Splits, lumps and shuffles Thomas S. Schulenberg

This series focuses on recent taxonomic proposals—descriptions of new taxa, splits, lumps or reorganisations—that are likely to be of greatest interest to birders. This latest instalment includes: a tantalising hint of multiple species in Speckled Hummingbird; further evidence of several species in both Whitebreasted and Grey-breasted wood-wrens; a three-way split in Black-billed Thrush; some insights into the radiation of 'capuchino' seedeaters, with a description (or two) of a new species in this complex; and further research into the vocalisations of "Fuertes's" Oriole. Are your lists at the ready?

Speckled Hummingbird: more than meets the eye

peckled Hummingbird Adelomyia melanogenys is one of the most widespread species in the Andes, occurring from Venezuela (including the coastal ranges) south to central Bolivia. This is nobody's idea of a flashy hummingbird: primarily dull brown, with a dark face 'mask', it somewhat resembles a small, shortbilled hermit Phaethornis. This unobstrusive appearance conceals some tangled tales, however. A phylogenetic analysis of DNA sequence data, conducted by Chaves and colleagues (Chaves & Smith 2011, Chaves et al. 2011), recovered significant genetic structure across the wide latitudinal range of Speckled Hummingbird, with six well-defined clades (lineages) within the species. A few years later, Donegan & Avendaño (2015) followed up with a characteristically exhaustive review of geographic variation of plumage, morphometrics, and vocalisations of Speckled Hummingbird, focusing primarily on the Colombian Andes.

One interesting result from the genetic survey was that subspecies *inornata*, of extreme southern Peru and Bolivia, is sister to the five other clades. The name *inornata* might suggest that this subspecies is even plainer than expected, but in reality *inornata* is one of the most well-marked subspecies of Speckled Hummingbird: it is the only taxon with blue speckles on the throat, and it also has a more rufous rump (Zimmer 1951, Donegan & Avendaño 2015). Donegan and Avendaño (2015) also report that the calls of *inornata* are given at a faster rate than in other populations.

Together, these lines of evidence suggest that inornata may merit recognition as a species, although Donegan & Avendaño (2015) caution that the ever-popular 'further study' is called for. This may be prescient as Zimmer (1951) reported signs of introgression between inornata and chlorospila, the next population to the north. Contradicting Zimmer, however, is the encouraging sign that Chaves and colleagues included samples from near the type locality of *chlorospila*, and these clearly grouped with northern birds, not with inornata. Otherwise, Chaves and colleagues also found that the widespread subspecies melanogenys, which, according to some sources (e.g. Zimmer 1951), occurs from Venezuela to southern Peru, is scattered across two of their six clades. At the other extreme, one of the six clades of Chaves et al., named 'Clade F', which is restricted to the west slope of the Eastern Andes of Colombia in Santander and Boyacá, does not correspond to any named taxon.

Donegan & Avendaño (2015) took up the challenge represented by the mysterious Clade F, and reviewed the potentially available names. This review is complicated by vague or misleading type localities and lost or unrecognised type specimens, but they tentatively conclude that the name sabinae applies to the Santander/Boyacá birds (as already was used for these birds by McMullan & Donegan 2014). Finally, the range of subspecies melanogenys (type locality "Bogotá") needs to be restricted to the region between the Andes of Venezuela and Colombia, to the north, and the northernmost Andes of Peru, to the south. The only available name for birds in the rest of Peru, from just south of the mighty Marañón River south to the range of *inornata*, is *chlorospila*.

>> SPLITS, LUMPS AND SHUFFLES



The unobtrusive appearance of Speckled Hummingbird *Adelomyia melanogenys* conceals some tangled taxonomic tales.

1 Speckled Hummingbird Adelomyia melanogenys inornata, Zongo Valley, La Paz, Bolivia, October 2005 (Joseph Tobias).

2 Speckled Hummingbird Adelomyia melanogenys, Reserva Natural de las Aves Reinita Cielo Azul, Santander, Colombia, March 2013 (Luis Urueña; www. manakinnaturetours.com). Location suggests this might be the mysterious 'Clade F'.

3 Speckled Hummingbird *Adelomyia melanogenys chlorospila*, Aguas Calientes, Cusco, Peru, March 2012 (Nick Athanas; www.antpitta.com).

4 Speckled Hummingbird *Adelomyia melanogenys melanogenys*, Abra Patricia, San Martín, Peru, October 2011 (Nick Athanas; www.antpitta.com).

5 Speckled Hummingbird Adelomyia melanogenys maculata, Utuana, Loja, Ecuador, December 2008 (Nick Athanas; www.antpitta.com).











There are three major clades of White-breasted Wood Wren Henicorhina leucosticta, with playback experiments on the Central American clade (in Costa Rica) suggesting that Amazonian birds may display the greatest divergence.

6 White-breasted Wood Wren *Henicorhina leucosticta costaricensis*, Tuis, Cartago, Costa Rica, May 2015 (Caroll Perkins/CAPE Images; tinyurl.com/CarollPerkins). A bird from the Central American clade.

7 White-breasted Wood Wren *Henicorhina leucosticta*, Presidente Figueiredo, Amazonas, Brazil, January 2016 (Sergio Gregorio; 500px/sergiogregorio). A bird from the Amazonian clade.

8 White-breasted Wood Wren *Henicorhina leucosticta*, Reserva Natural de las Aves El Paujil, Serranía de las Quinchas, Santander, Colombia, May 2010 (Phil Yates; www.pjayphotos. com). A bird from the Chocó clade.







Grey-breasted Wood Wren *Henicorhina leucophrys* appears to contain nine distinct lineages including two elevationally segregated subspecies (*bangsi* and *anachoreta*) in the Santa Marta mountains, Magdalena, Colombia.

9 Grey-breasted Wood Wren Henicorhina leucophrys bangsi, San Lorenzo ridge (1,250 m asl), Sierra Nevada de Santa Marta, Magdalena, Colombia, October 2015 (Paulo Cesar Pulgarín Restrepo; www.colombiaavianmalaria.co).

10 Grey-breasted Wood Wren *Henicorhina leucophrys anachoreta*, San Lorenzo ridge (2,290 m asl), Sierra Nevada de Santa Marta, Magdalena, Colombia, October 2015 (Paulo Cesar Pulgarín Restrepo; www.colombiaavianmalaria.co).

White-breasted Wood Wren is back in the news

White-breasted Wood Wren *Henicorhina leucosticta* is one of the commonest and most familiar birds of the understorey of humid lowland forest in the northern Neotropics. Accordingly, most birders probably pay it little attention in the quest for gaudier or more range-restricted ticks. We were advised long ago, however, that Whitebreasted Wood Wren was likely to contain more than one species.

The first clues to this (as noted in Kirwan 2006) came from a genetic survey of Henicorhina by Dingle et al. (2006) that included 18 samples of White-breasted Wood Wren from across its range. The basic result was quite simple: there are three major clades of this species, corresponding to Central America, South America east of the Andes, and the Chocó. A surprise bombshell, however, was that the Chocó clade was sister to Bar-winged Wood Wren H. leucoptera, rather than to other White-breasted populations. This, of course, strongly suggested that the Chocó birds were a separate species; and, by inference, a case could be made for splitting the two other clades as well. Limitations of the research by Dingle and colleagues were that it relied entirely on mitochondrial DNA, with no input from nuclear genes. Moreover, the geographic sampling, while admirably broad, was also coarse enough to leave open some important questions, such as where the Chocó and Central American clades replace one another.

One would think—certainly one would hope! —that the very encouraging results from Dingle and colleagues quickly would have led to a suite of follow-up genetic studies, but no such luck. An unpublished study by Lelevier (2008), again restricted to mitochondrial DNA but with slightly wider geographic coverage, confirmed the broad outlines of the earlier results. Lelevier added a new twist by identifying that wood wrens in eastern Panama are closer genetically to the Amazonian populations than they are to wood wrens elsewhere in Central America.

The next chapter in the story comes from an older technology, the tried-and-true (albeit tried less often in recent years) method of field playback. Pegan and colleagues (2015) investigated the responses of White-breasted Wood Wrens in Costa Rica to playback of songs from three lineages of the species: sympatric (Central American), Amazonian, and from the Chocó. They found that Costa Rican wood wrens had a highly asymmetric response to playback of songs, all but ignoring the songs of Amazonian wood wrens, while reacting almost as strongly to songs of birds from Chocó as they did to songs of local wood wrens. Pegan *et al.* noted that this result is not surprising, as an accompanying comparison of songs showed greater similarity between the songs of the Central American and Chocó populations, with Amazonian songs more divergent.

These results strongly suggest that Central American and Amazonian populations are distinct species. Questions still remain—as they so often do!—especially regarding interactions at potential contact zones between the Central American, Darién, and Chocó clades; central Panama in particular now stands out as a region of great interest in this regard. But it is more clear than ever that there are multiple species of White-breasted Wood Wren. Observe and record them where you find them, and wait to see how this all plays out.

Meanwhile, multiple cryptic species uncovered in Greybreasted Wood Wren

Dingle et al. (2006) also looked at geographic variation in Grey-breasted Wood-Wren, as assessed by analysis of mitochondrial DNA, and detected a familiar pattern: three distinct genetic lineages, which they identified as Central American, Andean, and Chocó. Their use of "Chocó" was a bit of a misnomer, however, as the population they are talking about here is hilaris, the distribution of which is in western Ecuador, just to the south of the Chocó proper. No matter: the really interesting aspect of the distribution of *hilaris* is that it occurs at mid-elevations in the Andes, immediately below nominate leucophrys. These two subspecies are highly divergent genetically, and have different songs (Dingle et al. 2008, 2010).

Yet another update on this intriguing situation is now in press by Halfwerk and colleagues (2016), who reported on the interactions at a contact zone between *hilaris* and *leucophrys*. There is some hybridisation between these two where they meet, although there also is a marked tendency to mate assortatively (i.e. true to type). Additionally, the two song types remained distinct, with only a very low level of songs that were intermediate. In other words, *hilaris* and nominate *leucophrys* are behaving very much like two separate species.

A more comprehensive genetic survey of Greybreasted Wood Wren was conducted by Caro *et al.* (2013). This study had very wide geographic coverage, but, surprisingly, did not include representatives of *hilaris*. These researchers identified no fewer than nine (!) genetic lineages within this species. The focus of this study, however, is on a situation in the Sierra Nevada de Santa Marta, in northern Colombia, that parallels the story from western Ecuador.

In the isolated Santa Martas, there are two elevationally segregated subspecies, lower-ranging bangsi and, at higher elevations, anachoreta. Todd & Carriker (1922) treated these as belonging to separate species, but for most of the 20th century both were demoted to the rank of subspecies of Grey-breasted. The genetic work by Caro and colleagues, based on phylogenetic analysis of DNA sequence data from both mitochondrial and nuclear genes, reveals that bangsi and anachoreta are not closely related to each other. The songs of the two differ (Caro *et al.* 2013); there is discrimination to tape playback (Caro et al. 2013, Burbidge et al. 2015); and the two taxa are locally sympatric at intermediate elevations (Caro et al. 2013).

These two clearly are different species, although there is a question over how to classify them. Everyone agrees that *anachoreta* is a species endemic to the Santa Martas (McMullan & Donegan 2014, Cadena *et al.* 2015), but the status of *bangsi* is less clear. It too is considered by McMullan & Donegan (2014) to be a Santa Marta endemic, but Cadena *et al.* (2015) are more cautious, holding out the possibility that it is conspecific with its closest relative, *manastarae* of the Serranía de Perijá on the Colombia/ Venezuela border.

There also are discussions to be had over appropriate English names for the Santa Marta populations. McMullan & Donegan proposed "Bangs' Wood Wren" for *bangsi* and "Santa Marta Wood Wren" for *anachoreta*, whereas Cadena *et al.* (2015) considered the etymological origins of *anachoreta* and suggested "Hermit Wood Wren" for this species. My own preference would be for anything other than "Santa Marta", to reduce the risk of confusion with another local endemic, Santa Marta Wren *Troglodytes monticola*; but time will tell which name (if either!) catches hold.

Finally, both *bangsi* and *anachoreta* (and presumably *hilaris* as well) are embedded deep within the 'Grey-breasted Wood Wren' complex. Elevating one or more of these to the rank of species implies that several other species of 'Greybreasted Wood Wren' will need to be recognised before we are through. Even though Grey-breasted Wood Wren is spitting out cryptic species left and right, however, nobody yet has tackled the bigger picture of just where this will end. We are left hoping that research groups involved so far continue their efforts to unravel the mysteries of wood wren evolution.

Three-way split in Black-billed Thrush

Black-billed Thrush *Turdus ignobilis* is a common, widespread species in northern South America. It primarily occurs east of the Andes, but also is present in inter-Andean valleys in Colombia. The species epithet *ignobilis* indicates that this bird never has gotten any respect: it is a classic 'trash' bird, drab in appearance and occupying gardens, forest edge, and other 'less desirable' habitats. Nevertheless, this thrush is worth a second (and third) look.

An analysis of phenotypic and genetic variation across its range by Cerqueira et al. (2016), however, reveals that perhaps we have been too quick to take this thrush for granted. Cerqueira and colleagues discovered that the six subspecies of Black-billed Thrush are not each other's closest relatives. Instead, the three northwestern subspecies, which occur in the northern Andes and on the tepuis, are sister to Lawrence's Thrush T. lawrencii of Amazonia; subspecies debilis, which is widespread in the lowlands of western Amazonia, is sister to Marañon Thrush T. maranonicus; and the two eastern subspecies, which are restricted to white-sands habitats, are basal to the *debilis* and *maranonicus* pair. Et violà, three species result: T. ignobilis (including subspecies goodfellowi and murinus); T. debilis (monotypic); and T. arthuri (including subspecies cururuensis).

Cerqueira *et al.* proposed that *T. ignobilis* retain the English name "Black-billed Thrush", that *T. arthuri* be named "Campina Thrush", and that *T. debilis* be called "Varzea Black-billed Thrush". In my view, "Campina Thrush" is a fine choice, but "Varzea Black-billed Thrush" is a mouthful, and we already have one Varzea Thrush (the recently described *T. sanchezorum*). Meanwhile, retaining "Black-billed Thrush" also runs the risk of confusion for anyone who hasn't yet internalised the message about the split (which is a real problem, as it takes field guides years to catch up). Other name options would be "Drab Thrush" for *T. ignobilis* (again taking that epithet to heart!), and simply "Amazonian Thrush" for *T. debilis*.





There is evidence for splitting Black-billed Thrush into three species.

11 Black-billed or "Drab" Thrush *Turdus (i) ignobilis,* La Ceja, Antioquia, Colombia, January 2012 (Priscilla Burcher; tinyurl.com/prisburcher).

12 "Campina" Thrush *Turdus* (*ignobilis*) *arthuri*, Paramaribo, Suriname, October 2014 (Jean-Claude Jamoulle; tinyurl.com/J-CJamoulle).

13 "Varzea Black-billed" or "Amazonian" Thrush *Turdus* (*ignobilis*) *debilis*, Manaus, Amazonas, Brazil, October 2015 (João Sérgio Barros; tinyurl.com/JoaoSouza).

A broad survey of the genomes of six species of 'capuchinos' *Sporophila* has revealed some potential species-specific markers.

14 & 15 Male Dark-throated Seedeater Sporophila ruficollis, Barra do Quaraí, Rio Grande do Sul, Brazil, December 2010 (Márcio Repenning; tinyurl.com/marcio_ repenning).













Assuming that it is accepted as a genuine species, the 'authorities' will need to decide which of two competing descriptions of Iberá Seedeater should take precedence.

16 Male Iberá Seedeater 'Sporophila digiacomoi/digiacomoorum' or S. *iberaensis*, Corrientes, Argentina (Carlos Figuerero).

17 Male Iberá Seedeaters 'Sporophila digiacomoi/digiacomoorum' or S. *iberaensis* (Aldo Chiappe; plate reproduced with permission from López-Lanús '2015').

The American Ornithologists Union does not (yet!) split "Fuertes's" Oriole *Icterus* (*spurius*) *fuertesi* from Orchard Oriole *Icterus* spurius; recent research identifies consistent but minor differences in vocalisations.

18 Orchard Oriole *Icterus spurius*, Petén, Guatemala, March 2008 (Christopher L. Wood).

19 Probable Orchard Oriole *Icterus spurius*, Tuxtla Gutiérez, Chiapas, Mexico, December 2014 (Mario A. Espinosa; tinyurl.com/quetzalpr). This individual combines plumage characteristics of both Orchiard at Fuertes's Oriole *Icterus* (spurius) fuertesi.

20 Orchard (Fuertes's) Oriole *Icterus* (*spurius*) *fuertesi*, Camino a Las Barrancas, Veracruz, Mexico, March 2007 (Stephen Davies; tinyurl.com/chlorophonia).







Breakthrough in unraveling the 'Capuchino' radiation?

The 'capuchinos' are a group of small-bodied Sporophila seedeaters; as a group, capuchinos occur from Mexico south to northern Argentina, but the greatest diversity is in Paraguay, southernmost Brazil and northern Argentina. Capuchinos have presented many taxonomic headaches over the years. Some species are similar to others (or, in the case of females, completely indistinguishable!), and a few species also have rare colour morphs, such as Tawny-bellied Seedeater S. hypoxantha (Areta & Repenning 2011b) and Dark-throated Seedeater S. ruficollis (Areta et al. 2011). Most species otherwise are clearly delineated by distinctive male breeding plumages, and recent field work has documented that capuchinos also sort out by breeding habitat and song (Areta 2008, Areta & Repenning 2011a, Areta et al. 2011). And so, with a few notable exceptions, such as Entre Rios Seedeater S. zelichi, there is broad agreement on which capuchinos should be recognised as species.

Efforts over the years to use genetic approaches to investigate the relationships within the capuchino group have crashed and burned, however, revealing only little more than that the bulk of the capuchino group radiated very rapidly and very recently (Lijtmaer *et al.* 2004, Campagna *et al.* 2012). Campagna is not easily dissuaded, however, and has made yet another effort to crack the capuchinos. The most recent study (Campagna *et al.* 2015) is not a phylogeny of the group; instead, this team conducted a broad survey of the genomes of six species of capuchinos (a so-called genomic scan), searching for species-specific markers.

The good news is that indeed some genetic markers were found between the species; the bad news is that these markers were few, so few that it is difficult to be certain whether these markers in fact are species-specific (the long-sought phylogenetic 'signal'), or whether the patterns that were detected are randomly distributed ('noise' in the phylogenetic system). This may be a path forward, however, if future studies are able to sample larger portions of the genome, and perhaps also larger numbers of individuals per species. We wish researchers luck!

Speaking of capuchinos, another one joins the party

In an unusual series of events, two different and nearly simultaneous publications surfaced, each of which is a description of the same proposed new species of capuchino seedeater: *S. digiacomoi* López-Lanús '2015' (actually published in 2016) and *S. iberaensis* Di Giacomo and Kopuchian 2016. In one of several odd twists, *digiacomoi* is named in honour of two brothers, Adrián and Alejando Di Giacomo; hence, this epithet should be amended to *digiacomoorum*. (And yes, Adrián Di Giacomo both described this species, and has it named, in part, after him.) Fortunately, all parties agree on the same English name, Iberá Seedeater.

This new species is similar to Dark-throated Seedeater *S. ruficollis*, but the breeding male differs by having grey restricted to the crown, rather than extending onto the nape, and in having dusky restricted to the throat instead of also covering the upper breast (López-Lanús '2015', Di Giacomo & Kopuchian 2016). It also differs from Dark-throated by having a dusky nuchal collar, and in vocalisations (López-Lanús '2015').

As its English name suggests, the breeding range of this new seedeater is centred on the Iberá wetlands in Corrientes, Argentina, with a handful of records from Paraguay and one from southern Brazil (López-Lanús '2015', Di Giacomo & Kopuchian 2016). It remains for others to determine which of these two competing descriptions can claim precedence, and be accepted as the valid name for the proposed new species. For that matter, time will tell if Iberá Seedeater is accepted as a species at all. Some of the features attributed to diagocomoorum/ *iberaensis* are similar to those of the mysterious caraguata seedeater, which Areta et al. (2011) puzzled over at length before concluding that it represented a colour morph of Dark-throated Seedeater. In any event, now that Iberá Seedeater has a scientific name or two, the increased attention that it surely will receive should help elucidate its status.

Vocal divergence in Fuertes's Oriole

Fuertes's Oriole *Icterus fuertesi* is an isolate of the widespread Orchard Oriole *I. spurius*, with a very restricted breeding range in northern Mexico. Female Fuertes's often is indistinguishable from Orchard, but the male is noticeably different: it has the same pattern as male Orchard Oriole, but is ochre and black, rather than chestnut and black. Many authorities consider Fuertes's to be only a well-marked subspecies of Orchard (e.g. Howell & Webb 1995, Jaramillo & Burke 1999), but others accord it species rank (Fraga 2011).

One of the arguments favoring its treatment as a species is that the song of Fuertes's Oriole is said

to be different from that of Orchard (Jaramillo & Burke 1999, Fraga 2011). Hagemayer et al. (2012) and Sturge et al. (2015) present the first detailed comparative analyses of the songs of Fuertes's and Orchard orioles, and report no significant song differences between the two. Sturge and colleagues take things one step farther, however, and also investigate the calls of both orioles. Here lie the differences! The calls of Fuertes's Oriole are longer in duration and the frequency (pitch) is more modulated, usually with a significant point of inflection in frequency that makes the call almost sound like two notes (rather than one). All of this is good to know, but in most ways it leaves us pretty much where we started: Fuertes's and Orchard orioles are two taxa with consistent but minor differences between them, and disagreements over whether to recognise one species, or two, are likely to continue.

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