

Frontiers of knowledge: a quarter-century of Neotropical discovery

James Lowen, Alexander Lees and Joe Tobias

There is arguably no greater thrill for a birder, ornithologist, ecologist or conservationist than to discover something new. But what are the most jaw-dropping Neotropical discoveries since the Neotropical Bird Club was founded in 1994? Specifically, what are our ‘top 25’ (revelations) of the last 25 (years)?

In this article, we seek to celebrate a quarter-century of ornithological discoveries across the Neotropical region since 1994, when the Neotropical Bird Club was established. Twenty-five remarkable discoveries across the last 25 years. We apply a broad church to the definition of ‘discovery’. We showcase astonishing new species for science. We cheer for birds feared extinct but – against expectations – found to persist. We gasp at gobsmacking acts of vagrancy. We salute unanticipated information on avian distributions. And we doff our hats to amazing ecological discoveries and unanticipated taxonomic revelations.

Deciding what to include has not been easy. Anything novel, almost by definition, is exciting. And there is much from which to choose. That said, any selection involves considerable subjectivity because one person’s remarkable can be another’s run-of-the-mill. In the hope of reaching a balanced consensus, we joined forces as co-authors rather than giving a single writer free rein; we crowdsourced ideas in person and via social media (particular thanks to the many contributors to a thread on the NBC Facebook group); and we argued long into the night to whittle down a mighty longlist into the 25 discoveries that we hereby present. (In the text or



1 Pink-legged Graveteiro *Acrobatornis fonsecai*, Mascote, Bahia, Brazil, December 2017 (Ciro Albano/NE Brazil Birding).

in sidebars, we honour several events or species that narrowly missed out.) We don't ask that you agree with us on every single selection – but we do invite you to raise a glass to whomever made the discovery.

New to science

Can there be anything more heart-pounding for a birder than hearing or seeing a bird that is so different from anything known to exist that it is wholly, unequivocally, absolutely new to science? Two of us have an *inkling* what this feels like from our own Neotropical fieldwork, but only that – as none of our discoveries involved encountering a radically distinctive new species – so we can only imagine the joy, panic and work involved. AL recorded a mystery song in rainforests of the eastern Amazon which would later prove to be a tiny undescribed pygmy-tyrant (Lees *et al.* 2014a), informally known as 'Maranhao-Piaui Pygmy Tyrant'. AL also rediscovered a piculet of unknown taxonomic affinity (Lees *et al.* 2014b) and was a co-author on a new scythebill taxon for which recognition of species status has been contentious. JT has been hot on the heels of several discoveries, including Rufous Twistwing *Cnipodectes superrufus* in Peru – of which species, more later – and Santa Marta Screech-Owl *Megascops gilesi* in Colombia (Tobias 2007), and has also discovered two unnamed but not exactly distinctive taxa of his own in Bolivia – an antbird and an antpitta – both of which are in the very slow process of being described in publications. Exciting stuff, but not quite the bombshell ticket.

The new-species bombshell, in its purest form, involves breathtaking surprise and at least a frisson of mystique. JT fondly recalls visiting Luiz Gonzaga in 1995, opening a private specimen drawer in Luiz's office at the Federal University of Rio de Janeiro... then pulling out a bird that utterly perplexed him. What the hell genus did it even come from? Luiz was coy about its identity – which was revealed the following year to be **1** **Pink-legged Graveteiro *Acrobatornis fonsecai*** (Pacheco *et al.* 1996; Figs. 1–2). With anatomical, plumage and behavioural features marking it out as a previously unknown genus of furnariid, the Graveteiro was a spectacular discovery in its own right. But even more astonishing was that it was apparently restricted to an anthropogenic habitat (cocoa plantations) and that its very obvious nests even dangled above the BR101, a major highway in a relatively populated region of Brazil. Discovered within a year of the



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2 Pink-legged Graveteiro *Acrobatornis fonsecai*, Serra Bonita, Camacan, Bahia, Brazil, November 2010 (Ciro Albano/NE Brazil Birding). Adult (left) feeding the contrastingly brown juvenile.

NBC's inception, here was a bird hiding in plain sight. What better species to kick off this article?

The past quarter-century has witnessed an explosion in the number of Neotropical bird species – a phenomenon that has been integral to *Neotropical Birding* since its very first issue when Chris Balchin (2006) rummaged through “a potpourri” of recently described birds from the region. “The great majority [of new species] arose,” wrote David Brewer – author of *Birds new to science* (Brewer 2018a) – in an article in this magazine last year (Brewer 2018b), “because forms previously regarded as subspecies were reclassified as full species”. This splitting has been facilitated by our improved technical ability to analyse and compare vocalisations, an ever-increasing use of molecular genetics and greater rigour in the application of morphological criteria. Nevertheless, splitting does not generate the same adrenalin rush as finding a wholly new taxon, so we have excluded such ‘discoveries’ from our list. Instead we present only truly new taxa.

Two further Brazilian endemics make the grade. **2** **Araripe Manakin *Antilophia bokermanni*** (Fig. 3) is perhaps the most visually arresting novel species to have come out of South America for decades – which may explain why it has featured on the front cover of *Neotropical*



3 Araripe Manakin
Antolophia
bokermanni,
Chapada do Araripe,
Ceará, Brazil, June
2010 (Ciro Albano/
NE Brazil Birding).

Birding not once but twice (issues 5 and 23). Artur Coelho originally heard the bird singing in 1994, but it took until 1996 for him and Weber Silva to track down the songster and then two further years to describe it (Coelho & Silva 1998). The precise location where the duo first clapped eyes on the bird is now a water park and the remaining tiny population is restricted to a single plateau. Little wonder that this ivory, ebony and scarlet stunner is Critically Endangered. Despite its strikingly distinctive appearance, the highly localised Araripe Manakin is genetically similar to its widespread relative, Helmeted Manakin *A. galeata* (Rêgo *et al.* 2010, Luna *et al.* 2017), suggesting very recent divergence. Nonetheless, the two lineages seem to justify treatment as separate species because subsequent research has revealed consistent divergence across much of the genome and no sign of hybridisation (Amaral *et al.* 2018).

During the mid-late noughties, two of us (AL and JL) individually enjoyed excited conversations with the late Juan Mazar Barnett – Argentine ornithologist and former NBC Council member – about the latest developments with a furnariid that he and Dante Buzzetti had seen at Murici, Alagoas, in 2002 and subsequently. They were adamant it was undescribed, and that perhaps

confusion had crept in because this mystery bird closely resembled Alagoas Foliage-gleaner *Philydor novaesi*, already treasured as a ‘star’ species at Murici, but displayed characteristics of a treehunter *Cichlocolaptes*.

Careful re-examination of museum specimens of *novaesi* led to their reidentification as this unnamed treehunter. Two years after Juan’s death, the species was formally described as the aptly named **3** **Cryptic Treehunter** *C. mazarbarnetti*, Dante simultaneously co-describing it with and naming the species after Juan (Mazar Barnett & Buzzetti 2014). That would be story enough, but in 2016 the Brazilian Government officially declared both Cryptic Treehunter and Alagoas Foliage-gleaner to be extinct, last seen in 2007 and 2011 respectively (Lees & Pimm 2015). A thrilling discovery and a double extinction: the stuff of fables and a reminder of how much remains to be learnt in the Neotropics, and how easily it can be lost.

The next trio of discoveries all come from Peru. The first is a slight cheat in that it covers not one but four species. As explained by Shany *et al.* (2007) and Alonso *et al.* (2012), a decade of bird surveys in a fairly small area of **4** **white-sand forests near Iquitos** (dpto. Loreto) led to the description of at least four biogeographical

endemics new to science between 1998 and 2005. The discoveries of Ancient Antwren *Herpsilochmus gentryi* (Fig. 4), Allpahuayo Antbird *Percnostola arenarum*, Mishana Tyrannulet *Zimmerius villarejoi*, and Iquitos Gnatcatcher *Polioptila clements* were significant in their own right (even if the taxonomic status of the latter is currently subject to dispute).

But such an unexpected accumulation of avian novelty also served to underscore the importance of poor-soil avifaunas – leading to new species such as Campina Jay *Cyanocorax hafferi* and

Chico's Tyrannulet *Z. chicomendesi* being found in white-sand enclaves in the Brazilian Amazon (Whitney and Cohn-Haft 2013). Indeed, the latter remarkable agglomeration of new taxa – 15 presented as novel species – marginally misses out on a 'batch-award' berth in the top 25 because it is more of a 'watershed moment' (highlighting cryptic Amazonian diversity) than a standalone discovery and, to a certain extent, because of its publication in a non-peer reviewed outlet, which has prompted some controversy.

Rivalling Araripe Manakin for generating astonishment when its discovery was announced was **5** **Scarlet-banded Barbet** *Capito wallacei* (O'Neill *et al.* 2000; Fig. 5). In July 1996 on an isolated mountain ridge – 'Peak 1538', now known informally as 'Barbet Peak' – in a remote part of southwest Loreto, Dan Lane clapped eyes on an unknown, brightly coloured barbet. "My jaw dropped," he later recalled in an article recounting the exciting discovery (Lane 2012). "The bird I am now looking at is a new species of barbet..." Lane somehow managed to calmly dictate into his tape recorder. Lane is now a well-established figure in Neotropical ornithology, but that Peru trip was the very first visit to South America for the man who will forevermore be nicknamed 'Barbet Boy'. What a start.

Lane has rarely been far from the action since, but arguably his most thrilling subsequent discovery has yet to formally hit the record almost



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4 Ancient Antwren *Herpsilochmus gentryi*, Allpahuayo-Mishana reserve, Loreto, Peru (José Álvarez Alonso).

5 Scarlet-banded Barbet *Capito wallacei*, Plataforma, San Martín, Peru, July 2018 (Steve Huggins; pbase.com/sjhuggins).

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6–7 Undescribed tanager, nicknamed ‘Kill Bill Tanager’ or ‘San Pedro Tanager’, Parque Nacional Madidi, Bolivia, October 2018 (David Fisher).

8 Rufous Twistwing *Cnipodectes superrufus*, Extrema, Pando, Bolivia, November 2004 (Joe Tobias).

two decades on. This argues for its exclusion from this list. But how could we do such a thing, given that the bird is widely known, occasionally twitchable and even nicknamed **6** ‘Kill Bill Tanager’ (Figs. 6–7) in homage to the yellow catsuit-clad character Beatrix Kiddo played by Uma Thurman in Quentin Tarantino’s 2003 film *Kill Bill* (a far sexier moniker than ‘San Pedro Tanager’, the alternative name in circulation)? We bet the final common or scientific name will be good too...

In 2000, Dan was guiding when he found a striking golden-yellow tanager – almost recalling an Old World oriole *Oriolus* – near Cock-of-the-Rock Lodge on Manu Road. It took until the equivalent tour three years later for Dan to bump into the bird again. A subsequent expedition by Dan and NBC stalwart Barry Walker secured a specimen but – and bad luck does not even begin to describe what happened next – this was left unattended briefly... and was seriously damaged by a scavenging mammal, perhaps an opossum or rat. The next twist in the tale came in 2011 when Frank Rheindt found the tanager near Apolo, Bolivia, suggesting that it has a wider range or more extensive movements than previously believed. Truly remarkable.

Dan Lane is also integral to the story of our seventh new species for science:



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7 Rufous Twistwing *Cnipodectes superrufus* (Fig. 8). This could easily have been the bird that got away. In 1990, Grace Servat collected a male in Manú, southeast Peru, prepared it as a specimen and made the best-guess that it was a Rufous Casiornis *Casiornis rufus*. Twelve years later, Dan Lane opened the casiornis drawer in Lima museum... and realised that he was looking at a new species of *Cnipodectes*. Shortly afterwards, after rumours had filtered to the UK,



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9 Jocotoco Antpitta *Grallaria ridgelyi*, Tapichalaca, Loja, Ecuador, October 2009 (Nigel Voaden; [flickr.com/photos/nvoaden/](https://www.flickr.com/photos/nvoaden/)).

Frank Lambert took brief video footage of an unidentified tyrant flycatcher and emailed it to JT, who told him it was likely the new mystery tswiting.

The bird was formally described in 2007 (Lane *et al.* 2007), by which time the voice had been recorded, leading to a flurry of in-field encounters from several sites, including records from Bolivia and Brazil (Tobias *et al.* 2008). Despite this region being fairly heavily surveyed by birders and ornithologists for many years, a sensational find had been lurking in dense lowland bamboo forests across a wide area (Tobias 2007). More than a decade on, almost everything that is known about this flycatcher is contained in the type description and in Tobias *et al.* (2008).

We now switch to a mossy trail through the cloud forests of southern Ecuador, where a small team of recordists heard a strange sound on 20 November 1997. “I knew instantly: no ornithologist or birder had ever seen this fabulous creature before! And it was close!” The words of Neotropical great (and NBC patron) Bob Ridgely

(2012) in this magazine, describing his first thoughts on hearing the mystery bird uttering a “soft, measured hooting”. The final new species for science included in our roll call of novelties is

8 **Jocotoco Antpitta** *Grallaria ridgelyi* (Fig. 9). Discovered at Quebrada Honda, just south of Parque Nacional Podocarpus in Loja province, ‘the Jocotoco’ formally entered the taxonomic statute two years later (Krabbe *et al.* 1999).

In the standfirst to Ridgely’s article, the then editor of *Neotropical Birding* Guy Kirwan considered the discovery as “surely one of the most remarkable ‘new’ birds described to science in modern times”. The particular legacy of this antpitta, however, is the conservation organisation – Fundación Jocotoco – created in its name. The NGO now manages 13 reserves and five ecotourism lodges, among them Casa Simpson at Tapichalaca, where the famous antpittas perform shamelessly when ‘bribed’ with food.

One very striking connection between almost all of these new species is the primacy of field ornithology – perhaps we can call it birding? – in the discovery. For that, arguably, we need to acknowledge the late Ted Parker III, to whom *Cotinga* 1 was dedicated. The ‘Parker era’ of the late 1970s and 1980s marked a change from species discoveries produced by intensive bird collecting expeditions manned by teams armed with shotguns. Parker’s renowned field skills and his massive contribution to the improved knowledge of bird vocalisations during that period meant that he and others started discovering new taxa on the basis of field observations, and particularly by ear. This period of new-species discoveries by fieldworkers wielding binoculars and sound-recording equipment was hugely exciting (see Stap 1990 for some juicy tales), helping to inspire a generation of Neotropical ornithologists, paving the way to the initial establishment of the Neotropical Bird Club and many of the subsequent discoveries celebrated here.

Rediscoveries

Readers of the Gospel of John may think of species rediscovered following feared or presumed extinction to be ‘Lazarus birds’; the saint was reputedly restored to life by Jesus four days after his death. It follows that rediscoveries of lost species can provoke almost as much excitement as revelations about truly new ones. As one of us (JT) wrote in an article about species ‘lost and found’ in the very first *Neotropical Birding* (Tobias *et al.* 2006), “there is a special charm about finding a bird considered ‘lost’ for many years”. Described

NEAR MISSES: NEW SPECIES

Species new to science – each with its own scintillating story – that narrowly missed out on inclusion in this ‘top 25’ include: Cryptic Forest-Falcon *Micrastur mintoni* (for which see *Neotropical Birding* 12: 26–30), Bald Parrot *Pyrilia aurantiocephala*, Antioquia Wren *Thryophilus sernai*, Munchique Wood-Wren *Henicorhina negreti* (Fig. 10), Cordillera Azul Antbird *Myrmoderus eowilsoni* and Predicted Antwren *Herpsilochmus praedictus*.

10 Munchique Wood-Wren *Henicorhina negreti*, Parque Nacional Natural Munchique, Cauca, Colombia, January 2010 (Nigel Voaden; [flickr.com/photos/nvoaden/](https://www.flickr.com/photos/nvoaden/)).



and catalogued long ago, these species “have escaped detection for decades on end”. Irrefutable rediscoveries provide “moments of jubilation... [sending] ripples of delight, and sometimes astonishment, through the ornithological community”.

The list of post-1994 Lazarus birds is long (see Balchin 2007, in the second issue of *Neotropical Birding*, for an insight). Picking a short subset to feature is fraught with difficulty. Yet there can be no dispute with the first major rediscovery of the NBC era, however – and it is gratifying that details were published in *Cotinga*. On 27 October 1996, Ricardo Parrini stumbled across **9** Kinglet *Calyptura Calyptura cristata* in the foothills of southeast Brazil’s Serra dos Órgãos. Pacheco & Fonseca (2001) describe being phoned by Parrini: “The call... was challenging, almost a tease. He did not want to state categorically what he had seen, preferring to lead Pacheco to the same conclusion he had reached.” Over the following two days, several local birders successfully (albeit not easily) twitched the “Holy Grail of birdwatchers in Rio de Janeiro”. And that was it. This tiny gem had been lost without trace for more than a century, then dramatically refund... then lost again ever since. How unfortunate that the sightings eluded documentation (and not without effort on behalf of the well-equipped observers). Who would not love to see a photo of Kinglet Calyptura?

Almost as revolutionary as the Calyptura was Thomas Valqui’s face-to-face encounter with **10** White-masked Antbird *Pithys castaneus* on 3 July 2001, near Tierra Blanca in Peruvian



11 White-masked Antbird *Pithys castaneus*, San Lorenzo, Loreto, Peru, June 2013 (Fabrice Schmitt/ WINGS Birding Tours).

Amazonia. The species had been seen only once, almost 65 years previously, and its long absence had led many to mutter that it was most likely a hybrid rather than a valid species. Valqui and co. removed those doubts with a few seconds of heart-stopping birding (Lane *et al.* 2006), and this staggeringly attractive antbird is now routinely



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12 Long-whiskered Owlet *Xenoglaux loweryi*, Fundo Alto Nieva, Nueva Cajamarca, San Martín, Peru, December 2013 (Carlos Calle/🐦 guiacalles.com).

13 Blue-bearded Helmetcrest *Oxypogon cyanoaemus*, San Pedro, Ciénaga, Magdalena, Colombia, January 2018 (Sebastian Ballesteros/🐦 naturecolombiatris.com).

twitchable (see, e.g., Schmitt 2017; Fig. 11). How the world can change.

Not only was that man Dan Lane involved in the White-masked Antbird saga, but he also led the 2002 expedition that rediscovered **11** Long-whiskered Owlet *Xenoglaux loweryi* (Fig. 12) in the Alto Mayo region of Peru. (Lane's rediscovery is slightly painful for one of us [JL], who in precisely the same month, had joined former NBC Chair Rob Williams in stumbling around Abra Patricia's stunted ridge forest at night, forlornly aspiring to the self-same encounter.) The tiny, bare-legged creature was known only from specimens mist-netted and collected in 1976 and 1978. Never seen in the field at the time or subsequently, it quickly became one of the world's most enigmatic birds. "In common with the Loch Ness monster," Dušan Brinkhuizen *et al.* (2012) suggested in *Neotropical Birding* 10, "tales were spun to fill in our lack of knowledge of the species,

such as it being almost flightless..." Thanks to Dan Lane's brilliance plus subsequent encounters, notably within yards of an ecolodge run by Asociación Ecosistemas Andinos (ECOAN), the Owlet has been largely demythologised.

Third on our list of refinds is a species that contrived to be rediscovered twice, in quite separate ways. It took until 2013 for **12** Blue-bearded Helmetcrest *Oxypogon cyanoaemus* to be formally recognised as a species, when Collar and Salaman (2013) pressed its case for a split from (what is now known as) Green-bearded Helmetcrest *O. guerinii*. The problem was that the last of the 62 specimens of this striking hummingbird had been collected in 1946, there were no subsequent records despite searches and the known range had suffered marked habitat degradation. When one of us (JL) interviewed Nigel Collar for a magazine article about his and Josep del Hoyo's wholesale revision of global avian



14 Blue-eyed Ground-dove *Columbina cyanopsis*, Reserva Natural Rolinha-do-Planalto, Minas Gerais, Brazil, February 2018 (João Sérgio Barros F. de Souza: [flickr.com/photos/joaosouza/](https://www.flickr.com/photos/joaosouza/)).

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NEAR MISSES: REDISCOVERIES

Quite a roll call of species was considered for inclusion in this section. They include Austral Rail *Rallus antarcticus* (whose rediscovery was the subject of a NBC Conservation Award), Dusky Starfrontlet *Coeligena orina*, Recurve-billed Bushbird *Clytoctantes alixii*, Tachira Antpitta *Grallaria chthonia*, Pelzel's Tody-tyrant *Hemitriccus inornatus*, Chestnut-bellied Flowerpiercer *Diglossa gloriosissima*, Cherry-throated Tanager *Nemosia rourei* and Cone-billed Tanager *Conothraupis mesoleuca*.

15 The glittering Dusky Starfrontlet *Coeligena orina*, Montezuma, Risaralda, Colombia, November 2018 (James Lowen/[flickr.com/photos/jameslowen/](https://www.flickr.com/photos/jameslowen/)).

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taxonomy (del Hoyo & Collar 2013, 2016), Collar feared that *cyanolaemus* might “quite possibly be extinct” before it had even been admitted to the ranks of full species.

Collar's message was clear: to get conservation right, we need to get taxonomy right. In this case, the eventual split actually (if belatedly) paid dividends. It prompted Carlos Julio Rojas and Christian Vasquez to search Parque Nacional Natural Sierra Nevada de Santa Marta. On 4 March 2015 they ended the lacuna of sightings and obtained the first-ever photographs of Blue-bearded Helmetcrest (Rojas & Vasquez 2015). The species is now on the radar of intrepid birders prepared to trek (e.g. Lorenz 2018; Fig. 13). It may be Critically Endangered, but Blue-bearded Helmetcrest is at least still with us.

A country the size of Brazil is bound to hold avian mysteries – and still offers the lure of high-profile rediscoveries for anyone blessed with

vigilance and intrepid spirit. Of the Neotropics' top 20 target 'lost' species for birders to refind, as identified by Tobias *et al.* (2006), six were in Brazil. Two of these have since been judged extinct and extinct in the wild (Glaucous *Anodorhynchus glaucus* and Spix's *Cyanopsitta spixii* macaws respectively), at least one currently deemed to be an invalid taxon ('Hooded Seedeater *Sporophila melanops*') but two have been rediscovered.

It was a tough call which of this pair to include in our 'top 25': a stand-off between Kaempfer's Woodpecker *Celeus obrieni* and **13** Blue-eyed Ground-dove *Columbina cyanopsis*. There was a strong case for the former, including on the grounds of its stunning appearance and the recent realisation that it actually occurs across a vast swathe of the Brazilian cerrado, albeit restricted to stands of bamboo. But we have plumped for the stunning ground-dove (Fig. 14). Rafael Bessa relocated this cobalt-eyed wonder in Minas

Gerais in 2015, the first documented record for 74 years. He announced the rediscovery to a buzzing crowd at the 2016 Brazilian Birdwatching Festival in a highly anticipated talk about what was enigmatically advertised only as ‘Species X’. Unlike the woodpecker, the ground-dove appears to be genuinely rare and at risk of imminent global extinction. The purchase of land by SAVE Brasil supported by the Rainforest Trust and then the creation of Parque Estadual de Botumirim give hope for its future.

Exceptional vagrancy

We have each been involved in encountering a species new to a country, sometimes several in one go (Tobias & Seddon 2007), so can testify to how thrilling it is. But in a litany of the exceptional such as this article, a mere first for a country does not pass muster as a remarkable discovery. Often such ‘firsts’ comprise not-entirely-unexpected range extensions from neighbouring nations. No, for an article of this ilk, we must set a higher barrier to entry – true vagrancy, and astonishing vagrancy at that. A species that is not even in the right continent or hemisphere, say. And even then, the list of potential candidates is mighty. Birds have wings – and boy, can they travel.

Many remarkably lost birds have featured in the pages of *Cotinga* and *Neotropical Birding*, including South America’s first Audouin’s Gull (Lallsingh 2018; Fig. 16) and Whiskered Tern (Clay 2016; Fig. 17). Both hail from the Old World – yet neither quite make the cut because gulls and terns are renowned for their cross-ocean movements. The same is true of shorebirds, which are typically long-distance migrants. Accordingly, the first records for South America of Lesser Sandplover *Charadrius mongolus* (Le Nevé & Manzione 2011) and Eurasian Curlew *Numenius arquata* – at the very same site in Argentina, no less – are

very impressive, as was a Collared Pratincole *Glareola pratincola* in Brazil, but they too don’t quite make it. Vagrant penguins don’t quite ‘cut the mustard’ either, given that they drift freely on marine currents, resulting in extralimital records such as Little *Eudyptula minor* and Erect-crested penguins *Eudyptes sclateri* in Argentina (M. Pearman *in litt.* 2019) and Magellanic Penguin *Spheniscus magellanicus* in El Salvador (O. Komar *in litt.* 2019). Seabirds capable of flight, meanwhile, are quintessential nomads – so there’s no place even for South America’s first Northern Fulmar *Fulmarus glacialis*, seen off Chile in February 2017 (Marin *et al.* 2017).

Given such lofty ‘standards’, what acts of vagrancy actually make our list? First is the exceptional **14 Common Kingfisher *Alcedo atthis*** from Ciego de Ávila province, Cuba, in April 2003 (Rodríguez *et al.* 2005). No birder got this particular species on his or her list, however, because “three boys killed the kingfisher with sling shots after a long pursuit through the local mangroves”. This was the first record for the Western Hemisphere of a species widely distributed through the Palearctic and Oriental regions but hardly renowned for migratory prowess. “We do not know how it reached the Cuban coast,” say the authors, “although we do not believe it was by human introduction”.

Vagrant hunters have long visited the extremities of countries – or continents – in their quest to find literally outlandish species: think the Azores or the Aleutians, for a start. The Falkland Islands (Malvinas) lie right on the edge of the NBC region, and, despite limited coverage, the archipelago has an enviable track record in producing records of unexpected birds (Woods 2017). “Some Falklands vagrants,” writes Woods, “have been remarkably far from their regular ranges”. Three South American species (White-collared Swift *Streptoprocne zonaris*, Sick’s

16 >> BIRDING AT THE CUTTING EDGE AUDOUIN’S GULL IN TRINIDAD

A vagrant from the Old World: a mysterious gull in Trinidad

Nigel Lallsingh

In *Neotropical Birding* 19: 56–58, we celebrated the discovery of the first Whiskered Tern *Chlidonias hybrida* for South America. Now we share another scoop: the finder’s account for the region’s first Audouin’s Gull *Ichthyophaga audouinii*, another Old World species on the wrong side of the Atlantic.

17 >> BIRDING AT THE CUTTING EDGE A FIRST FOR SOUTH AMERICA

A first for South America—by a whisker

Rob Clay

Finding a rarity—a bird out of its normal geographical context—is always exciting. Discovering a bird new to a country is even more exhilarating. But what does it feel like to come across a bird hitherto unknown across an entire continent? We asked Neotropical Bird Club Council member Rob Clay to reflect upon his feelings when he encountered South America’s first-ever Whiskered Tern, earlier this year.

16–17 How *Neotropical Birding* broke the news on two firsts for South America that narrowly missed inclusion in this ‘top 25’ of discoveries.



18 Adult male American Redstart *Setophaga ruticilla*, Cape Dolphin, East Falkland, Falklands (Malvinas), December 2014 (Alan Henry).

19 Immature Corncrake *Crex crex*, Açude do Xaréu, Fernando de Noronha, Brazil, November 2012 (Kleber de Burgos/© burgos.com.br).

20 Red-throated Pipit *Anthus cervinus*, Río Verde, Esmeraldas, Ecuador, March 2008 (Dušan Brinkhuizen/© sapayoa.com). 21 How Cotinga published the latter record.



21 Cotinga 32

Red-throated Pipit *Anthus cervinus*: a new species for South America

Dušan M. Brinkhuizen, Lazar Brinkhuizen, Andrew Keaveney and Sarah Jane

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Swift *Chaetura meridionalis* and Tropical Parula *Setophaga pitiauyumi*) were each “at least 1,700 km south of their normal range limit”. But even these lost souls were eclipsed in December 2014, when not one but two adult male **15 American Redstarts** *Setophaga ruticilla* were found on the islands (Fig. 18). Staying until February 2015 and at least June 2015, these individuals were an almost unbelievable 6,500 km south of the species’s regular winter range (Woods 2017). Only the Falklands’ Wood Thrush *Hylochila mustelina* (in 1970) beats the redstart in terms of gobsmacking vagrancy.

Northeasternmost Brazil also has an enviable position to receive vagrant birds. The rarely visited islets of the Saint Peter and Saint Paul Archipelago, just 1,600 km from Cape Verde, are visited only by scientists who recorded the first Black Kite *Milvus migrans* for the Neotropics there in April/May 2014 (Nunes *et al.* 2015). Previous ‘megas’ from this tiny speck in the Atlantic Ocean include Little Egret *Egretta garzetta*, Eurasian Kestrel *Falco tinnunculus* and Lesser Moorhen *Gallinula angulata* (Bencke *et al.* 2005).

More accessible to birders are the islands of Fernando de Noronha, which routinely produce national firsts (Silva e Silva & Olmos

2006). Squacco Heron *Ardeola ralloides* is now suspected to breed there and was recently recorded on mainland Brazil for the first time, with full-blown colonisation even predicted (Davis 2010). Although this is impressive, our vote for Noronha’s top vagrant goes to the first South American record of **16 Corncrake** *Crex crex*, found by Kleber de Burgos on 28 November 2012 (de Burgos & Olmos 2013; Fig. 19). Rails are notorious globetrotters (and this record was followed by an Allen’s Gallinule *Porphyryla alleni*) but with Corncrake undergoing a global decline, contemporary records from the New World seemed less likely. That said, another subsequently made it to New York! Although the Corncrake currently takes pride of place, AL has seen as-yet unpublished images of multiple Eurasian firsts from the archipelago, including the first landbird – watch this space...

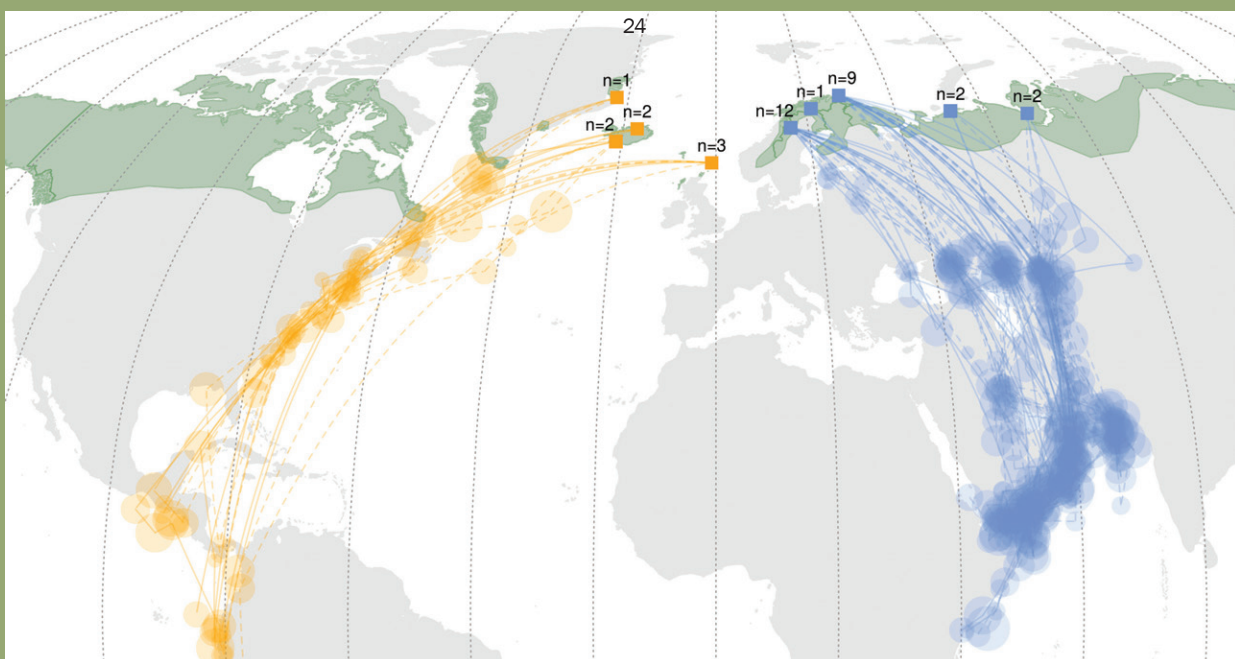
Our final spectacular – and also intriguing – example of vagrancy relates to South America’s first **17 Red-throated Pipit** *Anthus cervinus*. On 28 March 2008 Dušan Brinkhuizen and others visited the Ecuadorian coast near Río Verde in Esmeraldas, looking for roosting Lesser Nighthawks *Chordeiles acutipennis*. Having found



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23



22–23 Male Red-necked Phalarope *Phalaropus lobatus* being fitted with geolocator: 22 Shetland, UK, June 2012 (Adam Rowlands/RSPB); 23 Iceland, July 2014 (Denise Hermans). 24 Migration routes of the two populations of Red-necked Phalarope *Phalaropus lobatus* (Rob van Bemmelen).

two, they then spotted a pipit *Anthus* foraging between flotsam at the high-water mark. Given that Ecuador's only *Anthus* (Paramo Pipit *A. bogotensis*) occurs mainly above 3,000 m altitude, the group knew they were onto something good – presumably a vagrant North American pipit. Once photographs were shared with the international community, it was realised that the find was even more astonishing than that – a Eurasian passerine, Red-throated Pipit, in South America.

The observers wrote up their record in *Cotinga* (Brinkhuizen *et al.* 2010; Figs. 20–21), conjecturing that “the increasing number of records along the Pacific coast of the USA and Mexico may indicate that this species occurs more regularly [in South America]

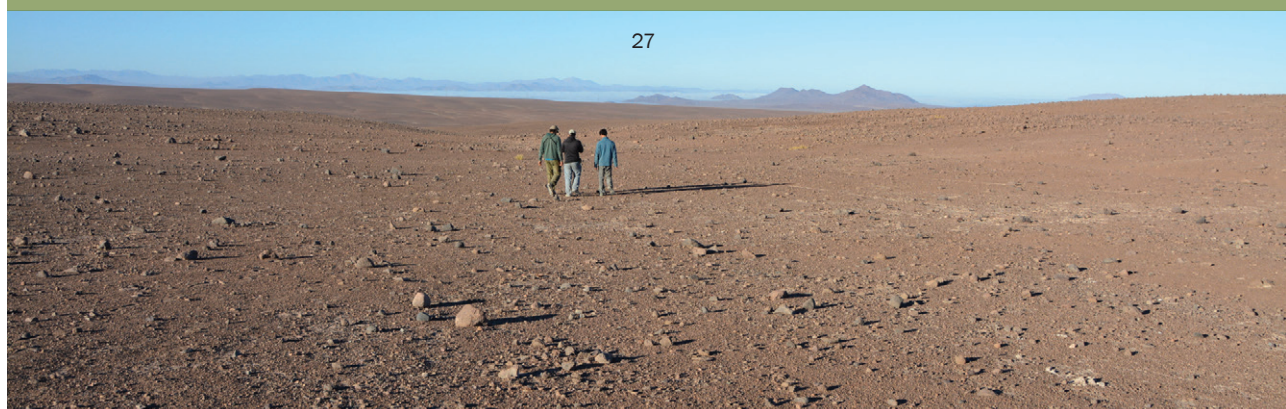
than previously thought.” The Ecuador record “supports the idea that some of these birds wander even further south to winter in the Neotropics”. Lending further credence to this idea is the subsequent first record of Red-throated Pipit for Central America *sensu strictu*, in montane Guatemala in April 2018 (Matías & Eisermann 2018).

New distributional information

Not all distribution-based discoveries pertain to vagrancy. Some relate to leaps in our understanding of where birds routinely live. Typically, these follow intensive effort by dedicated ornithologists. Narrowly missing out



25 Mist-netted Ringed Storm-Petrel *Oceanodroma hornbyi*, Pampa de Indio Muerto, Atacama Región, Chile, April 2017, with **26** its nest cavity and **27** desert habitat (all Rodrigo Barros).



on inclusion are two globally threatened seabirds breeding in the Old World – Fea’s (Desertas) Petrel *Pterodroma feae deserta* and Zino’s Petrel *P. madeira* – for which dataloggers have revealed regular wintering areas off the Brazilian coast (Zino *et al.* 2011, Ramírez *et al.* 2013). AL went to sea to look for these species based on these discoveries and ended up finding multiple Trindade Petrels *Pterodroma arminjoniana* which were then equally unexpected (Lees *et al.* 2015).

It is secrets revealed by dataloggers attached to **18** **Red-necked Phalaropes** *Phalaropus lobatus* that have revolutionised the way we think about this shorebird. For years, conservationists had speculated about the migration route and wintering area of phalaropes breeding on North Atlantic islands, particularly those in Scotland (UK). A male tagged in August 2012 (the very individual in Fig. 22) was found to have crossed the North Atlantic to Canada, then headed south before crossing the Gulf of Mexico into the Pacific Ocean, where it spent more than six months at sea between the Galapagos Islands and the Ecuadorian mainland (Smith *et al.* 2014). This was the first

evidence of a European breeding bird migrating to the Pacific Ocean.

Subsequent, more detailed research (Bemmelen *et al.* 2019; Figs. 23–24) revealed the existence of two populations with distinct migration routes and wintering areas. A longer-winged population breeds in the northeastern North Atlantic and migrates c.10,000 km over sea to the tropical eastern Pacific Ocean (i.e. to Neotropical waters). The other breeds in Fennoscandia and Russia then migrates c.6,000 km – largely over land – to the Arabian Sea (Indian Ocean). As long-time NBC member and world lister Jonathan Newman commented on the NBC Facebook page: “Never saw that one coming”...

In their ‘lost and found’ article, Tobias *et al.* (2006) encouraged intrepid birders to track down the unknown breeding grounds of **19** **Ringed Storm-Petrel** *Oceanodroma hornbyi*, a Data Deficient Pacific seabird. On the basis of a few reports of mummified adults and fledglings found up to 50 km inland, up to 1,600 m above sea level prior to 1930, Tobias *et al.* restated earlier suggestions (e.g. Hellmayr 1932) that “colonies may lie inland



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in the Atacama Desert [of northern Chile]". The authors coupled this guidance with a stark warning: "The difficulty of working in this region must be emphasised: the Atacama Desert, the driest place on earth, is a land of featureless plains broken up by steep, loose-walled valleys".

Such conditions did not deter a team of Chilean birders led by Rodrigo Barros. From 2013–17, volunteers surveyed 780 linear km of the Atacama, mainly searching for breeding sites of Markham's Storm-Petrel *O. markhami*, a discovery that was written up in this magazine (Schmitt *et al.* 2016). In December 2016, in desert at Pampa de Indio Muerto, north of Diego del Amargo and 75km in a direct line from the sea, the team "found natural shallow cavities with petrel odour and white and grey feathers inside" (Barros *et al.* 2018). Returning in April 2017 and presumably following their nose, Barros's team found 25 cavities with the same smell and feathers – and on 2 April trapped an adult Ringed Storm-Petrel leaving a burrow at 06h00 (Figs. 25–27). Mystery solved.

Detective work using geolocators is gradually unveiling the wintering range of a suite of Nearctic migrants that leave North American or Caribbean breeding grounds, then seemingly vanish – presumably spending much of the non-breeding season somewhere in the Neotropics. Their number include Antillean Nighthawk *Chordeiles gundlachi*, Black Swift *Cypseloides niger*, Black-billed Cuckoo *Coccyzus erythrophthalmus*, Connecticut Warbler *Oporornis agilis* and

20 Caribbean Martin *Progne dominicensis*, which is the species that we celebrate here because facets of its basic ecology (e.g. wintering grounds

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SS PHOTOSPOT CINEREOUS MOURNERS

Do juvenile Cinereous Mourners *Laniocera hypopyrra* mimic large, hairy caterpillars?

Johan Ingels and Mathieu Entraygues

Most juvenile birds exhibit cryptic plumage to mislead predators relying on vision to find their prey. So why should juveniles of such an inconspicuous, dull greyish bird as the Cinereous Mourner *Laniocera hypopyrra* possess a dramatically conspicuous plumage? Are they mimicking a large unpalatable or toxic hairy caterpillar? We publish here the first photos of such a bizarre-looking juvenile in the wild...

28 Juvenile Cinereous Mourner *Laniocera hypopyrra*, Montagne de Kaw, French Guiana, October 2012 (Mathieu Entraygues).

29 The *Neotropical Birding* article featuring the idea that the species's juvenile mimics caterpillars.

and migration route) were basically unknown between September and January.

Noah Perlut *et al.* (2017) relate how they attached geolocators to seven hirundines on the Caribbean island of Dominica in 2012. Two years later, they recovered data from one device attached to a female Caribbean Martin and found that she had wintered around 3,350 km southeast of Dominica in western Bahia, Brazil. Intriguingly her southwards migration route in 2013 (heading south into Guyana and the Amazon before veering southeast) differed from that the previous year (tracking the South American coast before heading south). There's clearly lots more to discover about many species that may otherwise be relatively well known in the non-Neotropical part of their lives.

The discovery "of the most complex migratory pattern yet recorded for a tropical species", in no less a taxon than the one enshrined in the NBC logo, Three-wattled Bellbird *Procnias tricarunculata*, is only omitted here because it features elsewhere in this magazine. So check out Graeme Green's article on page 57.

Ecological revelations

In 2012, NBC founder and long-time *Cotinga* editor Guy Kirwan co-authored a paper floating the idea that the nestlings of two Brazilian cotingids might mimic a toxic caterpillar in order to avoid predation (D'Horta *et al.* 2012). In contrast to most juvenile plumages, which are cryptic to avoid detection by predators, the authors described **21** nestlings of Cinereous Mourner *Laniocera hypopyrra* and Shrike-like

Cotinga Laniisoma elegans as being “dramatically conspicuous... predominantly covered by cinnamon-orange feathers with black terminal spots... colorful plumage [that] presumably makes them more at risk from predation”. The two possible explanations for this, the authors strongly suggested, were either “chemical defence (toxic and/or unpalatable) or Batesian mimicry (e.g. of a large, hairy caterpillar)”.

Three years later (and also after *Neotropical Birding* had also featured the proposition: see Ingels & Entraygues 2013; Figs. 28–29), a different set of researchers confirmed the caterpillar postulation for Cinereous Mourner nestlings (Londoño *et al.* 2015). In addition to the persuasive plumage, they presented evidence of the chicks’ behaviour in the nest when disturbed – a slow, side-to-side movement of its head (If you have not seen this, have a look at tinyurl.com/cinereousmourner). The combination of traits “gave it a resemblance to a hairy, aposematic caterpillar” of the family Magalopygidae – one to be avoided by would-be predators. Such Batesian mimicry is very unusual in vertebrates – and this combination of looks and behaviour is new for the avian world.

A close runner-up was the discovery (Marques *et al.* 2012) that **22** **Golden Lancehead *Bothrops insularis***, a snake endemic to the tiny island of Queimada Grande (São Paulo, Brazil), is heavily dependent (indeed, perhaps entirely so) for food on just two species of seasonally abundant migrant birds (Fig. 30). Somehow, the most common resident bird on the island, House Wren *Troglodytes aedon*, avoids forming a significant part of the snake’s diet. It seems that the viper feeds mostly during periods when migrant White-crested *Elaenia* *Elaenia chilensis* and Yellow-legged Thrush *Turdus flavipes* are abundant – effectively waiting all year for the feathered bonanza. We are only just discovering the extent and magnitude of altitudinal and austral migration in the Neotropics, so finding out how important these ornithological teleconnections are is amazing.

Unexpected taxonomy

Along with Tom Schulenberg, one of us (AL) has regaled *Neotropical Birding* readers with taxonomic changes covered in our ‘Splits, lumps and shuffles’ series (page 73 in this issue). We reckon that three gobsmacking findings on



30 Golden Lancehead *Bothrops insularis* predating a White-crested *Elaenia* *Elaenia chilensis*, Queimada Grande, São Paulo, Brazil, undated (Marcio Martins).



31



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31 Helmeted Woodpecker *Celeus galeatus* (male, September 2013) transpires to be a *Celeus* woodpecker (**32** male Blond-crested Woodpecker *C. flavescens*, November 2017) that mimics a *Dryocopus* (**33** male Lineated Woodpecker *Dryocopus lineatus*, August 2018). Figs. 31–33 all taken at San Pedro, Misiones, Argentina, by Martjan Lammertink.



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evolutionary affinities among Neotropical birds merit inclusion in our ‘top 25’.

While we have mimicry fresh in our minds, let’s celebrate the discovery that the globally threatened Atlantic Forest endemic **23** **Helmeted Woodpecker *Celeus galeatus* is not a *Dryocopus*, but a *Celeus* mimicking a *Dryocopus*** (Figs. 31–33). Helmeted Woodpecker has converged in (black, white and red) plumage with Lineated Woodpecker *D. lineatus* – but, phylogenetically, proves to be unequivocally nested within *Celeus* (Benz *et al.* 2015). For those readers who have watched Helmeted Woodpecker in the field, this rather explains its small size, shyness and submissive behaviour, which Benz *et al.* argue are “consistent with predictions derived from evolutionary game-theory models and the hypothesis of interspecific social-dominance mimicry”. Recent work by Miller *et al.* (2019) has shown that such patterns of mimicry are repeated in woodpeckers across the world.

A particularly intriguing case of mistaken identity seemingly relates to **24** **Chapada Flycatcher**



34 Pair of Chapada Flycatcher *Suiriri affinis*, Parque Nacional da Chapada dos Veadeiros, Cavalcante, Goiás, Brazil, August 2016 (Ciro Albano/NE Brazil Birding).



35 Sapayoa *Sapayoa aenigma*, Nusagandi, Comarca de Guna Yala, Panama, March 2014 (Nick Athanas/Tropical Birding).

Suiriri affinis (Fig. 34). When the NBC was founded, and for several years afterwards, there was only one species of *Suiriri* tyrant-flycatcher, Suiriri Flycatcher *Suiriri suiriri*. But something was awry – for slightly different-looking birds uttered distinct vocalisations in the same cerrado habitats. Investigation culminated in the description of a cryptic species, Chapada Flycatcher (Zimmer *et al.* 2001). Then followed a period of nomenclatural confusion after Kirwan *et al.* (2014) determined that wrong names were attributed left, right and centre when people were writing about the genus *Suiriri*. If that were not enough to make your eyes bleed, along came Leonardo Lopes and crew to turn this particular world upside down. Using phylogenetic tools, Lopes *et al.* (2018) demonstrated that Suiriri and Chapada flycatchers were not even in the same genus, something that Bates *et al.* (2002) had suggested 16 years earlier. According to their molecular analyses, Suiriri lay within a clade of Elaeniini flycatchers include *Phyllomyias*, *Phaeomyias* and *Capsiempis* tyrannulets, whilst Chapada was a member of the Fluvicolini, sister to *Sublegatus* tyrannulets,

where it may merit its own monospecific genus, *Guyramemua*.

‘How on earth?’ might be an understandable reaction to learning about our final taxonomic surprise. Jon Fjelds  s realisation that the mysterious **25** *Sapayoa Sapayoa aenigma* is actually a New World representative of Old World suboscines staggered the ornithological world in 2003 (Fjelds   *et al.* 2003). There had long been confusion about where best to house this Colombian bird (Fig. 35). An enigma indeed, it had been considered both a manakin (Pipridae) and a tyrant-flycatcher (Tyrannidae), although the fence-sitting *Incertae Sedis* had also been deployed by Sibley & Monroe (1990) – the latter on the basis that “preliminary DNA–DNA hybridisation comparisons” led to the outlandish suggestions that Sapayoa was “either a relative of ... broadbills, or a sister group of all other New World suboscines” (Sibley & Ahlquist 1990).

More than a decade later (and thus within our focal timeframe), the Danish guru and his team came to the rescue. They found that Sapayoa grouped unequivocally with Old World suboscine

passerines, being nested either with pittas (Pittidae) or with the broadbill genera *Smithornis* and *Calyptomena*. So how on earth did it reach Colombia? Fjeldså *et al.* suggest that “the peculiar distribution of this lineage may be best explained in terms of a Gondwanic and Late Cretaceous origin of the passerine birds, as this particular lineage dispersed from the Antarctic landmass, reaching the Old World tropics via the drifting Indian plate, and South America via the West Antarctic Peninsula”. Well, that’s that settled then.

The end... or still the beginning?

What then to make of this ‘top 25’ of discoveries? First, every single entry has involved pioneering ornithologists demonstrating dedication, insight and wisdom – and sometimes not a little good fortune to boot. We salute these individuals and celebrate their achievements. But foremost, that these discoveries show no sign of abating suggests just how much we have *yet* to learn. Let us hope that the bird-crazy pioneers of the present and future have the opportunity to chance upon further jaw-dropping revelations before the footprint of humankind obliterates life for good. There is currently world enough for ongoing discovery, but is there *time*?

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