It seems the most improbable thing: why would a conservation organisation take the lead on a new checklist of the birds of the world? Are we not wasting our time and money in doing so? Can we not leave it to professional taxonomists to make the best list, and just follow it? If only! But it is not that simple, for various reasons, the overarching one being that no other checklist possesses all the characteristics we need – flexibility, speed and above all critical independence – for deciding what, these days, can be considered a species. The rate at which species are being “lumped” (when two or more species are merged into one) and – far more often – “split” (when one species is divided into two or more) is so fast now, and involves so many differing considerations, that BirdLife has been forced to establish its own criteria in order to ensure that our list is consistent, equitable, intelligible and up-to-date.

What has produced this lumping and splitting frenzy? Crucially, genetics has now taken complete control of avian systematics. Much of its work addresses (with often spectacular results) the higher-level identities of birds (e.g. saltators, long classified as New World sparrows, prove to be tanagers); however, some of it claims that molecular distance (the percentage of divergence) between two subspecies tells us whether they should be elevated to species or not. Such claims pepper modern bird taxonomy, even

**SPOT THE DIFFERENCE**

742 new bird species were identified as a result of our comprehensive taxonomic revision. In the most extreme example, the Red-bellied Pitta Pitta erythrogaster, found in SE Asia and originally Least Concern, has now been split into twelve distinct species. Four are now recognised as globally threatened.

Illustration HBW

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**THE ULTIMATE LIST**

This December, the second volume of the first ever *Illustrated Checklist of the Birds of the World* hits the press, completing the most exhaustive bird list ever compiled. Co-author BirdLife’s Prof. Nigel Collar explains why this tome will be a vital tool for conservationists.

1. Sulawesi Pitta *Erythropitta celebensis*
2. Siau Pitta *Erythropitta palliceps*
3. Sangihe Pitta *Erythropitta caeruleitorques*
4. Talaud Pitta *Erythropitta inspeculata*
5. New Ireland Pitta *Erythropitta novaehiberniae*
6. Tabar Pitta *Erythropitta splendidia*
7. Louisiaide Pitta *Erythropitta meeki*
8. New Britain Pitta *Erythropitta gazellae*
9. Papuan Pitta *Erythropitta macklotii*
10. North Moluccan Pitta *Erythropitta rubrinucha*
11. South Moluccan Pitta *Erythropitta rufiventris*
12. Red-bellied Pitta *Erythropitta erythrogaster*
though we know there is no percentage threshold that can serve as a consistent dividing line. Many checklists, however, simply accept the findings of published papers without considering the evidence for themselves.

A second significant impact on modern avian systematics has been air travel. Birdwatchers – especially those who make a living leading tours – can now breeze into hundreds of places around the planet that once needed big money and serious logistical planning to reach. They have made discoveries about the living colours (some of which disappear in museum specimens), habits, ecology and, most importantly, vocalisations of many species previously unknown in life. Differences in voice are a major factor in judging the species/subspecies issue, and the growth of websites like the Internet Bird Collection (IBC) and Xeno-canto has been crucial in making the recorded evidence widely available. And of course many bird-tour leaders have written field guides and handbooks in which they document their findings, often making novel taxonomic judgements based on their unmatched experience.

A third development has been the adoption by some taxonomists of a new species concept. For most of the twentieth century Ernst Mayr’s Biological Species Concept, which typically defines species rank by whether the taxa interbreed or by whether they would do so if they came into geographical contact (a difficult call!), was dominant. In the 1990s the Phylogenetic Species Concept, which uses the monophyly of populations to define species (any population of a species on an island or mountain which possesses a unique character, however small, can be assumed to be monophyletic and elevated to species rank), became an attractive alternative. Consequently many publications like to claim that they have defined at least “phylogenetic species” (good for the authors’ CVs!) if not biological ones, and global checklists have a hard time distinguishing between the two.

On top of these things, the awkward fact remained that many potentially important taxonomic cases were being missed by molecular workers or itinerant birdwatchers. Moreover, plenty of cases existed where experts – and checklists – simply disagree, not merely because of their adherence to one species concept or another. Finally, there were and are BirdLife’s responsibilities to its broad constituency, not only the Partnership but also the institutions we seek to support and influence: the International Union for Conservation of Nature (IUCN), for which BirdLife keeps the Red List for birds (and under the rules of which we are obliged to assess all species), national legislative authorities, international agreements and conventions, not only the Partnership but also the institutions we seek to support and influence: the International Union for Conservation of Nature (IUCN), for which BirdLife keeps the Red List for birds (and under the rules of which we are obliged to assess all species), national legislative authorities, international agreements and conventions.

**MANY CHECKLISTS SIMPLY ACCEPT THE FINDINGS OF PUBLISHED PAPERS WITHOUT CONSIDERING THE EVIDENCE FOR THEMSELVES**

**BIRDWATCHERS HAVE MADE DISCOVERIES ABOUT THE LIVING COLOURS OF MANY SPECIES**

**THESE BIRDS WERE FOUND IN A TINY AREA THAT HAD NOT YET BEEN BURNT. WITHOUT THE CHECKLIST WE WOULD STILL NOT EVEN KNOW OF ITS EXISTENCE**

**To help us negotiate the maze** of new insights and claims in the published literature, we needed a system that could dependably guide our own taxonomic judgements. We worked on this with collaborators, emerging in 2010 (Tobias et al. *Ibis* 152: 724–746) with a novel means of scoring differences in plumage, size, voice, ecology and behaviour that (we like to believe) is comprehensive, consistent, transparent, practical, rapid, rigorous and robust.

When his great *Handbook of the Birds of the World* (HBW) series drew to an end a few years ago, former BirdLife Council member Josep del Hoyo became interested in synthesising these 17 volumes in just two, using the “Tobias” criteria to assess the validity of splits being made by others and also to apply to taxa not previously considered for splitting or lumping. With the Tobias criteria just published, this was an unmissable opportunity for BirdLife. The first volume (non-passerines) appeared in 2014. The second volume (passerines) is appearing now. The findings have yet to be considered in detail, but they seem to be consistent between volumes: 3,964 species in the non-passerine volumes of HBW became 4,372 in 2014, and on present evidence 6,008 passerines are set to become 6,579 by the end of the year— in both cases an increase of 10% (a thousand species altogether), of which roughly half are changes we accept from others’ work, and half are our own.

**No other checklist** makes its own independent taxonomic revisions. The value of doing so can be illustrated with a single example. In Volume 1 we itemised the differences between four “subspecies” of the hummingbird until then called the Bearded Helmetcrest *Oxypogon guerinii*. These differences are in fact so strong that each form merited species rank. One of these species, now called the Blue-bearded Helmetcrest *O. cyanolaemus*, proved not to have been seen since 1946. Confined to the Santa Marta massif in Colombia, its páramo habitat has been almost entirely destroyed by cattle-grazing and burning. In March 2015 a dedicated search was made in one of the most remote areas of the huge mountain, and three birds were found in a tiny area of páramo that had not yet been burnt. The species is clearly right on the brink of extinction, but without the Checklist we would still not even know of its existence.■