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Splits, lumps and shuffles

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This new series is a birder-focused slant on what was formerly ‘Taxonomic round-up’ in *Cotinga*. Here we focus on recent taxonomic proposals—be they entirely new species, splits, lumps or reorganisations—that are likely to be of greatest interest to birders. We wait with bated breath to see whether the South American Classification Committee (SACC, for which see *Neotropical Birding* 2: 21–23) adopts the recommendations...

Emerald Toucanet: from 17 subspecies to seven species, but still confusing . . .

Emerald Toucanet *Aulacorhynchus prasinus* is a distinctive and charismatic forest species with disjunct populations on mountain ranges from Mexico south to Bolivia. As many as 17 different subspecies have been recognised across its range. Fernando Puebla-Olivares *et al.*¹² analysed genetic variation across the complex. They identified seven differentiated populations that correspond to clear geographical breaks and are supported by previous investigations of plumage characteristics (these forms being separable in the field).

The authors suggest species-level treatment for four of the Middle American and three of the South American clades. The ‘new’ Middle American species would comprise: Goldman’s Blue-throated Toucanet *A. p. cognatus* from montane Darién of eastern Panama; Blue-throated Toucanet *A. caeruleogularis* incorporating *A. p. caeruleogularis* and *A. p. maxillaris* from Costa Rica and western Panama; Wagler’s Toucanet *A. wagleri* from the Sierra Madre del Sur on the Mexican Pacific slope;

and Emerald Toucanet *A. prasinus*, which encompasses the six remaining subspecies.

The situation in South America is perhaps even more complicated. The new recommended treatment would comprise: White-throated Toucanet *A. albivitta* in the eastern Colombian Andes; Grey-throated Toucanet *A. griseigularis* from the central Colombian Andes south to Bolivia; and Black-throated Toucanet *A. atrogularis*, which encompasses all the remaining populations (some without black throats!) and—for this commentator at least—is somewhat poorly resolved.

Another new, threatened, cryptic Atlantic Forest endemic

Based on plumage variation and morphometrics, four subspecies of Lesser Woodcreeper *Xiphorhynchus fuscus*, an Atlantic Forest endemic, are recognised: *atlanticus*, *tenuirostris*, *brevirostris* and *fuscus*. The validity of these taxa is unclear, except for *atlanticus* which inhabits the most endangered forests of the Atlantic Forest biome—the northern coastal



strip of Alagoas, Paraíba, Pernambuco and Ceará. This region is naturally isolated from the south of the biome by the *caatinga*.

Gustavo Cabanne *et al.*³ used mitochondrial and nuclear DNA sequences to explore the Lesser Woodcreeper's evolutionary history and thereby address a series of biogeographical and taxonomic questions. Analyses of gene flow and estimates of divergence time suggest that the endangered subspecies *atlanticus* should be considered a full species under the General Lineage Species Concept. The subspecies *atlanticus* is also diagnosable by plumage, biometrics and vocalisations (listen to recording XC5693 on www.xeno-canto.com).

Santa Marta Foliage-gleaner is a full species

The Sierra Nevada de Santa Marta is an isolated massif of c.5,900 km² in northern Colombia. It has no fewer than 70 endemic bird taxa, an astonishing number for such a small area. Preliminary analyses of vocalisations suggest that species rank is likely to be afforded to several

Editorial note: in the captions, we depart from our standard practice of following the South American Classification Committee for nomenclature and taxonomy and follow the proposals of the papers summarised in this article.

Clockwise from top left (over both pages):

The so-called 'palm orioles' are one of South America's best examples of differentiation and hybridisation: (left) Epaulet Oriole *Icterus cayanensis*, Aguas Quentes, Mato Grosso do Sul, Brazil, and (inset) Moriche Oriole *Icterus chryscephalus*, Iracema Falls, Amazonas, Brazil (Hadoram Shirihai/*The photographic handbook to taxonomy of the birds of the world*)

Sierra de Atoyac in Guerrero, Mexico, hosts several potential phylogenetic species concept splits in addition to this Wagler's Toucanet *Aulacorhynchus wagleri* (Hadoram Shirihai/*The photographic handbook to taxonomy of birds of the world*)

Two forms of Slate-crowned Antpitta *Grallricula nana*: nominate *nana* (top) from Jardin, Colombia, and *pariae* (bottom) from Las Melenas, Paria, Venezuela (Joseph Tobias; www.neomorphus.com)

Santa Marta Foliage-gleaner *Automolus rufipectus* is confined to the north-western and northern slopes of the Santa Marta mountains (Joseph Tobias; www.neomorphus.com)

DUFFER'S GUIDE TO TAXONOMY

In the first article of this new series, we assist readers by explaining some of the taxonomy-related terms used.

Allopatric Organisms that do not occupy the same geographic range are said to occur allopatrically. Those that occur within the same geographic range are **sympatric**.

Biological Species Concept (BSC) is the 'classic' definition of a species. It defines a species as members of populations that actually or potentially interbreed. If fertile offspring can be produced by two different 'groups', they do not count as 'biological species'. Under this definition, distinctive geographical forms are usually lumped as one species, as the geographic forms interbreed (or might given the chance) where they come into contact.

General lineage species concept All species concepts agree on one fundamental thing—that species are thought of as independent lineages. Conflict about species concepts arises mainly through disagreement about when a lineage has actually diverged. A consistent problem when looking at 'snap shots' in time.

Junior synonym In the rules of zoological nomenclature (how different forms get their name), the first name to be published is the 'senior' synonym; any others are 'junior' synonyms and should not be used. Synonyms are said to be 'objective' if they unambiguously refer to the same taxon (i.e. if they refer to the same description or the same type specimen). Otherwise the synonyms are 'subjective', meaning that there is room for debate: one taxonomist might consider the two names to refer to the same taxon, whilst others might disagree.

Monophyletic A monophyletic group consists of an ancestor and all its descendants.

Phylogeny The history of lineages as they change through time, represented as a 'branching family tree'.

Under the **Phylogenetic Species Concept (PSC)**, a species is the smallest set of organisms that share an ancestor and can be distinguished from other such sets. It says that diagnosable geographic forms of the same basic "kind" of bird should be treated as distinct species. The PSC is gaining favour as it does not make the same assumptions as other species concepts about the status of slightly different geographic forms that might interbreed. Under this more liberal taxonomy there would be many more species of birds than under the BSC, particularly in the tropics. So, good for those who want long lists.

Polytypic A taxonomic group with more than one subgroup at the next lower taxonomic level. For example a species is polytypic if it has several recognised subspecies.

Phenotypic Refers to any observable characteristic or trait of an organism, either physical or behavioural, without the aid of molecular tools.

Vocally diagnosable That two populations differ consistently by voice may provide (further) evidence that there may be taxonomic differences between the two. Vocal characters have become increasingly important in assessing the status of many Neotropical birds, particularly those with innate vocalisations (i.e. not learnt).

endemic taxa. The first taxon to be studied in detail is the 'subspecies' *rufipectus* of Ruddy Foliage-gleaner *Automolus rubiginosus*, originally described as a full species (*A. rufipectus*) nearly 120 years ago. Most subsequent authors have not followed this treatment, but Niels Krabbe⁹ demonstrates that dramatic vocal differences exist between *rufipectes* (listen to recording XC18103 on www.xeno-canto.com) and virtually all song aspects of other forms of *rubiginosus*. Niels concludes that *rufipectus* merits species recognition as Santa Marta Foliage-gleaner *A. rufipectus*. All records are from the north-west and northern slopes of the Santa Marta, with the bird occupying transitional forest and second-growth habitats. Only a small part of

its range is protected, and the author suggests Santa Marta Foliage-gleaner be classified as Near Threatened, bordering on Vulnerable.

New Slate-crowned Antpitta subspecies

Grallaricula antpittas are ethereal inhabitants of predominantly montane forests and, like most members of their family, are more frequently heard than seen. Slate-crowned Antpitta *Grallaricula nana* is a polytypic species found in the northern Andes of Colombia, Ecuador and Venezuela. Thomas Donegan⁴ presents the first detailed revision of the taxonomy of this species. At least two populations of Slate-crowned Antpitta warrant treatment as new subspecies, differing phenotypically and vocally from other

recognised subspecies (listen to recordings on www.xeno-canto.com, e.g. XC21498).

The first new subspecies occurs in Serranía de los Yariquíes, an isolated mountain range in Colombia's East Andes and is named *G. n. hallsi* (for a photograph, see Fig. 4 in the article on this mountain range in *Neotropical Birding* 3: 38–43). The second new subspecies, *G. n. nanitaea*, occurs throughout the Mérida Andes in Venezuela. Thomas suggests that all described subspecies of *G. nana*, except perhaps *G. n. occidentalis* and *G. n. pariae*, are phylogenetic species, whilst *G. n. cumanensis* (lumped with *pariae*) and *G. n. kukenamensis* would even emerge as good candidates for species status under the Biological Species Concept. Some members of the group may be of conservation concern, with the *G. cumanensis* group probably best treated as Endangered. Donegan tentatively suggests the name Sucre Antpitta for the *cumanensis* group, which is near-endemic to that Colombian department.

Tapaculo taxonomy rehash

Scytalopus tapaculos keep birders and taxonomists on their toes; vocal and molecular characters have been demonstrated to be far more important in drawing species limits than plumage details. Thomas Donegan and Jorge Avendaño⁵ have undertaken a thorough field- and museum-based study of the high-altitude tapaculos of Colombia's Eastern Andes and Venezuela's Mérida Andes. The authors propose to treat 'Cundinamarca Tapaculo' *S. infasciatus* as a subjective junior synonym of Matorral Tapaculo *S. griseicollis*. They also assert that 'Lara Tapaculo' *S. fuscicauda* and Merida Tapaculo *S. meridanus* are morphologically indistinguishable, with the former better treated as a subspecies of the latter, given small differences in introductions to songs. As redefined, *S. meridanus* and *S. griseicollis* are given species rank as both are vocally diagnosable. In addition, the authors describe a new subspecies of Matorral Tapaculo, *S. griseicollis gilesi* from Serranía de los Yariquíes, Colombia (for a photograph, see Fig. 3 in *Neotropical Birding* 3: 38–43). This new taxon differs from *S. griseicollis* in its darker plumage, scolds of a lower acoustic frequency and longer tail.

If this wasn't enough for one paper, the authors also: draw attention to a new population of Spillmann's Tapaculo *S. spillmanni* in the East Andes that may also be a new subspecies; highlight the presence of another new species in the *S. griseicollis/meridanus* complex in the

Perijá mountains, an undescribed taxon related to Upper Magdalena Tapaculo *S. rodriguezi* in the Yariquíes; and (!) pinpoint another undescribed subspecies of *S. griseicollis* in Santander and Norte de Santander, Colombia. Even mammalogists working on rodents must sympathise with tapaculo taxonomists!

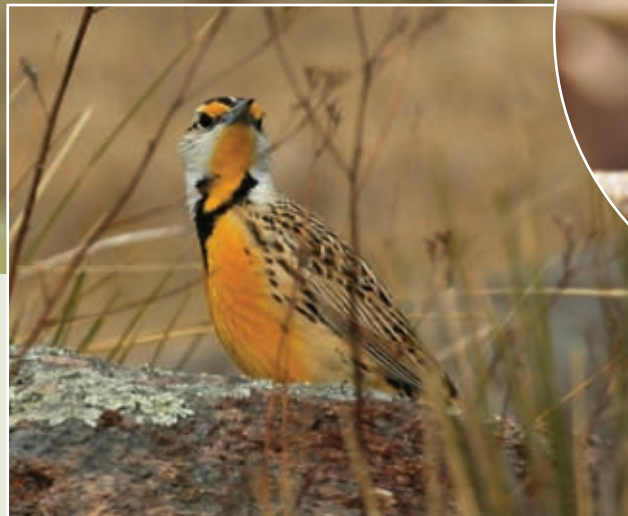
More *Scytalopus*: never assume monophyly . . .

Another study further turns this complicated group on its head by demonstrating that *Scytalopus* is not monophyletic, as previously assumed. Giovanni Mauricio *et al.*¹¹ investigated phylogenetic relationships in the genus, including in the analyses the group's presumed closest relatives (the monotypic tapaculo genera *Myornis* and *Eugralla*, plus the two bristlefronts *Merulaxis*) as well as most rhinocryptid genera. The White-breasted Tapaculo *Scytalopus indigoticus* species-group was found to form a clade with the bristlefronts, requiring the creation of a new genus for the former. The resulting genus—*Eleoscytalopus*—incorporates two species-level taxa from the Brazilian Atlantic Forest, White-breasted Tapaculo *Eleoscytalopus indigoticus* and Bahia Tapaculo *E. psychopompus*. This revelation reinforces the notion that we should not take anything for granted in taxonomy . . .

A new tyrannulet from the Andes

The Andes continue to deliver undescribed birds, the latest being Yungas Tyrannulet *Phyllomyias weedeni* from Bolivia and Peru⁶. This tyrant-flycatcher is most similar to the widely allopatric Planalto Tyrannulet *P. fasciatus*. According to Sebastian Herzog and colleagues, it differs principally in vocalisations (e.g. recording XC4095 on www.xeno-canto.com) but also in plumage and measurements. Analysis of the vocalisations of the three Planalto Tyrannulet subspecies revealed significant differences between *P. f. brevirostris* and the nominate subspecies, suggesting that multiple species-level taxa may be involved.

Yungas Tyrannulet typically occurs in the upper canopy of humid and semi-humid foothill and lower montane forest over a relatively narrow altitudinal range (700–1,200 m). Encouragingly from a conservation perspective, it also occurs in a mosaic of shade-coffee plantations and remnant forest patches. Known from five localities in the lower Bolivian Yungas and one area in the lower Peruvian Yungas, the new species is apparently patchily distributed and occurs



at low density across an area of c.10,000 km². Ongoing habitat loss is thought to threaten the population of perhaps fewer than 10,000 mature individuals, which is deemed sufficient for the species to qualify as globally Vulnerable.

A tyrannulet reinvented

'*Serpophaga griseiceps*' was described from four specimens from Chochabamba, Bolivia, in 1959 and was considered a valid species for 20 years until being treated as a synonym of White-bellied Tyrannulet *S. munda*. Subsequently, Roberto Straneck¹³ resurrected '*griseiceps*' before it was relegated by Sebastian Herzog and Juan Mazar Barnett⁸ who concluded that '*griseiceps*' most likely represented the juvenile plumage of White-bellied. In the next stage of this taxonomic rollercoaster, Straneck¹⁴ has again revalidated these birds as a new species, this time to be known as *S. griseicapilla*; no English name is proposed. In the new paper, published somewhat surprisingly in a veterinary journal,

the author argues that the taxon deserves species rank due to size and distinct vocalisations.

Common Bush Tanager taxonomy revisited

Common Bush Tanager *Chlorospingus ophthalmicus* exhibits a high degree of variation across its range in isolated patches of cloud forest from Mexico south to Argentina. Previous studies of phenotypic variation in this taxon have suggested that multiple species may be involved. With this in mind, Jason Weir *et al.*¹⁵ have created a detailed framework of genetic differentiation of the northern part of the complex. Phylogenetic analyses revealed that South American and Middle American populations have been separated for millennia and revealed the presence of seven differentiated populations corresponding to clear geographic breaks across the highlands of Middle America. As with previous studies, the authors found strong support for recognising *C. ophthalmicus* (Sierra Madre Oriental, Mexico), *C. albifrons* (Sierra Madre del Sur, Mexico), *C.*



wetmorei
(Tuxtlas Massif,
Mexico), *C. dwighti*
(northern Chiapas and

Chimalapas region of Oaxaca, Mexico) and *C. postocularis* (Pacific slope volcanoes in northern Central America). Populations are allopatric and the characters are clinal, implying that decisions regarding species limits will be subjective.

Narosky's Seedeater: one less threatened bird to worry about?

The Critically Endangered Narosky's Seedeater *Sporophila zelichi* (also known as Zelich's, White-collared and Entre Ríos Seedeater) is one of the rarest and most enigmatic birds in the Neotropics. In a new study, Nacho Areta¹ aimed to clarify the questionable taxonomic position of this species using previously unpublished vocal and habitat data. The songs and preferred habitat of *S. zelichi* were found to be indistinguishable from those of (the Endangered) Marsh Seedeater *S. palustris* and diagnosably different from Chestnut Seedeaters *S. cinnamomea* (Vulnerable). Although unable to eliminate a hybrid origin, Areta considers that the most parsimonious conclusion is that *S. zelichi* is merely a colour morph of *S. palustris*, with males having a full white neck collar.

A new subspecies of Black-striped Sparrow

The genus *Arremonops* comprises 15 allopatric sparrows ranging from Mexico to northern

Clockwise from top left (over both pages):

Serpophaga griseicapilla near Oran, Salta, Argentina (James C. Lowen; www.pbase.com/james_lowen), and (inset) Parque Nacional Teniente, Enciso, Paraguay (Paul Smith; www.faunaparaguay.com). A taxonomic headache for decades...

Yungas Tyrannulet *Phyllomyias weedeni* is restricted to humid and semi-humid forest in the Yungas of north-west Bolivia and extreme south-east Peru (Renzo Vargas)

White-breasted Tapaculo *Eleoscytalopus indigoticus*, a Near Threatened endemic of the Brazilian Atlantic Forest (Hadoram Shirihaï/*The photographic handbook to taxonomy of the birds of the world*)

Lillian's Meadowlark *Sturnella lillianae* near El Salto, Durango, Mexico. This taxon is historically differentiated but still hard to identify! (Hadoram Shirihaï/*The photographic handbook to taxonomy of the birds of the world*)

White-fronted Bush Tanager *Chlorospingus albifrons*, Sierra de Atoyac, Guerrero, Sierra Madre del Sur, Mexico. This is one of the five clades in the northern group of 'Common Bush Tanager' (Hadoram Shirihaï/*The photographic handbook to taxonomy of birds of the world*)

South America, currently recognised as two species. One, Black-striped Sparrow *Arremonops conirostris*, occurs from northern Honduras to western Ecuador, and in north-west Brazil and Venezuela. Niels Krabbe and David Stejskal¹⁰ have recently described a new form: Pastaza Black-striped Sparrow *A. c. pastazae*. This differs from the nominate subspecies by its larger size, heftier bill, greyer mantle and pure white (rather than buff) throat and belly. This new taxon is known only from temporarily flooded sandbars and low islands in the upper and middle río Pastaza in south-east Ecuador, and is apparently confined to stands of *Tessaria integrifolia*, a riparian specialist tree. It is isolated from other populations by more than 650 km.

Lillian's Meadowlark is a good species

The taxonomy of the meadowlarks has long been in a state of flux. In general, two species-level taxa are currently recognised, Eastern Meadowlark *Sturnella magna* and Western Meadowlark *S. neglecta*. Keith Barker *et al.*², explored the taxonomic status of the form of Eastern Meadowlark (*S. m. lillianae*) found in the deserts of northern Mexico (and, outside our region, south-west United States). Their analyses strongly supported the existence of three differentiated, historically isolated lineages and, hence, species-level status for Lillian's Meadowlark *S. lillianae*, which includes the Mexican form *auropectoralis*.

Species limits in palm-swamp orioles

The taxonomic status of Epaulet Oriole *Icterus cayanensis* of the subspecies *cayanensis* and *chrysocephalus* (the latter usually split as Moriche Oriole, albeit not by SACC) has long vexed ornithologists. These taxa account for one of the best examples of differentiation and hybridisation among South American passerines. Moriche Oriole is a monotypic 'species' restricted to northern South America, whilst Epaulet Oriole is polytypic, with five recognised subspecies occurring from Suriname and French Guiana south to Argentina. But the situation is complex. Hybrid zones exist between the two species and between the subspecies of Epaulet Oriole. And whilst molecular data support the hypothesis that Epaulet and Moriche Orioles form a monophyletic group, they do not support current species limits.

Fernando D'Horta *et al.*⁸ from the University of Sao Paulo analysed the geographic variation of plumage characters and phylogenetic relationships across the group's range to identify the populations that represent genuine phylogenetic species. This analysis identified four species within the Epaulet/Moriche Oriole clade: an Amazonian species group, formed by *I. cayanensis* and *I. chrysocephalus*, and a southern species group, composed of *I. pyrrhopterus* and *I. tibialis*. The two Amazonian species are partitioned by a relatively narrow hybrid zone along the Amazon valley whereas the southern species are separated by a hybrid zone that is larger than the geographic ranges of the two species on their own.

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