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. The third instalment summarises papers relating to cormorants, hummingbirds, trumpeters, motmots, woodpeckers, ovenbirds, antbirds, tapaculos, wrens, cardinal-tanagers and brush finches. Get your lists out!

Galapagos Cormorant stays in *Phalacrocorax*

The Galapagos Cormorant *Phalacrocorax harrisi* is unique among the species of the Phalacrocoracidae in being flightless and in its breeding system, which employs sequential polyandry (where females mate serially with different males and the male raises the young alone, leaving the female free to remate). The species is of considerable conservation concern, restricted as it is to parts of the coasts of Isabela and Fernandina, with a population size of just 100 individuals in 2006. In an attempt to ascertain its taxonomic position within the cormorant tribe, Martyn Kennedy *et al*.[7] used mtDNA sequence data to demonstrate that Galapagos Cormorant is related to two sister species, Double-crested Cormorant *P. auritus* and Neotropic Cormorant *P. brasilianus*. This result justifies the species' generic placement in *Phalacrocorax* and not in *Nannopterum* (which has been repeatedly questioned) and indicates that it is a relatively recent offshoot of the mainland form, which has subsequently evolved flightlessness.

New hope for Bogota Sunangel...

Tens of thousands of hummingbird trade skins were exported from Bogota for the millinery trade in the 19th century. Amongst these was the only known Bogotá Sunangel *Heliangelus zusii* purchased in 1909 from Bogota, and presumably collected in the East Andes or Central Andes of Colombia. However, its true provenance is impossible to verify as some 'Bogotá' trade skins came from much further afield. That only one specimen exists has fuelled speculation that it represents a hybrid. A new study by Jeremy Kirchman *et al*.[8] used mtDNA sequence data to confirm that the controversial 100-year-old holotype represents a valid species which was found to be genetically well differentiated from all hypothetical hybrid parents. Phylogenetic analyses place *H. zusii* as sister to a clade of mid- to high-elevation Andean species currently placed in the genera *Taphrolesbia* and *Aglaiocercus*. The authors conclude that the species occupied a restricted distribution between the upper tropical and temperate zones of the northern Andes and that it was most probably driven to extinction by deforestation. However, given that new bird species continue to be unearthed in South America, the search for *H. zusii* should be expanded to include semi-arid habitat in the Andes as high as 3,200 m from north-western Venezuela south to northern Peru.

Justice for *Momotus*

The *Momotus momota* complex has received scant attention from taxonomists, despite being an apparently ripe candidate for study, given that it consists of over 20 named subspecies. Gary Stiles[12] has sought to provide criteria for redefining species limits in this complex by analysing plumage, biometrics and the 'hooting' primary songs among ten taxa occurring between southern Middle America, Trinidad and northern Peru. His results support recognition of five species-level taxa in this complex (with suggested English names): 'Blue-crowned Motmot' *M. lessonii* from south Mexico to north-west Panama (including *goldmani* and *exiguus*); 'Andean Motmot' *M. aequatorialis* in the Andes from northern Colombia to north-east Bolivia (including *chlorolaemus*); 'Whooping Motmot' *M. subrufescens* from central Panama to north Venezuela and the Magdalena valley of Colombia, south-east Ecuador and extreme north-west Peru (including *osgoodi*, *argenticinctus*, and *spatha*); 'Trinidad Motmot' *M. bahamensis* in Trinidad and Tobago; and 'Amazonian Motmot' *M. momota* (including *microstephanus*, *ignobilis*, *marcgravianus*, *nattereri*, *simplex*, *pilcomajensis*, *cametensis* and *paraensis*).

Neotropical Birding 7 31

Above, top: The brush finch *Arremon assimilis* from Colombia (Juan Diego Ramírez) is one of the well documented splits in the Stripe-headed Brush Finch *Arremon torquatus* complex

Above, bottom: The Bogota Sunangel *Heliangelus zusii* (Gary Graves) is a valid species, known only from the type specimen

Opposite page clockwise from top:

Galapagos Cormorant *Phalacrocorax harrisi* Fernandina Island, Galapagos, Ecuador (Nick Athanas/Tropical Birding); researchers found no support for a separate genus for this flightless species

The Peruvian endemic Striated Earthcreeper *Geocerthia serrana* (Dan Lane) seems to deserve treatment in a separate genus from *Upucerthia* earthcreepers

Blue-crowned Motmot *Momotus lessonni* Hotel Bougainvillea, Santo Domingo, San Jose province, Costa Rica (Nick Athanas/Tropical Birding) is now one of the several species of Neotropical motmots

Melanerpes woodpecker relationships

The Red-bellied Woodpecker species group (*Melanerpes carolinus* and relatives) comprises five morphologically similar species (*M. carolinus, M. aurifrons, M. uropygialis, M. superciliaris* and *M. hoffmannii*) with broadly similar plumage characteristics. They occupy a diverse range of lowland and submontane habitats from deserts to tropical rain forests. The Golden-fronted Woodpecker *M. aurifrons* ranges from southern Oklahoma south through eastern Mexico to northern Nicaragua, and is notable for its extreme morphological variation with up to 14 subspecies recognised. The relationship of *M. aurifrons* to the remainder of the group is particularly uncertain and forms one of the key questions of a new study by Erick García-Trejo *et al*..[5] The team used mtDNA sequences to examine the phylogeny of these woodpeckers and found *M. aurifrons* to be polyphyletic and consisting of two clades: one comprising tropical populations (*M. santacruzi*), and the other consisting of northern populations, being sister to *M. carolinus*. The Caribbean species *M. superciliaris* was found to be sister to the *carolinus–aurifrons* clade. These findings dictate that major taxonomic changes in the group are required. The authors suggest splitting the present *M. aurifrons* into two species, each being diagnosable by a unique combination of characters. *Melanerpes aurifrons* is sister to and specifically distinct from *M. carolinus*, and encompasses only populations ranging from Texas and south Oklahoma south through the Mexican Plateau to Zacatecas and Jalisco (currently recognised as *M. a. aurifrons*). The other species, *Melanerpes santacruzi*, includes tropical populations from southern San Luis Potosí and north-eastern Querétaro south along the Atlantic slope of Mexico to Honduras, and along the Pacific coast from easternmost Oaxaca and Chiapas to north-central Nicaragua.

A taxonomic appraisal of Undulated Antshrike

Undulated Antshrike *Frederickena unduligera* often tops the birder's 'most-wanted list' of antshrikes—a scarce, difficult-to-find inhabitant of the lowland humid forests of western Amazonia. Zimmer[14] described three new subspecies of *F. unduligera* based primarily on female plumage characters, which arrangement has been followed ever since. Precise geographic ranges remain poorly known, but *F. u. unduligera* is known only from the right bank of the upper and middle rio Negro in Amazonas, Brazil, *F. u. fulva* is restricted to south-central Colombia, eastern Ecuador and north-east Peru, *F. u. diversa* occurs from the south bank of the Amazonas River in Peru south to south-east Peru, extreme south-west Brazil and north-west Bolivia, and *F. u. pallida* occupies the Purus-Madeira interfluvium in Amazonas, Brazil. Morton Isler *et al.*[6] have conducted a reappraisal of the taxonomy of this enigmatic species using vocalisations (the now standard method for assessing species limits in suboscine passerines which are generally believed to exhibit vocal learning). Based on diagnostic loudsong distinctions in note shape, overall pace of notes and change in frequency of vocalisations, they concluded that populations of the Undulated Antshrike are more appropriately treated as two biological species: Undulated Antshrike *Frederickena unduligera* and Fulvous Antshrike *F. fulva*. The English name of Fulvous Antshrike reflects the female plumage of this newly described species, since in many antbirds the differences among species are often more pronounced in females than in males. In addition, three populations currently considered to be subspecies of *F. unduligera* await further evaluation of their specific status pending the acquisition of more data.

A new generic name for Striated Earthcreeper

The earthcreepers *Upucerthia* were considered to consist of nine species until molecular studies (and hence a flurry of recent publications) have revealed the genus to be highly polyphyletic, with its nine species apparently belonging to four distinct lineages. A new study by Terry Chesser *et al.*[3] reconstructed species-level phylogenetic relationships of the Furnariidae from DNA sequences, gathering additional molecular data for species in these and related genera. They were able to answer the previously unresolved question concerning the position of Striated Earthcreeper *U. serrana*, which was found to be sister to a clade consisting of the genera *Cinclodes* and *Upucerthia*. This conclusion precipitated a need for a taxonomic rehash; because *Cinclodes* and *Upucerthia* are cohesive and distinctive genera containing multiple species, lumping them appeared untenable. Thus the authors decided to erect the new genus *Geocerthia* for *U. serrana*, which differs from true *Upucerthia* earthcreepers (long, thin and highly decurved bills, except for the recently split *U. saturatior*) by its comparatively shorter and stouter decurved bill, and overall

darker plumage. The new name is taken from the Greek *geo* (earth) and *certhia* (treecreeper).

Getting to the bottom of tapaculo relationships

Assessing species limits in the tapaculos of the genera *Scytalopus* and *Eleoscytalopus* remains one of the greatest challenges to Neotropical ornithologists, as these species frequently exhibit greater intraspecific than interspecific plumage variation. In contrast to the highly diverse Andean *Scytalopus* assemblage—consisting of at least 34 named species to date—the eastern *Scytalopus* (occurring predominantly in the Atlantic Forest) are apparently much less diverse. These comprise five species in eastern *Scytalopus: S. speluncae*, *S. iraiensis*, *S. novacapitalis*, *S. pachecoi* and *S. diamantinensis*, and two in *Eleoscytalopus*: *E. indigoticus* and *E. psychopompus*. Helena Mata and colleagues[9] investigated the phylogeny and species limits of eastern *Scytalopus* and *Eleoscytalopus* using two mitochondrial genes and two nuclear introns of multiple individuals from all species of these groups. The eastern *Scytalopus* separated into three well-defined clades also supported by morphological or vocal characteristics (although the relationships between these clades could not be resolved). They found several allopatric and very divergent lineages in these genera, the characteristics of which were consistent with species-level divergence, especially in *S. speluncae*. The authors suggested that new specific names be justified for the southern populations of *S. speluncae* and for the birds from the Serra da Ouricana and Serra das Lontras, in south-east Bahia. The great divergence between *E. psychopompus* (see page 61) and its sister species supported the former as a valid species, a fact that had been previously disputed as the taxon was first diagnosed only by 'subtle' plumage characteristics.

Dark-winged Trumpeter is multiple species

The three species of trumpeters, all found within the Amazon basin, are a highly sought-after quarry species for native hunters and visiting ornithologists alike. The Dark-winged Trumpeter *Psophia viridis* is a Brazilian endemic occurring south of the Amazon River (east of the Madeira river to the state of Maranhão) and was the subject of a recent taxonomic investigation by Marino Oppenheimer and Luís Fábio Silveira[10]. The species is polytypic and includes three allopatrically distributed subspecies: *Psophia v. viridis*, *P. v. dextralis* and *P. v. obscura* (and *P. v. interjecta* of questionable validity). The authors analysed morphometric characters and plumage colour patterns, and carried out a revision of the (sub)species' distribution. Whilst morphometric data did not offer any significant insights, plumage characters exhibited consistent and distinct patterns for each of the taxa, with the exception of *P. v. interjecta* (whose features are the result of individual variation). As with so many Amazonian species, the 'river barrier effect' may prevent contact between related populations, but such plumage differences could disappear clinally towards headwater regions (where rivers would be less effective dispersal barriers). However, no clinal variation or intergradation was observed, even at regions close to the rivers headwaters, where populations might be in contact. The authors therefore conclude that that the currently accepted subspecies should be elevated to species level as follows: *Psophia viridis*, distributed in the Madeira–Tapajós interfluvium, *P. dextralis*, found in the Tapajós–Tocantins interfluvium, and *P. obscura*, occurring from the right bank of the Tocantins River to the western Maranhão. The latter is restricted to the Belém centre of endemism, which is among the most degraded and logged area in the Brazilian Amazon, and is already on the Brazilian list of threatened birds. The authors don't suggest any English names.

Splitting Rufous-naped Wren

The Rufous-naped Wren *Campylorhynchus rufinucha* is a sedentary species distributed from western Mexico to north-west Costa Rica on the Pacific slope, with an isolated population on the plains of central Veracruz near the Gulf of Mexico. Populations of two forms on the Pacific slope are known to intergrade in Chiapas, Mexico, apparently as a result of secondary contact. Rufous-naped Wren shows marked morphological and song variation throughout its range, and its taxonomy is contentious—some authors consider it to be as many as three species whilst others recognise just a single species with five to nine subspecies. Hernán Vázquez-Miranda *et al.*[13] used a mtDNA gene to explore phylogeographic patterns and hybridisation within this superspecies, finding three divergent lineages, two of which spanned the Isthmus of Tehuantepec, in addition to the disjunct Veracruz population. These data suggest that the reported secondary contact could be explained by population expansions and it does not seem to have diminished the morphological

Top: Rufous-naped Wren *Campylorhynchus rufinucha*, Isthmus of Tehuantepec, Mexico (Manuel Grosselet & Georgita Ruiz/www.tierradeaves.com)

Bottom left: Sclater's Wren *Campylorhynchus humilis*, Veracruz, Mexico (Manuel Grosselet & Georgita Ruiz/www.tierradeaves.com)

Bottom right: Rufous-backed Wren *Campylorhynchus capistratus*, Tarcoles, Puntarenas province, Costa Rica (Nick Athanas/Tropical Birding)

Top: Splitting of the Red-capped Cardinal *Paroaria gularis* Amazonia Lodge, Madre de Dios department, Peru (Nick Athanas/Tropical Birding) has resulted in recognition of two full species:

Bottom left: *Paroaria nigrogenis*, Hato El Cedral, Apure, Venezuela (Lorenzo Calcaño)

Bottom right: and *Paroaria cervicalis*, Parque Carrasco, Cochabamba, Bolivia (Daniel Alarcón/alarconarias@gmail.com)

and genetic divergence of the three groups of Rufous-naped Wrens. On this basis, the authors recommend recognising three species (two of which hybridise in a narrow contact zone). Their proposed treatment includes Rufous-naped Wren *Campylorhynchus rufinucha*, a medium-sized form (including individuals from Veracruz); Sclater's Wren *C. humilis*, a small form (including individuals from the western Pacific Coast and the populations from the centre of the Isthmus of Tehuantepec) and Rufous-backed Wren *C. capistratus*, a large form (including individuals from Chiapas and Central America).

Three new cardinals

The red-headed cardinals (or cardinal-tanagers) of the genus *Paroaria* form part of a large tanager radiation in the tribe Thraupini. The genus has been traditionally thought to comprise five species, easily distinguishable based on their plumage characteristics. Liliana Dávalos and Ana Porzecanski[4] used morphological and molecular data from 600 specimens to examine species limits in *Paroaria*. Their robust revised taxonomy includes eight species, indicating that diversity within *Paroaria* has been underestimated by 60%. Red-capped Cardinal *Paroaria gularis* becomes the subject of a three-way split, with the nominate plus two subspecies elevated to species status: *P. gularis*, *P. nigrogenis* and *P. cervicalis*; and the Crimson-fronted Cardinal *P. baeri* is rendered monotypic by the elevation of the former subspecies *xinguensis* to full species as *P. xinguensis*. *Paroaria coronata* is found in eastern Bolivia (Santa Cruz), Brazil (south-west Mato Grosso and southern Rio Grande do Sul), western Paraguay, Uruguay and northern Argentina (south to northern Mendoza, central La Pampa, and central Buenos Aires). *Paroaria dominicana* occurs in the interior of north-east Brazil (southern Maranhão, Piauí and Ceará to northern Minas Gerais). *Paroaria capitata* is found in south-west Brazil (in the Pantanal region), eastern Bolivia, central Paraguay, south along the Paraguay–Paraná basin to Argentina (Córdoba, western Buenos Aires, and Entre Ríos), and southern Bolivia (Tarija). *Paroaria gularis* occurs in the Amazon basin in eastern Ecuador, north-western Peru, the Guianas, and northern and central Brasil (south to northern Goiás, northern Mato Grosso and Rondônia). *Paroaria cervicalis* is found in eastern Bolivia (along the Madeira, Beni, Mamoré and Iténez rivers and their tributaries) and adjacent Brazil (in Mato Grosso along the rio Guaporé). The range of *Paroaria nigrogenis* includes Venezuela and Colombia (in the llanos along the Orinoco River and its tributaries) and the upper rio Negro in Brazil. *Paroaria baeri* occurs only in Brazil (in Goiás, along the rio Araguaia, its tributary the rio das Mortes, and also from the rio Xingu and its tributary the rio Culuene in Mato Grosso). *Paroaria xinguensis* is a micro-endemic and is only known from the type locality of Acampamento Iauarun, Alto Xingú, Mato Grosso, and from Jacaré, 120 km to the south.

Another taxonomic brush-up for *Arremon torquatus*

Stripe-headed Brush Finch *Arremon torquatus* was until recently placed in the genus *Buarremon* (Cadena *et al.*[1]) and further debate has centred on the taxonomic position of the 14 named subspecies—distributed in montane regions from Argentina to Venezuela—and most notably on the specific status of Black-headed Brush Finch *A. atricapillus* which is often treated as a subspecies. The *atricapillus* group occurs in mid-montane areas of the three cordilleras of the Colombian Andes (*atricapillus*), eastern and central Panama (*tacarcunae*) and, according to some, Costa Rica and western Panama (*costaricensis*). Carlos Cadena and Andrés Cuervo[2] have recently published a paper that explored these questions using a molecular phylogeny, a quantitative analyses of morphological and vocal variation, and ecological niche models. Their quantitative data showed *assimilis* and *atricapillus* to be full species, supporting the placement by earlier authors (e.g. Ridgely & Tudor[11]) and ruled out the possibility of phenotypic intergradation in western Colombia. They present evidence to indicate that many populations of *A. torquatus* have been isolated from each other for periods of time over which mechanisms of reproductive isolation may well have evolved. They proposed a provisional classification that recognises eight species-level taxa (admitting that more work is required). These are as follows: *A. costaricensis* in Costa Rica and western Panama, *A. atricapillus* in central and eastern Panama and the Colombian Andes (includes *tacarcunae*), *A. basilicus* in the Sierra Nevada de Santa Marta, northern Colombia, *A. perijanus* in the Serranía del Perijá, north-east Colombia and north-west Venezuela, *A. assimilis* in the Andes of Venezuela, Colombia, Ecuador, and most of Peru (including *larensis*, *nigrifrons* and *poliophrys*), *A. torquatus* in the Andes of extreme southern Peru, Bolivia and Argentina (including *fimbriatus* and *borelli*), *A. phaeopleurus* in the Cordillera de la Costa, northern

Venezuela, and *A. phygas* in the Cordillera de la Costa Oriental, north-east Venezuela.

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