	+1												
	Beautiful Treerunner <i>Margarornis bellulus</i>							+1						
	Cocha Antshrike <i>Thamnophilus praecox</i>	+1												
	Foothill Schiffornis <i>Schiffornis aenea</i>		+1											
	Buff-throated Tody-Tyrant <i>Hemitriccus rufigularis</i>		+1											
Splits	Turquoise-winged Parrotlet <i>Forpus spengeli</i>	+1												
	Maroon-tailed Parakeet <i>Pyrrurha melanura</i>	+1												
	Upper Magdalena Parakeet <i>Pyrrurha chapmani</i>	+1												
	Northern Festive Parrot <i>Amazona bodini</i>	+1												
	Santa Marta Wood-Wren <i>Henicorhina anachoreta</i>	+1												
	Coopmans' Elaenia <i>Elaenia brachyptera</i>	+1												
	Campina Thrush <i>Turdus arthuri</i>	+1												
	Amazonian Thrush <i>Turdus debilis</i>	+1												
Changes of status	White-winged Dove <i>Zenaida asiatica</i>	+1			-1									
	Fiery-throated Fruiteater <i>Pipreola chlorolepidota</i>	+1	-1											
Overall Change since 2014 Checklist		+14	+2	-	-1	-	-	+1	-	-	-	-	-	
New totals per category 2015		1,859	46	1	11	7	3	5	1	3	1	[9]	[7]	[1,953]
Less escaped species														[-16]
TOTAL FOR COLOMBIA														1,937

The following proposals are already addressed in other sections of this paper:

679. Recognize *Nystalus obamai* as a species (Whitney *et al.* 2013).
686. Treat *Elaenia brachyptera* as a separate species from *Elaenia chiriquensis* (Rheindt *et al.* 2015).
700. Elevate *Henicorhina leucophrys anachoreta* to species rank (Cadena *et al.* 2015).
701. Choose English names for splits from *Nystalus striolatus* (K. Zimmer).
708. Add *Zenaida asiatica* (White-winged Dove) to main SACC list (Strewe *et al.* [2016]).

The following were accepted or proposed in Donegan *et al.* (2011, 2009 and 2015), respectively:

695. Add *Bangsia arcaei* to the Main List (Ruiz-Ovalle & Hurtado-Guerra 2010, 2014).
704. Transfer *Saltator* and *Saltatricula* from Incertae Sedis to Thraupidae (Burns *et al.* 2014).
707. Treat Caribbean Coot *Fulica caribaea* as conspecific with American Coot *F. Americana*.

The following more controversial or recent proposals are pending:

628. Reassign species currently placed in *Myrmeciza* into 12 genera (Isler *et al.* 2013) (part G only).
702. Change hyphenated group-names within the genera *Pseudotriccus*, *Euscarthmus*, *Myiornis*, *Lophotriccus*, *Oncostoma*, *Atalotriccus*, and *Hemitriccus* (K. Zimmer).
716. Change the spelling of *Theristicus caerulescens* to *Theristicus coerulescens* and that of *Cyanocorax caeruleus* to *Cyanocorax coeruleus* (David & Dickinson 2016).
717. Recognize the new genus *Mazaria* for “*Synallaxis*” *propinqua* (Claramunt 2014).
720. Treat White-breasted Wood-Wren *Henicorhina leucosticta* as two or more species (Smith *et al.* 2014).
723. Revise the linear sequence of Orders (Prum *et al.* 2015).
724. Merge *Cyanocompsa cyanoides* and *C. brissonii* into *Cyanoloxia* (Bryson *et al.* 2014).

Acknowledgments

Thanks to the sound recordists mentioned in the text who made available their recordings on xeno-canto. Jeremiah Trimble kindly provided specimen data and a photograph from the Museum of Comparative Zoology in Harvard, USA. Thanks to Lydia Garetano, Paul Sweet and Thomas Trombone for facilitating TD's visit to AMNH and Nigel Collar for discussing some of the parrot splits addressed here. Louise Donegan assisted with data collection and photography at AMNH. An anonymous reviewer provided valuable comments which greatly improved the manuscript.

References

Bakker, G. 2015. Review of: HBW and BirdLife International Illustrated Checklist of the Birds of the

World Volume 1: Non-passerines Josep del Hoyo and Nigel J. Collar 2014. Lynx Edicions, Barcelona. ISBN 978-84-96553-94-1. Hardback 904pp. Prijs: Euro 185. *Dutch Birding* online.

- Batalha-Filho, H., Pessoa, R.O., Fabre, P.-H., Fjeldså, J., Irestedt, M., Ericson, P.G.P., Silveira, L.F. & Miyaki, C.Y. 2014. Phylogeny and historical biogeography of gnateaters (Passeriformes, Conopophagidae) in the South America forests. *Molecular Phylogenetics & Evolution* 79: 422-432.
- Beckman, E.J. & Witt, C.C. 2015. Phylogeny and biogeography of the New World siskins and goldfinches: Rapid, recent diversification in the Central Andes. *Molecular Phylogenetics & Evolution* 87: 28-45.
- Benz, B.W. & Robbins, M.B. 2011. Molecular phylogenetics, vocalizations, and species limits in *Celeus* Woodpeckers (Aves: Picidae). *Molecular Phylogenetics & Evolution* 61: 29-44.
- Biomap Alliance Participants (Darwin Initiative, Natural History Museum, Instituto de Ciencias Naturales de la Universidad Nacional de Colombia, Conservation International & Conservación Internacional Colombia). 2016. *Base de Datos Darwin: proyecto BioMap base de datos de distribución de la avifauna Colombiana*. www.biomap.net.
- Bocalini, F. & Silveira, L.F. 2015. Morphological variability and taxonomy of the Blue-winged Parrotlet *Forpus xanthopterygius* (Psittacidae). *Revista Brasileira de Ornitologia* 23: 64-75.
- Bryson, R.W., Chaves, J., Smith, B.T., Miller, M.J., Winker, K., Pérez-Emán, J.L. & Klicka, J. 2014. Diversification across the New World within the blue cardinalids (Aves: Cardinalidae). *Journal of Biogeography* 41: 587-599.
- Burbridge, T., Parson, T., Caycedo-Rosales, P.C., Cadena, C.D. & Slabbekoorn, H. 2015. Playbacks revisited: Asymmetry in behavioural response across an acoustic boundary between two parapatric bird species. *Behaviour* 152: 1933-1951.
- Burns, K.J., Schultz, A.J., Title, P.O., Mason, N.A., Barker, F.K., Klicka, J., Lanyon, S.M. & Lovette, I.J. 2014. Phylogenetics and diversification of tanagers (Passeriformes: Thraupidae), the largest radiation of Neotropical songbirds. *Molecular Phylogenetics & Evolution* 75: 41-77.
- Cadena, C.D., Caro, L.M., Caycedo, P.C., Cuervo, A.M., Bowie, R.C.K. & Slabbekoorn, H. 2015. *Henicorhina anachoreta* (Troglodytidae), another endemic bird species for the Sierra Nevada de Santa Marta, Colombia. *Ornitología Colombiana* 15: 82-89.
- Caro, L.M., Caycedo-Rosales, P.C., Bowie, R.C.K., Slabbekoorn, H. & Cadena, C.D. 2013. Ecological speciation along an elevational gradient in a tropical passerine bird? *Journal of Evolutionary Biology* 26: 357-374.
- Carantón Alaya, D., Delgado Bermeo, G. & Ruiz Burbano, A. 2016. Primeros registros del carpintero cabecirrufo (*Celeus spectabilis*: Picidae) en Colombia. *Acta Biologica Colombiana* 21:649-652.

- Carriker, M.A. 1933. Descriptions of new birds from Peru, with notes on other little-known species. *Proceedings of the Academy of Natural Sciences of Philadelphia* 85: 1-37.
- Cerqueira, P.V., Santos, M.P. & Aleixo, A. 2016. Phylogeography, inter-specific limits and diversification of *Turdus ignobilis* (Aves: Turdidae). *Molecular Phylogenetics & Evolution* 97: 177-186.
- Claramunt, S. 2014. Phylogenetic relationships among Synallaxini spinetails (Aves: Furnariidae) reveal a new biogeographic pattern across the Amazon and Parana river basins. *Molecular Phylogenetics & Evolution* 78: 223-231.
- Copete, J.L. 2016a. Buff-throated Tody-Tyrant in Colombia. *HBW Alive First Country Reports*, 24 June 2016.
- Copete, J.L. 2016b. Foothill Elaenia in Colombia. *HBW Alive First Country Reports*, 24 June 2016.
- Cory, C.B. 1918. Catalogue of the birds of the Americas and the adjacent islands, pt. 2(1). *Publications of the Field Museum of Natural History Publications, Zoological Series* 13(2).
- Cuervo, A.M., Pulgarín, P. & Calderón, D. 2008a. New distribution bird data from the Cordillera Central of the Colombian Andes, with implications for the biogeography of northwestern South America. *Condor* 110: 526-537.
- Cuervo, A.M., Pulgarín, P.C., Calderón, D., Ochoa-Quintero, J. M., Delgado-V., C. A., Palacio, A., Botero, J., & Múnera, W. 2008b. Avifauna of the northern Cordillera Central of the Andes, Colombia. *Ornitología Neotropical* 19: 495-515.
- Cuervo, A.M., Stiles, F.G., Lentino, M., Brumfield, R.T. & Derryberry, E.P. 2014. Geographic variation and phylogenetic relationships of *Myiopagis olallai* (Aves: Passeriformes; Tyrannidae), with the description of two new taxa from the Northern Andes. *Zootaxa* 3873: 1-24.
- Darlington, P.J. 1931. Notes on the birds of Rio Frio (near Santa Marta). Magdalena, Colombia. *Bulletin of the Museum of Comparative Zoology at Harvard College*.
- David, N. & Dickinson, E.C. 2016. The ligatures -æ- and -oe - in Vieillot's new avian names established in the Nouveau dictionnaire d'histoire Naturelle vols. I-XXXVI (1816-1819). *Zoological Bibliography* 4: 15-25.
- De Kloet, R.S. & De Kloet, S.W. 2005. The evolution of the spindlin gene in birds: Sequence analysis of an intron of the spindlin W and Z gene reveals four major divisions of the Psittaciformes. *Molecular Phylogenetics & Evolution* 36: 706-721.
- Del Hoyo, J. & Collar, N.J. 2014. *Illustrated checklist of the birds of the world. Volume 1 (non-passerines)*. 904 pp. Lynx Edicions, Barcelona & BirdLife International, Cambridge.
- Delgado-C., A.F., Calderón-L., J.J., Rosero-M., Y., Fernández-G., R. & Flórez-P., C. 2014. Ampliaciones de distribución de aves en el suroccidente colombiano. *Ornitología Colombiana* 14: 112-124.
- Dickinson, E.C. (ed.) 2003. *The Howard and Moore Complete Checklist of the Birds of the World: Revised and Enlarged Edition*. London: Christopher Helm.
- Dickinson, E.C. & Christidis, L. (eds). 2014. *The Howard & Moore complete checklist of the birds of the World, vol. 2: Passerines*. Aves Press Ltd, Eastbourne, UK.
- Dickinson, E.C. & Remsen, J.V. (eds.). 2013. *The Howard & Moore complete checklist of the birds of the World, vol. 1: Non-passerines*. Aves Press Ltd, Eastbourne, UK.
- Donegan, T.M. & Salaman, P.G.W. 2014. Identification of *Henicorhina* Wood-Wrens in the San Lucas mountain range. *Conservación Colombiana* 21: 33-38.
- Donegan, T.M., Salaman, P.G.W. & Caro, D. 2009. Revision of the status of various bird species occurring or reported in Colombia. *Conservación Colombiana* 8: 80-86.
- Donegan, T.M., Salaman, P.G.W., Caro, D. & McMullan, M. 2010. Revision of the status of bird species occurring in Colombia 2010. *Conservación Colombiana* 13: 25-54.
- Donegan, T.M., Quevedo, A. & McMullan, M. & Salaman, P. 2011. Revision of the status of bird species occurring or reported in Colombia 2011. *Conservación Colombiana* 15: 4-21.
- Donegan, T.M., Quevedo, A., Salaman, P. & McMullan, M. 2012. Revision of the status of bird species occurring or reported in Colombia 2012. *Conservación Colombiana* 15: 4-14
- Donegan, T.M., McMullan, M., Quevedo, A. & Salaman, P. 2013. Revision of the status of bird species occurring or reported in Colombia 2013. *Conservación Colombiana* 19: 3-10.
- Donegan, T.M., Quevedo, A., Verhelst, J.C., Cortés, O., Pacheco, J.A. & Salaman, P. 2014. Revision of the status of bird species occurring or reported in Colombia 2014. *Conservación Colombiana* 21: 3-11.
- Donegan, T.M., Quevedo, A., Verhelst, J.C., Cortés-Herrera, O., Ellery, T. & Salaman, P. 2015a. Revision of the status of bird species occurring or reported in Colombia 2015, with discussion of BirdLife International's new taxonomy. *Conservación Colombiana* 23: 3-48.
- Donegan, T., Verhelst, J.C., Salaman, P., Cortés, O., Caro, D. & Quevedo, A. 2015b. *Listado de Aves de Colombia. Version 4.0* (17 April 2015). www.proaves.org.
- Donegan, T., Verhelst, J.C., Salaman, P., Cortés, O., Caro, D. & Quevedo, A. 2016. *Listado de Aves de Colombia. Version 5.0* (February 2016). DOI: 10.13140/RG.2.2.32146.25283.
- Dunning, J.S. 1987. *South American land birds: a photographic aid to identification*. Harrowood Books, Newton Square, Pennsylvania.
- Eberhard, J.R. & Bermingham, E. 2004. Phylogeny and biogeography of the *Amazona ochrocephala* (Aves: Psittacidae) complex. *Auk* 121: 318-322.
- Eberhard, J.R. & Bermingham, E. 2005. Phylogeny and comparative biogeography of *Pionopsitta* parrots and *Pteroglossus* toucans. *Molecular Phylogenetics & Evolution* 36: 288-304.

- Erize, F., Rodríguez-Mata, J.R. & Rumboll, M. 2006. *Birds of South America: non-passerines*. Princeton University Press.
- Finsch, O. 1873. On a new American parrot of the genus *Chrysotis*. *Proceedings of the Zoological Society of London* 1873: 569-570 & pl. 49.
- Fjeldså, J. & Krabbe, N. 1990. *Birds of the high Andes*. Zool. Mus., Univ. of Copenhagen & Apollo Books, Svendborg.
- Forshaw, J.M. 1989. *Parrots of the world*. 3rd edition. T.F.H. Publications, Neptune, New Jersey.
- Gill, F & Donsker, D. (eds.) 2016. *IOC World Bird List* (v. 6.3). doi : 10.14344/IOC.ML.6.3.
- Gómez-Bernal, L.G., Ayerbe-Quiñones, F. & Negret, P.J. 2016. Nuevos registros de aves en el piedemonte amazónico colombiano. *Cotinga* 38: 23-31.
- Hartlaub, G. 1885. On a new species of parrot of the genus *Psittacula*. *Proceedings of the Zoological Society of London* 1885: 613-614 & pl.38.
- Helbig A.J., Knox, A.G., Parkin, D.T., Sangster, G. & Collinson, M. 2002. Guidelines for assigning species rank. *Ibis* 144: 518–525.
- Hilty, S.L. & Brown, W.L. 1986. *A guide to the birds of Colombia*. Princeton University Press.
- Hosner, P.A., Braun, E.L. & Kimball, R.T. 2015. Land connectivity changes and global cooling shaped the colonization history and diversification of new world quail (Aves: Galliformes: Odontophoridae). *Journal of Biogeography* 42: 1883-1895.
- Isler, M.L., Bravo, G.A. & Brumfield, R.T. 2013. Taxonomic revision of *Myrmeciza* (Aves: Passeriformes: Thamnophilidae) into 12 genera based on phylogenetic, morphological, behavioral, and ecological data. *Zootaxa* 3717: 469–497.
- Joseph, L. 2002. Geographic variation, taxonomy and distribution of some Amazonian *Pyrrhura* parakeets. *Ornitologia Neotropical* 13: 337-363.
- Joseph, L. & Stockwell, D. 2002. Climatic modeling of the distribution of some *Pyrrhura* parakeets of northwestern South America with notes on their systematics and special reference to *Pyrrhura caeruleiceps* Todd, 1947. *Ornitologia Neotropical* 13: 1-8.
- Kennedy, M. & Spencer, H.G. 2014. Classification of the cormorants of the world. *Molecular Phylogenetics & Evolution* 79: 249-257.
- Kingston, T., Barlow, K., Newman, J., Langley, J., Kaye, P., Cortés, R., Córdoba, M. & Córdoba, G. 1992. Amazon 1992 – Final Report. A Cambridge-RHBNC expedition to Colombia. Unpubl. rep.
- Kirchman, J.J., Schirtzinger, E.E. & Wright, T.F. 2012. Phylogenetic relationships of the extinct Carolina Parakeet (*Conuropsis carolinensis*) inferred from DNA sequence data. *Auk* 129: 197-204.
- Lentino, M., Pérez Emán, J., Ascanio, D., León, J. G., Nagy, A. & Southall, D.J. 2007. New records of the Orinoco Softtail *Thripophaga cherriei* in Venezuela. *VIII Congreso Ornitología Neotropical*. Maturín, Venezuela.
- McMullan, M. & Donegan, T.M. 2014. *Field guide to the birds of Colombia* 2nd edition. Fundación ProAves, Bogotá.
- McMullan, M. & Navarrete, L. 2013. *Fieldbook of the birds of Ecuador including the Galapagos Islands*. Fundación Jocotoco, Ecuador.
- McMullan, M., Donegan, T.M. & Quevedo, A. 2010. *Field guide to the birds of Colombia*. Fundación ProAves, Bogotá.
- McMullan, M., Quevedo, A. & Donegan, T.M. 2011. *Guía de campo de las aves de Colombia*. Fundación ProAves, Bogotá.
- Meyer de Schauensee, R. 1964. *The birds of Colombia and adjacent areas of South and Central America*. Academy of Natural Sciences, Philadelphia.
- Moreno-Bejarano, L.M. & Álvarez-León, R. 2006. Nuevos registros de la fauna asociada a los diferentes ecosistemas de la Ciénaga Grande de Santa Marta. *Revista Luna Azul* 23: 21-22.
- Newman, J. 2008. Sight records of five species new to Colombia from Serranía de Naquen, dpto. Guainía. *Cotinga* 29: 160-161.
- Peters, J.L. 1937. *Check-List of the Birds of the World*. Vol. 3. Harvard University Press, Cambridge.
- Prum, R.O., Berv, J.S., Dornburg, A., Field, D.J., Townsend, J.P., Lemmon, E.M. & Lemmon, A.R. 2015. A comprehensive phylogeny of birds (Aves) using targeted next-generation DNA sequencing. *Nature* 526: 569-573.
- Remsen, J.V. 2005. Pattern, process, and rigor meet classification. *Auk* 122:403–413.
- Remsen, J.V. 2015. Review of: HBW and BirdLife International Illustrated Checklist of the Birds of the World Volume 1: Non-passerines Josep del Hoyo and Nigel J. Collar 2014. Lynx Edicions, Barcelona. 903 pages, hundreds of color plates. ISBN 9788496553941. \$209 (Hardcover). *Journal of Field Ornithology* 86: 182-187.
- Remsen, J.V., Areta, J.I., Cadena, C.D., Claramunt, S., Jaramillo, A., Pacheco, J.F., Pérez-Éman, J., Robbins, M.B., Stiles F.G., Stotz, D.F. & Zimmer, K.J. 2016. *A classification of the bird species of South America* (version 13 October 2016). www.museum.lsu.edu/~Remsen/SACCBaseline.html.
- Restall, R., Rodner, C. & Lentino, M. 2006. *Birds of northern South America*. Christopher Helm, London.
- Rheindt, F.E., Krabbe, N., Wee, A.K.S. & Christidis, L. 2015. Cryptic speciation in the Lesser Elaenia *Elaenia chiriquensis* (Aves: Passeriformes: Tyrannidae). *Zootaxa* 4032: 251-263.
- Ribas, C.C., Aleixo, A., Nogueira, A.C.R., Miyaki, C.Y., & Cracraft, J. 2012. A palaeobiogeographic model for biotic diversification within Amazonia over the past three million years. *Proceedings of the Royal Society B* 279: 681-689.
- Ribas, C.C. & Miyaki, C.Y. 2007. Análise comparativa de padrões de diversificação em quatro gêneros de psitacídeos neotropicals. *Revista Brasileira de Ornitologia* 15: 245-252.

- Ribas, C.C. & Miyaki, C.Y. 2004. Molecular systematics in Aratinga parakeets: species limits and historical biogeography in the solstitialis group, and the systematic position of Nandayus nenday. *Molecular Phylogenetics & Evolution* 30: 663-675.
- Ribas, C.C., Gaban-Lima, R., Miyaki, C.Y. & Cracraft, J. 2005. Historical biogeography and diversification within the Neotropical parrot genus *Pionopsitta* (Aves: Psittacidae). *Journal of Biogeography* 32: 1409-1427.
- Ribas, C.C., Miyaki, C.Y. & Cracraft, J. 2009. Phylogenetic relationships, diversification and biogeography in Neotropical *Brotogeris* parakeets. *Journal of Biogeography* 36: 1712-1729.
- Ribas, C.C., Moyle, R.G., Miyaki, C.Y. & Cracraft, J. 2007. The assembly of montane biotas: linking Andean tectonics and climate oscillations to independent regimes of diversification in *Pionus* parrots. *Proceedings Royal Society B* 274: 2399-2408.
- Ribas, C.C., Joseph, L. & Miyaki, C.Y. 2006. Molecular systematics and patterns of diversification in *Pyrrhura* (Psittacidae), with special reference to the *picta-leucotis* complex. *Auk* 123: 660-680.
- Ridgely, R.S. & Gwynne, J.A. 1989. *A guide to the birds of Panama: with Costa Rica, Nicaragua, and Honduras*. Princeton University Press.
- Ridgely, R.S. & Greenfield, P.J. 2001. *The birds of Ecuador*. Cornell University Press, Ithaca, NY.
- Ridgely, R.S. & Robbins, M.B. 1988. *Pyrrhura orcesi*, a new parakeet from southwestern Ecuador, with systematic notes on the *P. melanura* complex. *Wilson Bulletin* 100: 173-182.
- Ridgely, R.S. & Tudor, G. 1989. *The birds of South America*, vol. 1. Oxford University Press.
- Ridgely, R.S. & Tudor, G. 1994. *The birds of South America*, vol. 2. Oxford University Press.
- Ridgway R. 1887. Review of genus *Psittacula* of Brisson. *Proceedings of the United States National Museum* 10: 529-548.
- Ridgway, R. 1916. The birds of North and Middle America. *Bulletin U.S. National Museum* 50, pt. 7.
- Rodner, C., Lentino, R. M., & Restall, R. L. 2000. *Checklist of the birds of northern South America: An annotated checklist of the species and subspecies of Ecuador, Colombia, Venezuela, Aruba, Curacao, Bonaire, Trinidad & Tobago, Guyana, Suriname and French Guiana*. Yale University Press.
- Ruiz-Ovalle, J.M. & Hurtado, A. 2010. O10– El Cerro Takarkuna y su importancia para la diversidad de la avifauna en la Serranía del Darién-Colombia. *Resúmenes del Congreso – III Congreso Colombiano de Zoología*.
- Ruiz-Ovalle, J. M. & Hurtado-Guerra, A. 2014. Primeros registros de *Bangsia arcae* y *Chrysothlypis chrysomelas* (Thraupidae) para Colombia. *Ornitología Colombiana* 14: 130-135.
- Russello, M.A. & Amato, G. 2004. A molecular phylogeny of *Amazona*: implications for Neotropical parrot biogeography, taxonomy, and conservation. *Molecular Phylogenetics & Evolution* 30: 421-437.
- Salaman, P.G.W., Donegan, T.M. & Cuervo, A.M. 1999. Ornithological surveys in Serranía de los Churumbelos, southern Colombia. *Cotinga* 12: 29-39.
- Salaman, P., Cuadros, T., Jaramillo, J.G. & Weber, W.H. 2001. *Lista de chequeo de las aves de Colombia*. Sociedad Antioqueña de Ornitología, Medellín.
- Salaman, P.G.W., Stiles, F.G., Bohórquez, C.I., Álvarez, M., Umaña, A.M., Donegan, T.M. & Cuervo, A.M. 2002. New and noteworthy records from the east slope of the Andes of Colombia. *Caldasia* 24: 157–189.
- Salaman, P.G.W., Bayly, N., Burrige, R., Grantham, M., Gurney, M., Quevedo, A., Uruña, L.E. & Donegan, T. 2008a. Sixteen bird species new for Colombia. *Conservación Colombiana* 5: 80-85.
- Salaman, P., Donegan, T. & Caro, D. 2008b. Listado de Aves de Colombia 2008. *Conservación Colombiana* 5: 1-79.
- Salaman P., Donegan, T. & Caro, D. 2009. Listado de Aves de Colombia 2009. *Conservación Colombiana* 8: 3-79.
- Salaman, P., Donegan, T.M. & Caro, D. 2010. *Checklist of the birds of Colombia*. Fundación ProAves, Bogotá.
- Sangster, G. 2015. Comments posted in response to Bakker (2015) *op. cit.*, *Dutch Birding* online.
- Schirtzinger, E.E., Tavares, E.S., Gonzales, L.A., Eberhard, J.R., Miyaki, C.Y., Sanchez, J.J., Hernandez, A., Mueller, H., Graves, G.R., Fleischer, R.C. & Wright, T.F. 2012. Multiple independent origins of mitochondrial control region duplications in the order Psittaciformes. *Molecular Phylogenetics & Evolution* 64: 342-356.
- Schodde, R. & Bock, W. 2016. Conflict resolution of grammar and gender for avian species-group names under Article 31.2.2 of the ICZN Code: is gender agreement worth it? *Zootaxa* 4127: 161-170.
- Schulenberg, T.S., Stotz, D.F., Lane, D.F., O’Neill, J.P. & Parker, T.A. 2007. *Birds of Peru*. Princeton University Press.
- Sibley, C.G. & Monroe, B.L. 1990. *Distribution and taxonomy of birds of the World*. Yale University Press, New Haven, Connecticut.
- Sick, H. 1993. *Birds in Brazil*. Princeton University Press.
- Smith, B.T., Ribas, C.C., Whitney, B.M., Hernández-Baños, B.E. & Klicka, J. 2013. Identifying biases at different spatial and temporal scales of diversification: a case study in the Neotropical parrotlet genus *Forpus*. *Molecular Ecology* 22: 483-494.
- Smith, B.T., McCormack, J.E., Cuervo, A.M., Hickerson, M.J., Aleixo, A., Cadena, C.D., Pérez-Emán, J., Burney, C.W., Xie, X., Harvey, M.G., Faircloth, B.C., Glenn, T.C., Derryberry, E.P., Prejean, J., Fields, S. & Brumfield, R.T. 2014. The drivers of tropical speciation. *Nature* 515(7527):406-409.
- Stiles, F.G. & Beckers, J. [2016] Un inventario de las aves de la región de Inírida, Guainía, Colombia. *Ornitología Colombiana* 15: e19-e50 “2015” (pub. Jan-Feb 2016).
- Strewe, R., Villa-De León, C., Navarro, C., Alzate, J. & G. Utria. [2016] Primer registro documentado de la Torcaza

- aliblanca (*Zenaida asiatica*) en América del Sur. *Ornitología Colombiana* 15:90-93.
- Tavares, E.S., Yamashita, C. & Miyaki, C.Y. 2004. Phylogenetic relationships among some Neotropical parrot genera (Psittacidae) based on mitochondrial sequences. *Auk* 121: 230-242.
- Tavares, E.S., Baker, A.J., Pereira, S.L. & Miyaki, C.Y. 2006. Phylogenetic relationships and historical biogeography of Neotropical parrots (Psittaciformes: Psittacidae: Arini) inferred from mitochondrial and nuclear DNA Sequences. *Systematic Biology* 55: 454-470.
- Tobias, J.A., Seddon, N., Spottiswoode, C.N., Pilgrim, J.D., Fishpool, L.D.C. & Collar, N. J. 2010. Quantitative criteria for species delimitation. *Ibis* 152: 724–746.
- Van Perlo, P. 2009. *A field guide to the birds of Brazil*. Oxford University Press.
- Verhelst-Montenegro, J.C. 2015. New subspecies records from Colombia based on museum specimens. *Notulae Ornithologicae Columbiana* 1: 1-8.
- Wenner, T.J., Russello, M.A. & Wright, T.F. 2012. Cryptic species in a Neotropical parrot: Genetic variation within the *Amazona farinosa* species complex and its conservation implications. *Conservation Genetics* 13: 1427-1432.
- Whitney, B.M. & Pacheco, J.F. 1999. The valid name for Blue-winged Parrotlet and designation of the lectotype of *Psittaculus xanthopterygius* Spix, 1824. *Bulletin of the British Ornithologists' Club* 119: 211-214.
- Whitney, B.M., Piacentini, V.Q. Schunck, F., Aleixo, A., Souza, B.R.S., Silveira, L.F., Rego, M.A. 2013. A name for Striolated Puffbird west of the Rio Madeira with revision of the *Nystalus striolatus* (Aves: Bucconidae) complex. Pp. 240-244 in: del Hoyo, J., A. Elliott, J. Sargatal & D.A. Christie (eds.) (2013). *Handbook of the Birds of the World. Special Volume: New Species and Global Index*. Lynx Edicions, Barcelona
- Williams, R. 2016. Neotropical notebook. *Neotropical Birding* 18: 45-52.
- Wink, M., El-Sayed, A.A., Sauer-Gürth, H. & Gonzalez, J. 2009. Molecular phylogeny of owls (Strigiformes) inferred from DNA sequences of the mitochondrial cytochrome b and the nuclear RAG-1 gene. *Ardea* 97(4):581-591.
- Wright, T.F., Schirtzinger, E.R., Matsumoto, T., Eberhard, J.R., Graves, G.R., Sanchez, J.J., Capelli, S., Muller, H., Scharpegge, J., Chambers, G. K. & Fleischer, R.C. 2008. A multilocus molecular phylogeny of the parrots (Psittaciformes): support for a Gondwanan origin during the Cretaceous. *Molecular Biology & Evolution* 25: 2141-2156.

Pelagic surveys in the Colombian Caribbean reveal changes in marine bird distribution patterns during the migration period

Estudios pelágicos en el caribe de Colombia demuestran cambios en la distribución de las aves marinas durante periodos de migración

Adrian Digby¹, Carolina González & Laura Pinillos

¹ Bluebird Geoscience Inc. E-mail: digby@borehole-geophysics.com

Abstract

Records at sea in the Colombian Caribbean are presented for October and November 2015. This coincided with the migratory period. We observed five major "falls" of Nearctic migratory passerines, each one dominated by a single species: first Blackburnian Warblers *Setophaga fusca*, next Blackpoll Warblers *Setophaga striata* and finally American Redstarts *Setophaga ruticilla*. In comparison to surveys during non-migratory periods, large numbers of raptors, particularly Peregrine Falcon *Falco peregrinus* and Merlin *Falco columbianus* were observed at sea, which preyed on the passerines. In contrast, highly marine species such as Storm-Petrels (Hydrobatidae) or Shearwaters (Procellariidae) were absent, perhaps vacating to more remote sea areas to escape these predators. We found the same pattern of abundance between Brown Boobies *Sula leucogaster* and Masked Boobies *Sula dactylatra*, the former dominating south of 11°N and the latter dominating north of this latitude. Interesting records of rare species in Colombia such as Bridled Tern *Onychoprion anaethetus*, Pomarine Skua *Stercorarius pomarinus* and Red-footed Booby *Sula sula* were also recorded.

Keywords: Migration, sea, Nearctic, migrant, predation, petrel, shearwater.

Resumen

Se presentan registros de aves del Caribe Colombiano para los meses de Octubre y Noviembre de 2015, coincidiendo con el periodo de migración. Nosotros observamos cinco grandes 'caídas' de aves migratorias Neárticas cada una dominada por una sola especie, primero *Setophaga fusca*, luego *Setophaga striata* y finalmente *Setophaga ruticilla*. En comparación a los resultados de monitoreo durante los periodos no migratorios, se observaron en el área grandes cantidades de aves rapaces, particularmente *Falco peregrinus* y *Falco columbianus* sobrevolando el mar, recogiendo y comiendo a los Passeriformes. En contraste, las especies marinas como miembros de las familias Hydrobatidae y Procellariidae fueron totalmente ausentes, posiblemente escapándose a zonas de mar más remotas en donde no hay tantas aves rapaces en este periodo. Encontramos el mismo patrón de abundancia entre *Sula leucogaster* y *Sula dactylatra*, el primero dominando hacia el sur 11°N y el último al norte de esta latitud. Registramos también observaciones interesantes de especies raras en Colombia como *Onychoprion anaethetus*, *Stercorarius pomarinus* y *Sula sula*.

Palabras clave: Migración, mar, depredación, ave migratoria, Hydrobatidae, Procellariidae.

Introduction

Our knowledge of the pelagic birdlife of Colombia's Caribbean remains limited. We previously undertook a long-term seabird survey in the Colombian Caribbean during June-August 2014 and December 2014-February 2015, which resulted in quantitative data on the occurrence of several species and a number of first confirmed national records (Digby *et al.* 2015). In this study, further observations from follow-up work during 2015 are presented. This study, in contrast to the previous surveys of winter and summer periods, focused during the migratory period.

Methods

We returned to carry out further pelagic bird surveys in the Colombian Caribbean during October and November 2015. Each day of the survey, 12-hour long observations were carried out offshore from a 60m vessel around 50-80km offshore and from 10° 30'N to 12°10'N and from 73°20'W to 76°00'W.

Results

Previously published records from 2014 and 2015 coordinated by the same observers (Digby *et al.* 2015) took place during the boreal summer and winter periods and were typified by strong easterly trade winds. In October and November 2015, the weather conditions were very different. Although easterly winds still predominated, they were often light. Occasional northerly breezes heralded falls of migrants on to the vessel. More significantly, the period of observation took place during the height of the southwards migration period for Nearctic migrants returning to South America.

Apart from the passage of migrants, detailed below, there were also differences in the composition of seabird species and families observed in general. Especially notable was the complete absence of Storm-Petrels (Hydrobatidae) or Shearwaters (Procellariidae), although an increased number of Terns (Sternidae) were seen.



Figure 1. Top row, left to right: (i) Pomarine Skua on 22 October 2015. (ii) American Redstart on 17 November 2015. Second row: (iii) Merlin on 18 November 2015; (iv) Yellow-billed Cuckoo on 17 November 2015. Bottom row: Caspian Tern on deck on 17 November 2015. Carolina González & Laura Pinillos.

Seabirds

As in the summer and winter periods, the most regular observations were of Brown Boobies *Sula leucogaster* and Masked Boobies *Sula dactylatra*. As in the previous observations, Masked Boobies were most common north of 11°N and Brown Boobies were most common south of

that latitude. North of 11°N, Masked Boobies were seen on 11 of 17 days with 25 individuals whilst Brown Boobies were seen on 10 of 17 days with 15 individuals. South of 11°N, Masked Boobies were seen on just 4 of 20 days with six individuals whilst Brown Boobies were seen on 18 of 20 days with 45 individuals.

Two Red-footed Boobies *Sula sula* were also observed, both in the northern transect. These records add to our first confirmed national records for Colombia from the previous surveys (Digby *et al.* 2015). The third most common seabird was Magnificent Frigatebird *Fregata magnificens*. These were more common than in the 2014-2015 studies, observed on seven days and usually in small groups of up to six birds.

The other observable contrast was the many more Terns seen. This included three Caspian Terns *Hydroprogne caspia*, seen on 15, 17 and 21 November and an immature Bridled Tern *Onychoprion anaethetus* that spent 17-18 November on the vessel. No Noddies were seen, unlike during the winter months. The commonest tern was Royal Tern *Thalasseus maximus* with flocks of up to 15 individuals observed on 10 of the 37 observation days. Common Tern *Sterna hirundo* and a Sandwich Tern *Thalasseus sandwichensis* (a dark-billed bird, so presumably of subspecies group *acuflavides*) were also seen, both in November. No gulls were observed and just one Pomarine Skua *Stercorarius pomarinus* was seen on 22 October.

Herons

During the previous 2014-2015 surveys, Great Blue Herons *Ardea herodias* and Great Egrets *Ardea alba* were observed, but during October and November, the herons appeared more common and diverse. In addition to these two species, that were seen again here, we also observed Cattle Egret *Bubulcus ibis*, Snowy Egret *Egretta Thula* and Green Heron *Butorides virescens*. Cattle Egrets passed and occasionally rested on the boat on seven of the observation days.

Raptors

Raptors were also seen more regularly. In previous studies, a single Osprey *Pandion haliaetus* was observed in August and was the only raptor seen, but from 18 October to 26 November, four Ospreys were seen, Peregrine Falcons *Falco peregrinus* were observed on four days and Merlin *Falco columbianus* on eight days. We suspect that the occurrence of Peregrine Falcon and Merlin over Colombian seas during this period was linked to the migration period. These raptors appear to forage for migrant birds over the Caribbean during October-November. It is also noteworthy that the uptick in raptors coincided with the absence of birds of the open seas, the Storm-Petrels (Hydrobatidae) and Shearwaters (Procellariidae). The lack of records of these groups here contrasts with the three species confirmed in the summer and winter observation periods in 2014-2015. We suspect that these more marine seabirds migrated deeper into the Atlantic to avoid the concentration of raptors found in coastal areas during this period.

Passerines

During the observation period, we had at least five significant falls of migrants overnight, all coinciding with the calmer conditions following northerly breezes. The falls occurred on 19 and 26-28 October, 1-3 November, 9 November and 17-23 November. Each occasion was dominated by at least 20 individuals of a single species. The first three falls were dominated by Blackburnian Warblers *Setophaga fusca* and the last two by Blackpoll Warblers *Setophaga striata*. In November, American Redstarts *Setophaga ruticilla* were common. The other warblers seen were two Northern Waterthrushes *Parkesia noveboracensis* on 4 and 5 November and a single Prothonotary Warbler *Protonotaria citrea* on 18 November. One other record that could have been interesting was a grey warbler that looked like a female Cerulean Warbler *Setophaga cerulea*, which briefly stopped on 29 October before being taken by a Merlin, which unfortunately devoured too much of the bird to allow its identification.

Other passerines observed included three Swainson's Thrushes *Catharus ustulatus* on 21 October, 17 and 18 November, a Sulphur-bellied Flycatcher *Myiodynastes luteiventris*, which spent three days aboard from 21-23 October and a Grey Kingbird *Tyrannus dominicensis*, which spent all day on 4 November feeding on moths that had gathered overnight. An immature Great-tailed Grackle *Quiscalus mexicanus* spent the last 10 days aboard feeding on the moths that the Flycatchers had missed. Barn Swallows *Hirundo rustica* were present for 13 days, often with more than a dozen individuals at a time but these were the only Hirundine species observed. The only other landbird seen was a Yellow-billed Cuckoo *Coccyzus americanus* on 17 November.

Waders

Two flocks of Lesser Yellowlegs *Tringa falvipes* were observed passing the boat, 10 on 18 October and 16 on 31 October. A flock of six Stilt Sandpipers *Calidris himantopus* and an individual Buff-breasted Sandpiper *Tryngites subruficollis* were both seen on 20 October. Two other waders seen were not identified with certainty.

Waterbirds

Two flocks of Cinnamon Teals *Anas cyanoptera*, one of 27 individuals, were seen on the 24 and 25 of October and a single American Purple Gallinule *Porphyrio martinica* was observed on 19 November.

Acknowledgments

We thank the vessel Fugro Brasillis, operating for Shell Exploration and Production Colombia for their support.

References

Digby, A., López, P., Ribeiro, I., Alarcón, J. & Gartner, A. 2015. Caribbean Colombia: Pelagic Bird observations in 2014 and 2015. *Conservación Colombiana* 23: 50-57.

INSTRUCCIONES PARA AUTORES

Conservación Colombiana es publicada dos veces al año por la Fundación ProAves, una entidad sin ánimo de lucro registrada, que tiene como misión “proteger las aves silvestres y sus hábitat en Colombia a través de la investigación, las acciones de conservación puntuales y el acercamiento con las comunidades locales. El propósito de la revista es divulgar los resultados de las investigaciones y acciones de conservación de las especies colombianas amenazadas de extinción. El formato y tipo de los artículos que se publican es variado incluyendo reportes internos de las actividades en conservación desarrolladas por la Fundación, resultados de las investigaciones y el monitoreo de especies amenazadas, proyectos de grado de estudiantes universitarios, inventarios y conteos poblacionales, planes de acción o estrategias desarrolladas para especies particulares, sitios o regiones y avances en la expansión de la red de áreas protegidas en Colombia.

Conservación Colombiana está dirigida a un público amplio. Principalmente a científicos, conservacionistas y personas interesadas en general en la conservación de las especies amenazadas de Colombia y sus hábitats. Por esta razón es una publicación de carácter científico, aunque laxa en su formato y contenidos.

Las contribuciones deben ser en castellano o inglés y todo manuscrito debe incluir títulos y resúmenes en castellano y en inglés. Los artículos preferiblemente deberán tener una extensión aproximada entre 2,000 y 7,000 palabras, y se dará preferencia a los escritos más cortos. Aunque también se aceptan, a discreción del comité editorial, artículos o compendios largos, los cuales pueden constituir artículos en un mismo tema o monografías que abarquen un número completo de la revista. Las contribuciones serán evaluadas por el comité editorial y en cada caso se ofrecerá a los autores un concepto sobre su publicación tan pronto como sea posible.

Deben entregarse en formato digital, vía correo electrónico en formato RTF. El texto se debe ajustar a dos columnas y se debe usar interlineando sencillo, párrafos justificados, márgenes de 1.78 cm a cada lado, a excepción del inferior que debe ser de 1.52 cm. Títulos y subtítulos de los artículos en letra *Times New Roman* 12, texto en general y para nombrar graficas y Cuadros en *Times New Roman* 10.

Los nombres científicos deben estar escritos en letra cursiva y deben estar mencionados después del nombre en castellano la primera vez en el título, resumen y texto. En adelante solo debe usarse el nombre en castellano.

Abreviaturas como sp. y spp. no son nombres y no van en cursiva.

Todo artículo científico debe contener las siguientes secciones a excepción de las pequeñas revisiones de especies.

- Título en castellano e inglés y autores
- Resumen en castellano e inglés
- Introducción
- Métodos
- Resultados
- Discusión
- Agradecimientos
- Bibliografía

Contribuciones como descripciones de nuevos taxa, revisiones de literatura, discusiones de manuscritos, o artículos en forma de ediciones completas, deben usar secciones apropiadas como es su usanza en la literatura científica. No obstante, su aceptación final queda a criterio del comité editorial.

El título debe ser en mayúsculas (sin punto final), Arial 16 y negrilla, el segundo título en inglés o español dependiendo del lenguaje del artículo deberá ir en *Times New Roman* 12, seguido en renglón aparte por el nombre de los autores en negrilla, sus afiliaciones institucionales y la dirección electrónica del primer autor. Se recomienda a los autores usar solo su primer nombre y apellido. Sin embargo, en caso que quiera usar su segundo apellido deberá ligarlo con un guión corto (–) al primer apellido.

Es recomendable que los resúmenes no excedan las 300 palabras o el 5 % de la longitud total del texto y debe incluirse una lista de palabras clave en el idioma respectivo.

3. CONSERVACIÓN EN COLOMBIA

La conservación en Colombia ha sido históricamente...

7.1. Loros amenazados

Los loros amenazados de Colombia...

7.1.1. Loros en peligro (EN)

Los loros en peligro en Colombia se encuentran principalmente en la zona Andina...

Las Cuadros, figuras y anexos deben estar citados en el texto. Como figuras se entienden todo tipo de gráficos, dibujos, mapas, fotos e ilustraciones. Para las Cuadros, la leyenda debe ir arriba y las explicaciones de abreviaturas o

simbología al pie en cursiva. Solamente se deben usar líneas horizontales en las Cuadros. Para las figuras, la leyenda debe ir al pie de la misma. Se recomienda que cada leyenda incluya información suficiente para ser entendida por sí misma sin necesidad de volver al texto y que incluya el nombre de la figura, un referente geográfico y temporal, y el nombre abreviado del manuscrito y el periodo del estudio.

Todas las citas en el texto deben estar en la bibliografía y viceversa. Las citas en el texto se deben ordenar cronológicamente. Cuando se cita en el texto no se debe usar coma entre el nombre del autor y la fecha, y se usan comas para separar dos referencias. En citas donde hay dos autores, estos se separan usando “&” no “y”. Para citas donde hay más de dos autores se usa “*et al.*”, escrito en cursiva. Se deben usar letras minúsculas seguidas al año para diferenciar varios trabajos del mismo autor y año, así: Moreno 1995a, Moreno 1995b. Se pueden citar trabajos publicados o aceptados para publicación, tesis universitarias e informes y reportes internos; que a su vez deberán ir en la Bibliografía. Artículos aceptados para publicación pero aún no publicados se citan como “*en imprenta*”, ej: Salaman (*en imprenta*). Manuscritos inéditos o no aceptados y comunicaciones personales se citan únicamente en el texto, como datos no publicados y comunicación personal respectivamente, incluyendo la inicial del nombre del autor, ej: D. Caro (datos no publ.), C. Gómez (com. pers.).

La bibliografía debe estar ordenada alfabéticamente por autor y cronológicamente cuando haya varias citas del mismo autor. Se deben escribir los apellidos de todos los autores y sus iniciales capitalizándolos. Cuando el autor sea una institución, cítela por su nombre completo en el texto la primera vez seguido en mayúscula sostenida por su acrónimo en paréntesis, que deberá ser usado en adelante y en la bibliografía. Cuando un manuscrito ha sido aceptado pero todavía no ha sido publicado y se encuentra en imprenta cítelo como “*en imprenta*”, sin fecha, y cuando hace parte de una publicación seriada reemplace el número de volumen o número y páginas por “0:00”. Los nombres de las publicaciones seriadas deben escribirse completos y en cursiva. Recomendamos seguir el siguiente estilo la bibliografía:

Libros

Autor, I.N.I. Año. *Título*. Editorial o institución que publica, Ciudad de publicación. Si se cita un libro colegiado, se cita el nombre del editor o editores con (ed.) o (eds.). Ej:
Hilty, S. & Brown W. 1986. *A Guide to the Birds of Colombia*. Princeton University Press, Princeton.
Chaves, M.E. & Arango, N. (eds.) (1998) *Informe nacional sobre el estado de la biodiversidad 1997*. Instituto de Investigación de Recursos Biológicos Alexander von

Humboldt, PNUMA, Ministerio del Medio Ambiente, Bogotá.

Artículos

Autor, I.N.I. Año. Título. *Revista* volumen (o número): páginas del artículo. Ej:
Kattan, G., Alvarez, H. & Giraldo, M. 1994. Forest fragmentation and bird extinctions: San Antonio eighty years later. *Conservation Biology* 8: 138–146.
Pacheco, A. (en prensa). Biología reproductiva del Loro Orejiamarillo (*Ognorhynchus icterotis*) en el Municipio de Roncesvalles, Departamento del Tolima. *Conservación Colombiana* 0:00.

Capítulos o contribuciones dentro de un libro

Autor, I.N.I. Año. Título. Páginas en: Editor (ed.). *Título*. Editorial o institución que publica, Ciudad de publicación. Ej:
Rosselli, A. & Estela, F. 2002. *Vireo caribeus*. Pp. 367–370 en: Renjifo, L.M., Franco–Maya, A.M., Amaya–Espinel, J.D., Kattan, G.H. & López–Lanús, B. (eds.) *Libro rojo de aves de Colombia*. Instituto de investigación de Recursos Biológicos Alexander von Humboldt & Ministerio del Medio Ambiente, Bogotá.

Artículos publicados en el Internet o extractos de páginas electrónicas.

Autor, I.N.I. Año. *Título*. Institución que publica. Disponible en: URL [fecha de acceso]
FAO 2001. *Global forest resources assessment 2000: main report. Food and Agriculture Organization of the United Nations*. Forestry Paper No. 140. Disponible en: <http://www.fao.org/forestry/index.jsp> [descargado en febrero de 2006].

Unidades de medida. Recomendamos usar el Sistema Internacional de Unidades (SI) para todas las unidades de medida. Este puede ser revisado en el URL del “Bureau International des Poids et Mesures” <http://www.bipm.fr/en/home/>. Escriba las unidades usando un espacio intermedio después de los números, así: 33 °C ó 273 ha.

Numeración en el texto. Cuando un número va acompañado de una unidad siempre se deberá escribir como un número arábigo. Los miles se deberán marcar con una coma (,) y las fracciones decimales con puntos. Cuando los números no van seguidos de unidades, los dígitos de cero a nueve se escriben con palabras y de 10 en adelante con números arábigos. Para separar un intervalo, al igual que en cualquier otra oportunidad que se quiera usar un guión en el texto, se deberá usar el guión corto (–) y no el guión de no separación (-). Es recomendable no usar en cifras decimales más de tres dígitos.

Fechas y horas. Las fechas se deben escribir como día, mes y año, así: 11 de septiembre de 2006 ó 11 septiembre 2006 y use el sistema de 24 horas, así: 21.00 en vez de 9:00 P.M. ó 9:00 p.m., 6.00 en vez de 6:00A.M. ó 6.00 a.m.

La aceptación de los manuscritos dependerá de un proceso riguroso de la revisión de su calidad académica. La coordinación editorial y un miembro del Comité Editorial asociado con el área correspondiente al trabajo remitido, hacen una primera evaluación a fin de verificar el cumplimiento de los requisitos de presentación exigidos por la revista. Los manuscritos que no sean originales, que tengan serias deficiencias en su estructura, que presenten una pobre redacción o no se ajusten a las normas editoriales, serán devueltos para su adecuación antes de ser considerados para revisión por el Comité Editorial.

Los trabajos que pasen la primera etapa serán enviados a por lo menos dos árbitros expertos en el área de conocimiento respectiva, cuyas identidades serán desconocidas para los autores a través de todo el proceso de evaluación. Para notas cortas (menos de dos páginas) el uso de un solo árbitro con comentarios del comité editorial es también posible. Para asegurar la imparcialidad en la evaluación, las identidades de los autores también resultan desconocidas para los árbitros (proceso de evaluación doblemente ciego). Los árbitros disponen de dos semanas para remitir un concepto detallado sobre los siguientes aspectos u otros: el título refleja el tema del escrito, el resumen es claro y permite conocer con claridad el contenido y los elementos básicos del escrito, las palabras clave son pertinentes, la organización y redacción del manuscrito, la originalidad y alcance del trabajo presentado, claridad y delimitación del problema, la justificación es coherente con el problema abordado, la descripción de la metodología utilizada es clara y pertinente, existe formalidad en la escritura, existe relación entre la temática abordada teóricamente y los objetivos y la metodología utilizada, es rigurosa la presentación y discusión de los resultados, la consistencia entre resultados y conclusiones y la pertinencia y precisión de las referencias bibliográficas citadas. Los árbitros pueden enviar sus comentarios o correcciones sobre el manuscrito mismo electrónicamente o en un documento o correo aparte.

Cuando la recomendación de los árbitros coincide, se toma la decisión de aceptar o rechazar el trabajo. Si se rechaza, éste junto con los comentarios de los árbitros, es devuelto a los autores con la recomendación de corregirlo y considerar su publicación en otra revista o en otro número de la revista. La decisión de rechazar un trabajo es definitiva e inapelable. Si se acepta con la recomendación de hacer modificaciones, éste junto con los comentarios de los árbitros, es devuelto a los autores para que preparen una versión revisada y corregida, para lo cual disponen de dos semanas. Los autores deben remitir la versión corregida junto con detalles enviados al editor enumerando los cambios realizados de acuerdo con las recomendaciones hechas por los árbitros.

Anotar las correcciones utilizando subrayado para la pronta identificación. El Editor toma la última decisión acerca de la aceptación de la versión corregida considerando el concepto de los árbitros y las correcciones hechas por los autores. Los árbitros pueden hacer sus aportes en relación con la bibliografía u otro aspecto que no incida en el contenido del manuscrito, de igual manera, pueden hacer recomendaciones al Comité Editorial de la Revista (sólo será conocido por éste) al redactar un concepto de evaluación general del trabajo en el cual incluya las apreciaciones más importantes de su valoración, sugerir las observaciones, modificaciones, controversias y ajustes que estimen convenientes (aunque no se recomiende para publicación).

Fundación ProAves
Carrera 20 No. 36-61
Bogotá, Colombia
Tels: +57-1-245.5134 /340.3229
Fax: +57-1-340.3285
Email: fundacion@proaves.org



www.proaves.org