

Splits, lumps and shuffles

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This series focuses on recent taxonomic proposals—be they entirely new species, splits, lumps or reorganisations—that are likely to be of greatest interest to birders. This latest instalment summarises papers relating to a new species of thrush in Amazonia, and taxonomic revisions for Swallow-tailed Cotinga and Black-faced Ibis, among others. Get your lists out!

Andean Ibis deserves species status

The taxonomic status of the highland population of Black-faced Ibis *Theristicus melanopis branickii* has long been a matter of debate, with most authorities favouring the subspecies *status quo*. This form is rare in Ecuador and Bolivia, a vagrant to Chile and probably only moderately abundant in Peru. Nigel Collar and Jez Bird² recently investigated the taxonomic status of the so-called Andean Ibis, using the quantitative criteria for species recognition outlined by Tobias *et al.*¹⁵. They found that the highland form differed from the lowland form markedly in biometrics, e.g., its shorter bill and longer tail, its lack of a wattle, and in plumage coloration. This is in addition to huge differences in habitat preferences and a largely disjunct distribution. They proposed elevation of Andean Ibis to species status and called for an appraisal of its conservation status. Supporting this, Jhonson Vizcarra¹⁶ recently reported finding sympatrically occurring monospecific flocks of both forms in Ite district, Tacna, Peru.

No more guilt over ticking 'Gray-lined Hawk'

Gray Hawk *Buteo nitidus* comprises two subspecies, separated by a narrow band of tropical moist forest in Costa Rica, namely northern *B. n. plagiatus*, which reaches as far north as the extreme southern USA, and southern *B. n. nitidus*, which is colloquially known as Gray-lined Hawk. Originally described as separate species, they were subsequently lumped, although some authors have continued to treat them as separate species. In order to finally lay the question to rest, Brian Millsap and his colleagues¹⁰ compared the plumage, morphology and alarm calls of these two taxa north and south of the distributional

gap. They found all age and sex classes to be wholly distinguishable on the basis of several discrete plumage features, three of four age and sex classes were diagnosable by morphometrics, and the two have diagnosably different alarm calls. Given this, and preliminary work suggesting substantial genetic differentiation, the authors have recommended species status for both taxa, namely Gray Hawk *B. plagiatus* and Gray-lined Hawk *B. nitidus*.

Heliangelus regalis johnsoni: a new subspecies of Royal Sunangel

In April 2000, a joint US–Colombian expedition surveyed the montane avifauna of the Cordillera Azul, between the Huallaga and Ucayali rivers, in Loreto, Peru, and found that the commonest species of hummingbird observed in the stunted ridgetop forests was Royal Sunangel *Heliangelus regalis*. At the time, this beautiful and globally threatened species was thought to be restricted to four sites in northern Peru, and Gary Graves and his co-authors⁶ have now described the new population as a strikingly distinctive subspecies. It differs from the nominate taxon in exhibiting intense indigo iridescence, particularly on the crown, throat and upper breast; the authors were able to quantify these differences by measuring the colour spectra (300–800 nm) of the crown feathers. The new subspecies, *Heliangelus regalis johnsoni*, is named for the late Ned K. Johnson in recognition of his many contributions to avian systematics and biogeography.

Rediscovery of the holotype of *Trochilus maria*

Trochilus maria was described (in 1849) from a specimen from the 'mountains of Manchester', not





Facing page, top right to left: Recently published evidence¹⁰ supports the splitting of the North and Middle American Gray Hawk *Buteo plagiatus* (near Mazatlán, Sinaloa, Mexico, March 2007: Hadoram Shirihi / *Photographic handbook to birds of the world*) from the Gray-lined Hawk *B. nitidus*, which replaces the previous species from southern Costa Rica south across much of South America (Paragominas, Pará, Brazil, October: Alexander C. Lees).

Facing page, bottom: A recently published proposal⁷ recommends that the two highly disjunct populations of Swallow-tailed Cotinga *Phibalura flavirostris*, heretofore treated as subspecies, be treated as species-level taxa. The Atlantic Forest population, which is characterised by its shorter tail, much less diverse and infrequently given vocalisations, among other features, is depicted here; male, Serra da Caraça, Minas Gerais, Brazil, November 2006 (Hadoram Shirihi / *Photographic handbook to birds of the world*).

Above: Although treated as a member of the *Thamnophilidae* by most recent authors, the first detailed anatomical study⁴ has provided further evidence that Wing-banded Antbird *Myrmornis torquata* lies within that family; male, *M. t. torquata*, Powis, Kaburi River, Guyana, April 2010 (Andrew Whittaker / www.birdingbraziltours.com).

Right, top to bottom: The newly described Várzea Thrush *Turdus sanchezorum*, here photographed on the middle rio Juruá, Amazonas, Brazil, in September 2009 (Carlos A. Peres), represents yet another example of cryptic biodiversity being recognised only very recently, principally through the use of acoustic and molecular data⁴¹. The same study also revealed that the frequently adopted split of Ecuadorian Thrush *T. maculirostris* is supported by genetic evidence; Reserva Jorupe, prov. Loja, August 2011 (Hadoram Shirihi / *Photographic handbook to birds of the world*). On the other hand, the status of Cocoa Thrush *T. fumigatus* (FLONA de Tapajós, Pará, Brazil, December 2010; Alexander C. Lees) *vis-à-vis* Hauxwell's Thrush *T. hauxwelli* needs further research.

the English West Midlands but the Don Figueroa Mountains in Manchester Parish, Jamaica. Other than a few rather confusing appearances in subsequent literature, the 'species' disappeared off the radar and was later synonymised with Red-billed Streamertail *Trochilus polytmus* by the principal authorities, although it is probable that these taxonomic opinions were based solely on the published description and lithograph. In a classic piece of detective work, Gary Graves and Robert Prys-Jones⁵ rediscovered the mislabelled original specimen at the Natural History Museum and further demonstrate that *Trochilus maria* Gosse, 1849, can indeed be regarded as a junior subjective synonym of *T. polytmus*.

Prepare for a furnariid 'shake-down'

Recognising that the ubiquity and exceptional diversity of ovenbirds (furnariids) throughout the Neotropics make them a particularly appropriate group for investigating diversification patterns at a continental scale, Elizabeth Derryberry and her colleagues³ have assembled the most complete species-level phylogeny to look for such patterns. They found that the Furnariidae not only exhibited near-constant rates of lineage accumulation, but also showed evidence of constrained morphological evolution. Their results suggested that lineage accumulation (in tropical continental radiations) may not be as limited by ecological opportunities as in temperate or island radiations. Biogeographic events, such as the uplifting of the Andes, created multiple barriers to dispersal and new habitats to be filled, while such constant landscape change drove near-constant diversification in the furnariid radiation despite constraints on phenotypic evolution. The paper does not discuss species and generic limits, but hidden in the small print (the phylogeny) one can find abundant evidence of a dire need for taxonomic revision. For instance, the genera *Philydor*, *Automolus*, *Asthenes*, *Schizoeaca*, *Cranioleuca* and *Thripophaga*, are all paraphyletic, necessitating some dramatic 'lumping' and 'splitting' at both the generic (*per* A. Aleixo) and species levels.

Sharp-billed Treehunter: nomenclatural confusion resolved?

John Penhallurick¹² has recently published the results of a convoluted investigation into the

nomenclature of the Sharp-billed Treehunter *Heliobletus contaminatus* based on an analysis of the original descriptions, but without viewing any of the relevant type specimens. His detective work seemed to indicate that there is no valid name available for the northern subspecies—to which Penhallurick proposes *H. c. elizabethae* (after his wife)—and that the southern subspecies is now to be considered the nominate. Penhallurick notes that pre-1931 descriptions that do not unequivocally serve to identify a taxon should be considered invalid, yet this is actually true of many descriptions written before 1931. Furthermore, nominate taxa are generally poorly described as their descriptions are only clarified when new subspecies are described...

Myrmornis torquata is definitely an antbird!

Wing-banded Antbird *Myrmornis torquata* is one of the oddest and most sought-after of 'terrestrial' antbirds and has been the subject of past taxonomic disagreement as to whether it should be placed with the typical antbirds (Thamnophilidae), or with the antpittas (Grallariidae) or antthrushes (Formicariidae). Some authors have even preferred to view this remarkable bird as an intermediate form between these families. Molecular phylogenies have consistently placed *M. torquata* in the Thamnophilidae, but additional confirmation has now been published in the form of an anatomical study by Ana Galvão & Luiz Gonzaga⁴. Their cladistic morphological analysis of *M. torquata* and representatives of all families in the infraorder Furnariides (66 osteological and syringeal characters), found high support for clustering *Myrmornis* with other thamnophilids. Wing-banded Antbird shared with the latter group five synapomorphies (traits shared by two or more taxa and their most recent common ancestor) in all of the most-parsimonious phylogenetic trees.

Swallow-tailed Cotinga is two species

Swallow-tailed Cotinga *Phibalura flavirostris* is one of the most stunning members of its family and one of the most sought-after species in the Neotropics. Two subspecies have been described, *P. f. flavirostris* of foothill forest in south-east Brazil and 2,500 km away *P. f. boliviana*, restricted to an 'island' of isolated Andean intermontane savanna and semi-humid forest within a 'sea' of moist montane forest in dpto. La Paz, Bolivia. Bennett Hennessey⁷ recently investigated the taxonomic

status of the two forms principally by comparing their morphology. Despite the small sample size and non-application of quantitative criteria, the two taxa were found to be diagnosably different in their plumage and biometrics (particularly the longer tail of *boliviana*). The mustard yellow iris and orange-yellow feet of *boliviana* separate it from the blood red iris and pink feet of *flavirostris*. *P. f. flavirostris* was also found to have a much more restricted vocal repertoire than *P. f. boliviana*. Finally, the author also drew attention to ecological differences, such as the migratory nature of the Brazilian population compared to the resident *P. f. boliviana*. Given these differences, it is argued that the Bolivian subspecies should be afforded species status as *P. boliviana*, with the proposed English name of Palkachupa Cotinga. The new species should qualify as Critically Endangered under IUCN threat criteria given a world population of just 400–500 individuals, which is threatened by ongoing habitat loss.

A new thrush from the Amazon

The description of a new species of thrush from the *várzea* forests of Brazil and Peru by John O'Neill and colleagues¹² won't come as a shock to everyone. Indeed, there is an illustration of the bird—the 'grey-tailed morph' of Hauxwell's Thrush *Turdus hauxwelli* in Schulenberg *et al.*'s landmark *Birds of Peru* field guide¹². Although the story was 'out of the bag' for some time, the description of this new species christened *Turdus sanchezorum* or Várzea Thrush is a tale that goes back over 50 years, when on his first visit to Peru in July 1961 O'Neill collected a *Turdus* thrush in seasonally flooded white-water forest at Pucallpa, in Ucayali. This individual, and others collected subsequently, differed from 'standard' Hauxwell's Thrushes in having a distinctly greyish-brown tail, olive bill, and yellow or orange orbital skin (rather than a rufous-brown tail, blackish bill, and a feathered orbital ring). Increased field work and attention to vocal signals at the beginning of the 21st century finally meant that this cryptic species' cover was blown—when it became clear that this 'morph' also possessed diagnostic vocalisations. In order to complete the picture, a molecular phylogeny was constructed which revealed the new thrush is not even particularly closely related to the Cocoa Thrush *T. fumigatus* / *hauxwelli* complex, but in fact is the west Amazonian representative of the Spectacled Thrush *T. nudigenis* complex. The phylogeny also suggested that *sanchezorum* is sister to Unicolored Thrush *T. haplochrous* and added molecular reinforcement for the species

status frequently accorded to Ecuadorian Thrush *T. maculirostris*. The potential downside for listers is that the authors note the need to re-evaluate the status of Cocoa and Hauxwell's Thrushes as separate species. The new species is named in honour of Manuel Sánchez and Marta Chávez de Sánchez who have helped organise Louisiana State University expeditions to Peru, and elsewhere in South America, since the 1960s. Várzea Thrush, as its name suggests, is primarily a *várzea* forest species, being found along larger tributaries of the upper Amazon system, and has been found away from such habitat only along the upper río Mayo Valley in San Martín, Peru, where it occupies open white-sand forest / savanna and disturbed edges at elevations of c.800–1,100 m.

Wilson's Warbler is two cryptic species?

Darren Irwin and his colleagues⁸ have carried out the first broad survey of geographic variation in the nuclear genome of breeding and wintering Wilson's Warblers *Wilsonia pusilla*. Using amplified fragment-length polymorphism markers, they uncovered the existence of two highly distinct breeding groups (western and eastern), and found that all winter samples grouped with the western breeding group. This population genetic structuring indicates that these two groups might be considered cryptic species. Mitochondrial cytochrome-*b* sequence variation indicates that the two groups diverged c.2.3 million years ago, a length of time that is more typical of species-level rather than subspecies-level divergence, although some researchers may feel that more robust research in potential areas of contact is required before a taxonomic change is implemented.

Dozens of cryptic species in Amazonia?

In a follow-up to the DNA-barcoding 'scatter-gun' approach employed by Kevin Kerr *et al.*⁹ for taxa in the Southern Cone of South America, Erika Tavares and colleagues¹⁴ have recently sampled an impressive 561 additional species of Neotropical birds, including many at lower latitudes. In turn, this new study discovered even higher geographic structure within species than reported previously, with deep intraspecific divergences overlapping with phenotypic differences detected for 48 species. This strong population genetic structure often coincided with breaks between different ecoregions or areas of endemism, principally across the larger rivers of Amazonia,



and between there and the Atlantic Forest. These results support previous assertions that complex patterns of speciation were responsible for the high diversity in Neotropical bird species, and give further weight to the view that most avian species in the region are narrowly endemic rather than widely distributed, i.e. most polytypic species in Amazonia actually comprise multiple endemic species. The authors chose not to flag divergent lineages as provisional new species, as they described their own sampling effort as 'not comprehensive enough to properly quantify genetic variation in each locality in different species'. In other words, what is really needed is a multilocus approach based on large samples for many sites across a species' range. Fortunately, many such studies are in preparation including for most of those species for which deep divides are reported in this paper, including such birds as White-shouldered Antshrike *Thamnophilus aethiops incertus*, Long-winged Antwren *Myrmotherula longipennis*, Chestnut-belted Gnatcatcher *Conopophaga aurita*, Yellow-margined Flycatcher *Tolmomyias assimilis* and Tawny-crowned Greenlet *Hylophilus ochraceiceps*. Watch this space!

Above: A recent genetic study suggests that two separate lineages exist of Wilson's Warblers *Wilsonia pusilla*; illustrated here is the north-westernmost form, *W. p. pileolata*, from the Denali Highway, Alaska, USA, June (William Price / www.pbase.com/tereksandpiper)

Facing page, clockwise from top: White-shouldered Antshrike *Thamnophilus aethiops incertus*, Paragominas, Pará, Brazil, November (Alexander C. Lees) is just one of many Amazonian taxa that might merit upgrading to species status³. Others include these two Chestnut-belted Gnatcatchers: male *Conopophaga (aurita) occidentalis*, Explornapo Lodge, Loreto, Peru, September 2008, and male *C. (aurita) snethlageae*, Serra dos Carajás, Pará, Brazil, September 2009 (Hadoram Shirihi / *Photographic handbook to birds of the world*).

Sierra finch systematics

To explore relationships among the species-rich Andean sierra finches (*Phrygilus*), Leonardo Campagna and his co-authors¹ applied a molecular approach using mitochondrial and nuclear DNA sequences. They found the genus to be polyphyletic, with four distantly related clades with nine other genera interspersed between them (*Acanthidops*, *Catamenia*, *Diglossa*, *Haplospiza*, *Idiopsar*, *Melanodera*, *Rowettia*, *Sicalis* and



Xenodacnis). The team found instances of high intraspecific divergence, indicative of genetic structure, with the most extreme case being in Plumbeous Sierra Finch *P. unicolor*, which possessed a mean intraspecific distance of 3.04% (range: 0.3–5%). This value is high compared to typical intraspecific genetic distances obtained from other birds and may indicate the presence of cryptic taxa—and highlights the need for a comprehensive study of variation in *P. unicolor* across its range.

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