

Editorial

The latest book on Indian birds is *Birds of South Asia: The Ripley guide*, a twin-volume set authored by Pamela C. Rasmussen and John C. Anderton—the culmination of several years' work. It deals with the birds of Afghanistan, Pakistan, India, Nepal, Bhutan, Burma (Myanmar), Bangladesh, Sri Lanka, Maldives and the Chagos Archipelago. While bouquets, brickbats and reviews will follow in the months to come (the Internet's mailing lists are already buzzing), what should concern us immediately is the fact that this work proposes well over 100 splits within the region, besides several other changes in the avian taxonomy of South Asia. This means that there are now more 'good' species, as taxonomists like to call them, more unique life-forms, within the geographical limits of this region. Species being indicators of

biodiversity, this also means that our conservation efforts have to be redoubled, for these 'additional' species will give rise to their own categories of abundance or rarity, e.g., Endangered, Critical, etc., and then there is the special responsibility we have towards endemics. This might also add some new Important Bird Areas to the list already drawn up by Islam et al. (2004). Whether one accepts the taxonomic changes or not, it would do us all good to look more closely at all birds and try and understand their relationships with each other better.

This issue of *Indian Birds* carries an exclusive article by Pamela Rasmussen, the lead author of the *Birds of South Asia* on how she wrote the book. Otto Pfister, author of *Birds and mammals of Ladakh* writes on a recent trip to that forbidding land and

Anand Prasad updates the distribution records of some species in the Pune area (Maharashtra).

Our website, www.indianbirds.in is now functional. All issues of the precursor of *Indian Birds*, "Newsletter for Ornithologists", have been placed on it and can be viewed / downloaded. The first issue of *Indian Birds* is also available for viewing / downloading. In future we intend to upload entire issues only when they are at least 12 months old. Visitors will be able to see the "contents" of every issue and one or two papers from each will be fully accessible as samples.

Subscribers, who wish to receive their copies as attachments to email, whether due to considerations of space or in support of a "Green" world, should write to me specifying so. - Aasheesh Pittie

On producing *Birds of South Asia*

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When asked by Aasheesh Pittie if I would write an account of my experiences in preparing *Birds of South Asia: the Ripley Guide* (Rasmussen and Anderton 2005), the idea appealed to me immediately. I felt this would provide a very different forum than the introduction to the book, in which space was at a premium and only the most important information could be included. The following is not intended to be complete, but it should provide a picture of the process. Here a caveat is in order—this is by no means a "how-to" article!

Even as a kid, I had always been interested in birds and bird books. After finishing my Ph.D., I began working for S. Dillon Ripley at the Smithsonian Institution (National Museum of Natural History, USNM), and I was excited by the idea of participating in the preparation of a field guide to the Indian Subcontinent, even though I had never yet been to Asia. Of course, for obvious reasons writers of field guides usually have years of experience in the areas they are covering, so I was determined to make up for this deficit by doing as much fieldwork as possible in southern Asia. The book project was the idea of my predecessor, Dr Bruce Beehler, in collaboration with Dr Ripley, and Bruce had already made the necessary arrangements to get the project off the ground, which

included hiring John Anderton as art director and principal illustrator. Dr Ripley was to be the first author of the book, with any other authors to be determined. But then Bruce moved on to another job, and I was hired as his replacement. By the time I was hired, Bruce and John had realized that illustrating all the birds of the region was such a huge job that they had contracted additional artists, including Cynthia House, Thomas Schultz, Albert Gilbert, Jonathan Alderfer, and N. John Schmitt. For his part, John Anderton had already spent several months in most of the hotspots of the Indian Subcontinent, including Sikkim, Nepal, Sri Lanka, and the Western Ghats. John spent every day in the field observing and sketching birds, and John's highly evocative field sketches truly captured the essence of each species in a minimum of pen strokes (yes, pen, not pencil!). By the time I started, John had completed several plates, and Al Gilbert had finished all his, so I could already see it was going to be a great book. Although this was John Anderton's first book project, he is a natural, fluent artist. To start with, I had the idea that putting the text together would be mostly compilation—I remember telling people that the hard part would be getting the plates done, and the rest would be no

problem. We had an ever-changing cast of volunteers working on a database of relevant entries from other field guides that we would then use to compile the text. Bharat Bhushan worked on producing an early version of the facing page notes. Soon, however, it became evident that there was massive disagreement among sources in a great many cases, so this approach seemed more and more problematic and much less than scientific, since it seemed impossible to know which source was correct in cases of conflict.

From the start, Dr Ripley's health was poor; sometimes he could make it into the office but he could only spend short periods there. After about my first year on the job, he suffered what was to be his terminal decline in health, which ultimately led to his being unable to participate in the project. This very unfortunate state of affairs meant that we were not able to benefit much from his years of field experience, and doubtless the project would have turned out very differently and been completed much more efficiently had things been otherwise in this respect. Continuing funding from his office, however, made it possible to carry on the work, which would otherwise have been completely impossible. The book was in its late stages when Dr Ripley passed away,

and he was never able to participate in its production, so the subtitle bears his name (by agreement between the Smithsonian and Ripley's surviving family) instead of him being an author.

Early on in the project, I came to the conclusion that there were problems with the original design—for instance, vagrants were excluded, and the Andamans and Nicobars were not covered. Also, as I began to understand variation among birds of the Indian Subcontinent, the more I realized that many more plumages and races would need to be illustrated than had been planned, making the number of planned plates inadequate. Additionally, we learned that a field guide to the region was under production by another team, Richard Grimmett and Tim and Carol Inskipp. Early negotiations to try and combine the two projects failed because a lot of effort (including plates) had already been duplicated, and anyway our publisher (at that time) was convinced that there was room in the market for two guides to the region. Especially given the competition, I felt that a key to success would be to produce a comprehensive and accurate guide to the region. I also decided that we should include Afghanistan in the book's coverage, because it shares many of the Indian Subcontinent's taxa and because it was not covered by any previous field guide. So we proceeded in planning and review of plates, although the pace of plate production was painfully slow due largely to the fact that some of the artists were still busy with other projects.

As I reviewed plates, I was hampered by the extreme scarcity of reliable reference material, particularly photographs for the birds of the region, even the most common ones. This led me to start a regional bird photo file, of color xeroxes, clippings, photos sent by collaborators, specimen photos, etc. which soon became really extensive and then unmanageably large. For each plate, I would assemble all relevant photographs (this was in the dim days before the digital revolution, when color xeroxes were state-of-the-art) and send them to the artist, and then I would again use the photos and specimens to review the accuracy of each plate. Also, for a while Guy Tudor helpfully sent photos to the artists from his huge collection, until my file became complete enough. Eventually I couldn't keep up with filing the new photo acquisitions so I assigned this to a volunteer

retiree, Ted Rivinus, but not long after that Ted was tragically killed in a car crash. Now, of course, good numbers of photos of most species are readily available digitally and can just be Googled, but this was unheard of in the early to mid-1990s. Later in the project, I realized that I needed a comprehensive and accessible digital photo collection of specimens for purposes of checking text and plates, so whenever I worked on specimens I photographed them as well.

From the start of the project the illustrations of nearly all plumages had been based on specimens. First, we inventoried relevant specimens in the collection of the National Museum of Natural History (justifiably, we couldn't borrow unique material or more than half of the holdings of any taxon or sex). During this process we made decisions about which plumages and races needed illustration, but it wasn't long before it became obvious that, for the sake of completeness, much work would have to be done at other museums. At the USNM we assembled specimen loans as needed, which were processed by divisional staff and sent off to the artists, each of whom had pest-proof specimen storage facilities. But it seemed that just as a plate was completed, I would find specimens (at some other museum that we had been unaware of) that had important racial/age/sex distinctions and that more illustrations were really needed for completeness. However, this was well before large-scale digital recomposition was feasible, and so we often had the artists insert additional figures into spaces between birds, but in many cases this was impossible. In a few cases this resulted in the repainting of a plate to accommodate many more figures. Eventually we convinced the press to allow us to have more (104) color plates, and we planned some black-and-white plates in addition. All this of course meant more planning and more contract paperwork. It's amazing how much work it is just to do this kind of background work on plates, even if you aren't the artist! Of course the artists have much the hardest job to do, and that which requires great skill, knowledge and inspiration.

Early in the project we were limited to having black-and-white maps that would be grouped in the back of the book. Of course we realized that this was not optimal, but publication costs meant it was the only way. We had a great deal of trouble coming up

with black-and-white patterns that appeared sufficiently distinct from one another and that would hold up in publication of maps only about an inch square, and we never did find a really satisfactory solution. We also had huge problems constructing the maps, as we didn't then have a proper database of bird localities, nor yet a working knowledge of many of the geographic names. We were in the tedious process of preparing a database from literature localities, but we had no way of verifying the accuracy of many of these, and then (mercifully, I now believe) the whole database was lost while I was on my second trip to Myanmar. The database hadn't been backed up for a long time and I couldn't see redoing it, since I had little faith in many of the records anyway. Brian McPhelim spent much time producing base maps, which were then computerized in Adobe Illustrator, which at that time was very far from a user-friendly program. Later we decided that a professional map artist was needed, so we contract Britt Griswold for this huge job.

A few years into the project, it became clear that we had to speed up plate production, and we had the very good fortune to be able to enlist the services of Ian Lewington, Hilary Burn, and Larry McQueen, among others. These artists, widely recognized as among the best bird artists in the world, lived up to their billing in their work for us. All have very different styles but all are able to produce beautiful, accurate work, even for birds they haven't seen in the field. It also became clear that the advice of experts was needed for particularly difficult groups, and so we enlisted the services of (among others) William Clark for raptors, Per Alström for warblers, larks and motacillids, and Craig Robson for babblers.

As opportunities arose, I began to do more work at other museums, particularly the American Museum of Natural History, The Natural History Museum in Tring, UK (BMNH); the Field Museum of Natural History (FMNH); the University of Michigan Museum of Zoology (UMMZ); Yale Peabody Museum; the Bombay Natural History Society (BNHS); and others with substantial Indian Subcontinent bird specimen holdings. To fill in gaps we ended up borrowing a great many specimens from other museums, which helped immensely. In addition, the more time I spent at BMNH the more I realized how essential work in this collection would be in doing an

adequate job with the book. This is due not only to the huge Indian Subcontinent collection at BMNH, with material of almost all taxa from nearly all areas, but also to the fact that many of the type specimens, much important published material, and many archival and obscure library resources are lodged there.

One day, Nigel Collar was visiting Washington DC and was working in the bird collection. I had recently read Alan Knox's (1993) paper in which he alleged that the famous collector Col. Richard Meinertzhagen had stolen redpoll *Acanthis* specimens and relabelled them with false data. This bothered me greatly because I had noticed that quite a few species and strongly marked subspecies were recorded from the region only on the basis of Meinertzhagen's specimens. So I just happened to mention to Nigel that I was concerned about the Meinertzhagen records, and needed to decide whether I should have these taxa illustrated or not. To my surprise, Nigel said that indeed he was on a committee formed by the British Ornithologists' Union to evaluate the veracity of Meinertzhagen's specimens, as this matter was of great concern due to the size and importance of his collection at The Natural History Museum. He also said that I should contact the other committee member, Dr Robert Prys-Jones, Head of the Bird Group at the BMNH, in advance of my upcoming trip there so we could try to evaluate the relevant Indian bird specimens. I did so, and on that trip Robert and I were able to establish (by finding preparation style matches to series collected by earlier workers from which specimens were missing) that several of Meinertzhagen's unique subcontinent records were clearly fraudulent, and all the others were highly suspect. When I returned to the USNM, Dr Storrs Olson asked me a question about the Forest Owlet, *Athene blewitti*, so I turned to the *Handbook of the birds of India and Pakistan* (Ali and Ripley 1983) and read, to my dawning horror, that it had last been recorded in 1914 in Gujarat by Meinertzhagen! This suspicious circumstance immediately led to a comprehensive investigation that resulted in the confirmation that Meinertzhagen's specimen was fraudulent (Rasmussen and Collar 1999), that the species hadn't been definitely reported since 1884 (Rasmussen and Collar 1998), and finally in our rediscovery of the owlet (King and

Rasmussen 1998).

Thus began a massive project with Robert to ground-truth the Asian bird collection of Richard Meinertzhagen. This work could only be done in the collection of the BMNH, and it kept expanding as we realized more and more the scope and importance of the frauds. Not only did we find that a great many (probably thousands) of Meinertzhagen's specimens are stolen and fraudulently labeled, but we continued to locate important regional records, such as the only winter regional records, the only breeding records, the only Afghan records, the highest elevation records, odd food and behavioral records, etc. for certain taxa. For example, Meinertzhagen's collection contained the only specimens of Coral-billed Scimitar-babbler *Pomatorhinus ferruginosus* from above 2400m, and these were labeled as being from 3500 and 3800m in November! He had a specimen of Kashmir Flycatcher *Ficedula subrubra* from Uttaranchal in June, when all members of the species should be in and around Kashmir. He had the only Himalayan winter records of Ferruginous Flycatcher *Muscicapa ferruginea* and Large Blue Flycatcher *Cyornis magnirostris*; after discounting his specimens, it became clear that these species both vacate the region in winter. On examination, almost all of these pivotal records turned out to be fraudulent (Rasmussen and Anderton 2005; Rasmussen and Prys-Jones MS), as did many mundane, unimportant specimens as well. Conversely, we found that some of Meinertzhagen's very important specimens are almost certainly genuine, such as his type series of Afghan Snowfinch *Pyrgilauda theresae* (Rasmussen and Prys-Jones 2003). Over the intervening years we have been able to evaluate practically all Meinertzhagen's significant Indian Subcontinent regional specimens of which we are aware, so that *Birds of South Asia* should be relatively free of the negative influence of Meinertzhagen's frauds, although for transparency his name appears in the book in connection with each of his dubious records. Each of the important records is dealt with in detail in a forthcoming scientific analysis (Rasmussen and Prys-Jones MS).

It was while I was looking through the Smithsonian archives for information on any dealings Meinertzhagen may have had with the Smithsonian (which seems to have been very little) that I "discovered" a set of

some 14 or so boxes which contained files from the preparation of the *Handbook*. These turned out to be the mother lode of distributional and other information that had formed the backbone of the *Handbook*, augmented by more recent material as well. They were the archived scrapbooks and point maps of the late Hugh Whistler and Claude Ticehurst, who had been the acknowledged experts on Indian Subcontinent birds before their premature deaths one year apart in the early 1940s. They had been preparing a major work together on the region's birds, which was still a long way from completion, but they had at least gathered the existing references together and created maps for most species (except waterbirds, birds of Sri Lanka, and those of the Andamans and Nicobars). The boxes had been archived long before, so I had not known of their existence. Anyway, it was immediately obvious that these boxes contained the material that would allow us to produce good maps, and to track references on many other details of species' life histories, etc. By this time I had lost faith in many recent records because of the lack of verifiability and traceability, and it seemed to me that the older literature (once one got the hang of the old names) was more verifiable because the writers usually had specimens, often held at the BMNH, to back up their claims. So I arranged to have all the contents of the boxes xeroxed, a huge job carried out by Brian McPhelim, and I then organized them all taxonomically. These were then heavily used in preparing the texts and maps, although of course they carry some risk of error and misinterpretation, and they are undeniably dated. For example, the points on the map were based on literature reports, some of which were not backed up by specimens, but those that were had often been verified by Ticehurst and/or Whistler. Each map point was keyed to reference, which was exceedingly helpful, and many strongly marked taxa (e.g. "phylogenetic species") such as identifiable wagtail taxa had their own map, which made it possible for us to provide separate maps for them. Later I learned that the originals of these references are archived at the BMNH, and another set of copies is at the BNHS. In addition, I happened to locate a map archived at BMNH that pinpointed the old collecting localities, many of which had obsolete names that had given us considerable trouble, and this proved extremely useful.

However, I still didn't have a database that could be used to refine the maps, or to check individual records. I did have printouts of regional holdings of bird specimens for the museums whose collections were computerized, but these were hard to use in any comprehensive, organized way due to their being separate and in different formats, etc. I thought that a complete specimen database would be far too much work, but I decided anyway to at least put these museum records into a database, which would help enormously. I then realized that databasing wasn't nearly as hard or time-consuming as I had expected, and this led to a major effort to create as comprehensive a specimen database as possible. I visited museums that hadn't been computerized and (with permission) made xeroxes or took digital photos of relevant portions of specimen registers, which were then input into the database; for example, volunteer Helen Melichar entered all the many thousands of Ticehurst and Whistler BMNH specimens into the database. Other volunteers did other parts: Dhananjaya Katju computerized the specimens in the published BNHS catalogues, while Linda Lyon added in material from some published trip reports, and I spent many evenings adding in other collections. Thus, I ended up with a mostly complete regional database comprising some 230,000 specimens.

The very first time I actually used it to check maps, the database gave me a good idea how essential it would turn out to be: I was checking maps of laughingthrushes, when I found that although the Striated Laughingthrush *Grammatoptila (Garrulax) striata* was said to occur in, and was mapped for, parts of the hills south of the Brahmaputra River, not a single specimen from any part of that area was in the database. Now, if this was a skulking bird, or one that was difficult to identify, that might not have been so telling. But believe me, if this bird is in an area any field ornithologist would know it, and it would surely be well-represented in the extensive, mostly unpublished collections from the South Assam hills, which had been especially well-collected by Dr Walter Koelz, all of whose material was by then in my database. Further checking showed that, indeed, the only records of *G. striata* south of the Himalayas and in the Chin Hills of Myanmar were erroneous or at best unverified. This presaged what turned out to be a common pattern: once all the

specimen records from the seemingly poorly known South Assam hills were organized in the database and analyzed, the area actually became rather well-known, but as this had never been done, major distributional errors were rife for this region. Other species whose north-eastern Indian ranges were elucidated by the database include Tickell's Blue Flycatcher *Cyornis tickelliae*, Large Blue Flycatcher *Cyornis magnirostris*, White-browed Fantail *Rhipidura aureola*, Thick-billed Flowerpecker *Dicaeum agile*, and Collared Treepie *Dendrocitta frontalis*.

When Lynx Edicions agreed to publish our book, they also (thankfully!) agreed that the maps should be in colour. This was a huge improvement, but as most of the maps had already been digitized in black-and-white by Britt Griswold, a great deal of further work had to be done to enact the changes. It also allowed me to devise what I hope are useful, user-friendly ways of annotating the maps to summarize geographic variation, status, and habitat, among other things. Although this was enacted before it was decided to split the book into two volumes, the annotations had the further benefit of making the field guide section (with the maps) stand alone better than without the annotations.

Special difficulties occur with map-making where taxonomic histories are complex, and/or where identification difficulties occur. In these cases, one cannot be certain that even museum specimens in databases are correctly identified unless one checks them oneself, of course armed in advance with knowledge of how to do so! This was particularly the case with leaf-warblers *Phylloscopus*, reed-warblers *Acrocephalus*, and most of all with bush-warblers *Bradypterus*. For the latter group I ended up spending countless hours on side projects that (with co-authors) eventually elucidated their formerly muddled distributions. For these small birds, specimen series are usually sufficient to produce good small-scale maps, but this is certainly not the case for many large birds, notably vultures, adjutant storks, pelicans, and cranes. Not only do very few specimens exist of these, but the species tend to have complex plumage sequences and to be easily confounded in the field, particularly in the days before good optics and field guides. Thus, the vast majority of sight records of the above groups cannot really be trusted, but there are by no means

enough specimens to begin to produce a map based entirely on verified specimens, and I have little confidence in the details of maps for these taxa. Even worse is the appalling situation with seabirds; for most of these, identification is ultra-difficult and few if any regional specimens are available. Fortunately, for raptors (notoriously difficult to identify, with many look-alike, highly variable regional species) I was able to enlist the aid of a raptor expert, Dr Steven Parry, to review all identifications at the BMNH, which helped greatly in being able to confidently produce specimen-based maps.

Due to the nature of scientific knowledge, accuracy of the maps varies from region to region. For example, bird distributions were already relatively well-known in Sri Lanka, and I sent all the draft maps for that country to Sri Lankan experts Deepal Warakagoda and Udaya Sirivardena, who made many useful comments that resulted in a great increase in their accuracy, and in their being up-to-date. At the other extreme, reliable historical baseline data are almost lacking from Bangladesh, an area largely overlooked ornithologically during the colonial period and since. The published record for Bangladesh is highly speculative. Few specimens were ever collected, and even the location of many of those is uncertain. Conversely, an important fairly recent collection (by Dr R. A. Paynter, Jr.) was never published (until I incorporated it into *Birds of South Asia*). Recent papers by in-country observers have greatly improved the situation, but still the Bangladesh maps were extremely troublesome to prepare with confidence. The situation is similar in Arunachal Pradesh, where recent observers have published many important sight records from areas never properly documented by specimen collectors. However, for the book I took the stance that sight records not accompanied by independently verifiable data (e.g. photographs, tape recordings, and/or publication of diagnostic field details) should not be treated as definitive.

And Afghanistan—well, this country proved the most troublesome of all. No previous work had included high-quality maps for Afghanistan. The best works on its avifauna were by Whistler (1944-1945), based on the early material collected by British surveyors and explorers, and Paludan (1959), based on his field work there. Maps in Hüe and Etchecopar (1970) and especially Harrison (1982) were clearly somewhat

speculative and outdated. With a few exceptions, Koelz's very extensive Afghan collections had never been incorporated into the literature. Most of the fairly recent literature on Afghan birds is in languages other than English, and the vast majority consist of uncorroborated lists of species seen. Although in theory my specimen database made it possible to create the first good maps for Afghanistan, I had a great deal of difficulty finding coordinates for Koelz's localities. It was only shortly before the manuscript had to be delivered to the press that I learned (from Mary LeCroy at AMNH) that an unpublished map existed with Koelz's Afghan localities, and, with the help of Dr Thomas Schulenberg, I finally tracked it down at the FMNH. This proved invaluable in producing the Afghan maps, although mapping species that occur there was more time-consuming than for any other country in the region.

Another major trouble spot for mapping was the Andamans and Nicobars, which I've always found very interesting. But trying to map bird occurrence in these islands without considerable original research was highly unsatisfactory. Although Humayun Abdulali published important papers on the Andamans and Nicobars, many contradictions and questions remained. Not only was it difficult to discern on which islands each species had been correctly reported, it was often difficult to tell whether there were any valid records at all for the whole island group. My specimen database helped immensely, but the biggest collections from the Andamans and Nicobars were at the BMNH, and these hadn't been worked up by Ticehurst and Whistler to the point that the data were usable. To overcome this problem, late in the project I contracted Steven Parry to database all the Andaman and Nicobar specimens in the BMNH. Once this was done, it meant that I had virtually all the specimens from these islands in my database (although I later realized there are a few in Leiden), so I could produce a more coherent picture of their distributions. Quite a few species previously listed turned out to require better documentation for the islands (among others, Grey Heron *Ardea cinerea*; Black-crowned Night Heron *Nycticorax nycticorax*; Black Bittern *Dupetor flavicollis*; Common Teal *Anas crecca*, Brahminy Kite *Haliastur indus*; Common Kestrel *Falco tinnunculus*; Small Cuckoo *Cuculus poliocephalus*). Many

taxonomic riddles surfaced. For example, is the Black Baza *Aviceda leuphotes* an occasional migrant through the Andamans, or is the species resident and the race *andamanica* valid? Similar questions had to be asked of the Ruddy Kingfisher *Halcyon coromanda mizorhina* and the House Swallow *Hirundo tahitica*, among others. The serpent-eagles *Spilornis*, the accipiters *Accipiter*, and the hawk-owls *Ninox* were particularly intriguing and troublesome in terms of sorting out both distribution and taxonomy.

When I went to the Andamans in the early 1990s, I saw most of the endemic species but I didn't appreciate then how really distinctive the avifauna is—many of the splits proposed in the book are from the Andamans or Nicobars. My preconception was that the avifaunas of these two island groups were relatively similar to each other, but the research for this book shows that few species and even fewer races are actually shared between the Andamans and Nicobars. For example, for species definitely known from the Andamans, several cases arose where this proved not to be the case for the Nicobars (e.g. Hume's Hawk-owl *Ninox obscura*, Indian Cuckoo *C. micropterus*, Asian Emerald Cuckoo *Chrysococcyx maculatus*, Violet Cuckoo *C. xanthorhynchus*, Ruddy Kingfisher, White-throated Kingfisher *Halcyon smyrnensis*, Asian Fairy-bluebird *Irena puella*), and vice versa (e.g. Pied Triller *Lalage nigra*, Nicobar Jungle-flycatcher *Rhinomyias nicobaricus*). But more importantly, in several cases races treated as synonymous proved upon reexamination to be valid (e.g. Andaman Woodpigeon *Columba palumboides nicobarica*, Emerald Dove *Chalcophaps indica augusta*, Andaman Green-pigeon *Treron chloropterus andamanicus*, just to mention the examples among the Columbidae). Much remains to be learned of the avifauna of these islands.

After my move to Michigan State University, I was able to regularly use the Indian and Nepal collection there, and to take advantage of its proximity to the UMMZ, just an hour away in Ann Arbor. The MSU collection holds several regionally important specimens, including at least two vouchers of important records (a specimen published as Lanceolated Warbler *Locustella lanceolata* from Delhi turned out to be the far more common Grasshopper Warbler *L. naevia*, and a Common Sand-martin *Riparia riparia* that may be the only

voucher between Afghanistan and north-eastern India). In UMMZ, a treasure trove awaited—the huge Koelz collection from north-eastern India, along with substantial holdings from many other areas of the subcontinent, little of which had been published. There (unlike any other collection) I was able to make direct comparisons for many taxa between extensive series from Assam Valley, the Naga Hills, Manipur, Meghalaya, and the Lushai hills, as well as the Himalayas and central India. It turns out that Koelz was the only person to ever make a bird collection in the Lushai Hills of eastern Mizoram, which abut onto the Chin Hills of western Myanmar and the Chittagong hill-tracts of south-eastern Bangladesh. This fact alone meant that I was able to discern several new races for the Indian Subcontinent from the Lushai Hills, most of them mainly distributed in the Chin Hills and Arakan of Burma (for example, race *victoriae* of Brown-capped Laughingthrush *Ianthocincla austeni*; race *mearsi* of White-browed Scimitar-babbler *Pomatorhinus schisticeps*; race *victoriae* of Green-tailed Sunbird *Aethopyga nipalensis*; race *flavescens* of Fire-tailed Sunbird *Aethopyga ignicauda*; race *victoriae* of Brown Bullfinch *Pyrrhula nipalensis*), and to clarify a great many other matters. But most surprising was the fact that in the UMMZ collection, by scrutinizing large series of common species, I located previously unrecognized regional specimens of three species of *Phylloscopus* warblers (Chinese Leaf-warbler *Phylloscopus yunnanensis*; Buff-throated Leaf-warbler *P. subaffinis*; and Two-barred Warbler *P. plumbeitarsus*). No regional specimens of these taxa have been located in any other collection, and I have searched in vain for all these and more at several other museums.

These three leaf-warblers were not the only species new to or overlooked for the region for which specimens were located during the course of preparing the book. Others include Hill Blue Flycatcher *Cyornis banyumas* (which I consider to be a separate species from *C. magnirostris*): I happened to find specimens labeled as *C. b. whitei* in the Rothschild Collection of the AMNH, which had not been incorporated into the literature. I have no doubt that they were correctly identified, and they actually explained odd winter records of *C. banyumas* from the NE that had been attributed to *C. magnirostris*, which migrates to Malaysia for the winter. Another

was Grey-bellied Wren-babbler *Spelaeoris reptatus* (formerly treated as a race of *S. chocolatinus*); John Anderton had had difficulty in reconciling a Namdapha specimen in the USNM collection with others he had seen and illustrated, and when I compared the specimen at the AMNH it was clear that it was actually *reptatus*, previously known from as close as northern Myanmar. Yet another was Hill Prinia *Prinia superciliaris* (previously treated as a race of Black-throated Prinia *P. atrogularis*); in this case, I had received tapes from Namdapha of what was identified as *P. atrogularis*, but it matched *superciliaris* from south-east Asia instead. The tapes lacked sufficient accompanying visual identification details to be certain that they really were of *superciliaris*. However, after the book text had already been submitted to the publisher, I happened to find a specimen of *superciliaris* at the BMNH labeled as being from the E. Naga Hills (within India, according to the collector's itinerary); this specimen (collected by Godwin-Austen) had been in the collection for almost 110 years before its true identity and significance were recognized! Finally, there had been unverified sight records of Black Noddy *Anous minutus* from Sri Lanka, but most sources indicated the species does not occur in the Indian Ocean, where it is replaced by Lesser Noddy *A. tenuirostris*. However, there are specimens in the BMNH that clearly are *minutus* and are definitely from the Indian Ocean, including within the Indian Subcontinent.

Another major problem I encountered was that no hypothetical list existed for the Indian Subcontinent. Species had either been accepted or rejected, often without explicit published documentation. In most cases it seemed that a liberal policy had been adopted which is not in keeping with standards of proof for other countries, or scientifically defensible. After much worry and debate, I decided that a relatively rigorous and consistent stance was needed, although I knew that this could alienate many people. The standard I adopted was that a species given full regional status had to be documented by a specimen for which there was no reason to doubt provenance or genuinely wild status, or an identifiable photograph, or at least the publication of diagnostic details that could be independently evaluated. A surprising number of species did not conform to these

standards, and therefore were placed on the hypothetical list. Of these, quite a few will probably be found to have been validly reported, while others are quite unlikely. I also created a list of rejected species, those for which the evidence overwhelming indicated that they had been recorded incorrectly or fraudulently.

From the beginning I had felt uneasy about using published length measurements in the book, although I realized that users would definitely expect them. My disquiet was due to the fact that many contradictions exist in the literature, and with most published measurements one cannot know where they came from, how the measurements were taken, or sometimes even which taxon was actually measured. I was essentially resigned to using the measurements from the *Handbook*, and indeed we did use them for purposes of quick cross-comparisons in Volume 1 of our book, the *Field Guide*. But eventually I decided to try to come up with skin measurements that would be relatively repeatable and consistent, and also helpful in the field, and I ended up with what I hope will succeed in these respects. However, it took months of work to be able to take all these measurements from series of all major taxa in the region. Although I tried to do most of it at the USNM, the collections of the BMNH ended up being by far the most useful for taking measurements because they are so extensive. Even so, it was often impossible to achieve my goal of five accurately sexed specimens of each sex for each major taxon, especially for larger birds. I had to exclude many specimens due to preparation style—for instance, birds with stretched or squashed necks could not be measured for total length, birds with the back of the skull removed (easily detected by palpation) could not be measured for head plus bill length, etc. Incidentally, the whole process of measuring all these birds brought into focus something I had never realized: for the vast majority of Asian passerines, males are distinctly larger than females in all major dimensions *except* for head plus bill length. This is one of many findings stemming from the book project that needs scientific follow-up, and I hope soon to be able to look into big pattern issues such as regional and taxonomic patterns of sexual dimorphism, geographic variation, and vocalizations, among other things.

Another major aspect of the book about which I had serious misgivings from early

on was the descriptions of vocalizations. Clearly those that existed were from a variety of sources, many untraceable, and most were not directly comparable or necessarily very accurate or complete. To make matters worse, I have always had a severe upper register hearing loss, so I felt that even had tapes been available of most taxa, I wouldn't be able to describe them myself. Early in the project I had planned to present sonagrams for some species with strongly patterned vocalizations, but the difficulty and expense of preparing sonagrams at that time had discouraged me from following through on this goal. However, late in the project it became clear that recordings of many species were becoming available, at about the same time that user-friendly sonagram software became readily available and computer storage space made it feasible to deal with large numbers of recordings. After some experimentation, I realized that this was the answer: I could now easily digitize recordings, make sonagrams from them, and *see* whatever high portions I couldn't hear! Much trial and error later, I eventually came up with a way of transcribing vocalizations and providing quantitative data that should allow users to more accurately and consistently identify and compare vocalizations, and I was able to implement this system for the vast majority of species. This would not have been remotely possible without the huge contributions from the sound collections of several recordists, most notably Paul Holt, Craig Robson, Per Alström, and Deepal Warakagoda, to all of whom I am extremely grateful. In addition, the publishers agreed with me that sonagrams would be a very useful innovation, and I was able to produce sonagrams of the main vocalizations for over half the region's species. Unfortunately, constraints on my time and the book's length severely limited this feature, so for example there are no sonagrams for the chats, or for the finches, among other groups, but they are included for most of the highly vocal groups.

From early on in the project we were aware of numerous problem taxa—cases where it seemed even to the casual observer that the taxonomy was flawed. I had long subscribed to the widely held view that we should not make taxonomic changes in a field guide, but when it became clear that I would be able to include sufficient morphological data, detailed vocal comparisons, sonagrams, and taxonomic notes for relevant cases, I decided

that the book was indeed an appropriate place to make the best-justified changes. They would thus be enacted in a single place, rather than having to wait years in the hope that various isolated publications would appear (or not) in disparate sources. Of course the split taxa should be more fully treated in refereed journals, and qualified regional committees should take decisions on them. The splits taken in the book are those for which the evidence was strongest; there are numerous others that may, upon further study, prove to be justified. On the whole, the splits revise the number of endemic species upward for the Western Ghats, Peninsular India, Sri Lanka, the Andamans, and the Nicobars, with very little impact elsewhere. A paper summarizing this aspect is forthcoming (Rasmussen in press).

Mr Ripley died on 12 March 2001 at age 87. By that time the vast bulk of the project was completed, including nearly all the plates. However, largely because of the evolving approaches discussed in this article, quite a bit of the text still required work, most plates still had to be checked carefully for accuracy, the facing plates had to be completely rewritten to reflect our improved knowledge and new material in the plates, and the maps had to be extensively reworked. I had already started working part-time at Michigan State University, where my husband had become Curator of Paleontology, and shortly after Ripley's death I moved there full-time. As an Assistant Curator at the MSU Museum, I was able to devote considerable time to work on the field guide, and its incessant demands and deadlines meant that I was compelled to work on it virtually all my waking hours, to the exclusion of everything else. It seems, paradoxically, that finishing a field guide means not being able to get out into the field, but that is the way it was for me. The later stages were greatly assisted by the assiduous editing of Nigel Collar. Fortunately, the project was finished (except for multiple stages of proofs) before my time was fully committed to teaching at MSU.

Frankly, the very best thing that happened for the book was when Lynx Edicions agreed to publish it. Dr Josep del Hoyo was enthusiastic about the project, and agreed with most of my suggestions for how the book's format and content could be greatly improved, and he also came up with additional great ideas. Previously, we had been limited to a number of plates that was much too small to get the job done right—

many plumages were missing, and many plates were too crowded, making them visually distracting. With Lynx, we were able to agree that we would digitally recompose the existing plates to what we felt was the optimum number (180). We were also able to have color maps, which would be opposite the illustrations. Eventually, we agreed that the book really should be divided into two volumes, first and foremost so that the field guide section would be portable, a constraint uppermost in every birder's mind. This kept me from being forced to edit out much of the laborious text work already done, and allowed for the detailed vocal analyses and presentation of sonagrams, treatment of geographic variation and distributional problems, and the relatively detailed index and appendices. Working with Lynx staff was always a pleasure—at least from my point of view! Perhaps it was less so for them, as countless (and no doubt irritating) changes had to be introduced to various stages of the proofs, some of them in very late stages, such as when Ben King's rediscovery of the Mishmi Wren-babbler *Spelaeornis badeigularis* was announced in late February 2005 (the book appeared in April!).

All these improvements, however, meant a considerable additional investment in time and resources, much more than any of us anticipated. John and I had already numbered and labeled all the figures of all the plates multiple times, but then we had to come up with a new plan for the recomposition, which of course meant a whole new numbering system. John spent weeks designing a new layout for the recomposed plates, and I had to do a lot more paperwork planning additional figures to be added, contracting artists again, preparing more specimen loans, photographing specimens, etc. Because in the original plates many figures overlapped, some of different species, a considerable amount of digital reconstruction was necessary, and John took a short course in Adobe Photoshop, which enabled him to do much of this work. The recomposition was also hugely time-consuming for the staff at Lynx. But we like to think the end result was surely worth it!

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