by Paul Hess

Checklist Changes

New knowledge, reinterpretation of old ideas, and conservative treatment of uncertainty are central features of the timely (now annual) supplements to the American Ornithologists' Union *Check-list of North American Birds*. The 44th Supplement, published in July 2003 (*Auk* 120:923–931), ordains a long list of changes, including splits of species, new common names and scientific names, assignments of species to new genera, rearrangements in the linear sequence of taxonomic relationships (colloquially, the "official checklist order"), and postponement of other decisions pending the outcomes of further research. Many of the changes involve ABA-area birds, and by stipulation, the AOU classifications and nomenclature are adopted for the *ABA Checklist*. The following is a summary of revisions adopted by the AOU Committee on Classification and Nomenclature that affect the ABA list.

Species splits

• New World and Old World populations of Three-toed Woodpecker are separated on the basis of differences in mitochondrial DNA and vocalizations. The North American species is named American Three-toed Woodpecker, *Picoides dorsalis*, and the Eurasian species retains the name *P. tridactylus*.

• A White-winged Crossbill population limited to the island of Hispaniola in the Greater Antilles is split from the North American form, based on vocal and morphological differences. The new species is named Hispaniolan Crossbill, *Loxia megaplaga*, and North America's species retains the name White-winged Crossbill, *Loxia leucoptera*.

Note that the Old World three-toed woodpecker and the crossbill on Hispaniola have not been recorded in the ABA Area, with the result that neither split adds a new species to the ABA list.

New English names

• Band-tailed Gull (*Larus belcheri*), added to the ABA list in 2002 under that name (see *Birding* 35:138–144), is now Belcher's Gull, named in parallel to its sister species, Olrog's Gull.

• Rock Dove (*Columba livia*) becomes Rock Pigeon, to conform to the recent standard English name change by the British Ornithologists' Union.

Reassignments to new genera

• Ten species of New World pigeons formerly included in the genus *Columba* are placed in a separate genus, *Patagioenas*, based on genetic, morphological, serological, and behavioral characters that differ from Old World *Columba* species. Four are on the ABA list: Scaly-naped Pigeon (now *P. squamosa*), White-crowned Pigeon (*P. leucocephala*), Red-billed Pigeon (*P. flavirostris*), and Band-tailed Pigeon (*P. fasciata*). Rock Pigeon, an introduction from the Old World, remains in *Columba*.

• Ten New World owls of the genus *Otus* are separated into a new genus, *Megascops*, based on mitochondrial DNA and vocal differences from Old World *Otus* owls. Three are ABA-area species: Western Screech-Owl (*M. kennicottii*), Eastern Screech-Owl (*M. asio*), and Whiskered Screech-Owl (*M. trichopsis*). Another North American species, Flammulated Owl, retains the name *Otus flammeolus* because of its vocal similarity with Old World *Otus* species.

• Snowy Owl, formerly *Nyctea scandiaca*, becomes *Bubo scandiacus* by a merger of its monotypic genus into the genus *Bubo*. New studies indicate that Snowy Owl not only is closely related to *Bubo* but in fact is genetically "nested

It's going to require some getting used to, but *Columba livia* is no longer the Rock Dove. Instead, it now goes by the name of Rock Pigeon—by authority of the recently published 44th supplement to the AOU *Check-list*. *Oil painting by © Ray Nelson.*

Long-distance neotropical migrants like the American Redstart (shown here) may have evolved so as to arrive on their breeding grounds at or near the peak of prey availability. However, prey availability (in the form of caterpillars) appears to be have been advancing earlier in the year, presumably as a result of climate change. It is unclear whether migratory species will be able to adapt to shifting patterns of resource availability. *Houston County, Minnesota; May 2002. © Stan Tekiela.*

within" this genus. The only other North American species in *Bubo* is Great Horned Owl (*B. virginianus*).

Grammatical changes in Latin suffixes

- Whiskered Tern from *Chlidonias hybridus* to *C. hybrida*.
- Black-capped Vireo from *Vireo atricapillus* to *V. atricapilla*.
- Black-capped Chickadee from *Poecile atricapilla* to *P. atricapillus* (reversing a change the committee had made three years previously).
- Ovenbird from *Seiurus aurocapillus* to *S. aurocapilla*.

These changes were made to conform to rules of the International Code of Zoological Nomenclature.

Revisions in linear sequence

- The North American list no longer begins with the loons. It now starts with the order Anseriformes (geese, swans, and ducks), followed by the order Galliformes (quail, pheasants, grouse, and relatives), and then the loons. This major taxonomic revision is based on immunological, genetic, and morphological characters indicating that these two orders comprise a single major grouping known as the Galloanseres, which is separate from the entire superorder of Neognathae, "typical birds". The committee anticipates that genetic research will result in further such revisions in higher-level classification, which will be incorporated into the next edition of the AOU *Check-list*.
- Another change does not involve the ABA list directly, but it foretells dramatic changes to come. Sixteen species of Mexican and Middle American euphonias and chlorophonias are moved from the family Thraupidae (tanagers) to the family Fringillidae (finches). This is the first step in addressing apparent taxonomic misplacements of species and genera in the current classification—particularly in the Thraupidae and Fringillidae, and perhaps in the Emberizidae (sparrows) and Parulidae (wood warblers). For now, asterisks mark 80 such species with uncertain relationships, including 17 on the ABA list: Yellow-breasted Chat, Bananaquit, five tanagers, Western Spindalis, White-collared Seedeater, two grassquits, four longspurs, and Snow and McKay's Buntings. The committee said that when additional studies resolve the relationship of these problematic taxa, formal changes will be proposed and acted on.

Looking ahead

Among taxonomic proposals the committee considered but has not yet accepted are a merger of the genus *Ciccaba* (including the ABA-listed Mottled Owl) into the owl genus *Strix* and a split of the Seaside Sparrow into two or more species. The committee concluded, "We are aware of reports in our area of several species not now on our list, but are awaiting consideration of these reports by our sister committee of the American Birding Association."

The updated AOU *Check-list* is available online at <www.aou.org/aou/birdlist.html>.

Warblers and Climate

Is climate change gradually disconnecting long-distance migrants from optimal food resources? Paul K. Strode raised that concern in 2003, focusing on eight warbler species: Magnolia, Yellow-rumped, Black-throated Green, Blackburnian, Palm, and Black-and-white Warblers, American Redstart, and Ovenbird (*Global Change Biology* 9:1137–1144). He brought together an array of long-term data on climate, prey abundance, and spring migrants' arrival at a typical stopover site in Urbana, Illinois, and at the southern limit of many warblers' breeding grounds in Michigan, Minnesota, North Dakota, and Wisconsin.

The combined data point to a widening gap between the warblers' arrival on the breeding grounds and the peak abundance of their major prey in the spring, caterpillars of the eastern spruce budworm. Strode found that peak caterpillar abundance appears to have advanced earlier in the year throughout the last century, but that the birds' period of arrival has not adjusted in response to the change—presumably because migration is initiated by photoperiod and has no direct relation to the phenology of prey along the travel route or at the destination.

The patterns of climate change are not a simple matter of

wide regional warming, because the spring temperature pattern has alternated oppositely in northern and southern areas of Strode's hypothesized migration route. In the four northern states, a warming trend toward earlier springs has advanced the temperature threshold of peak caterpillar abundance as much as 8.9 days earlier from 1912 to 2001. To the south, along the migration route through Illinois, a significant cooling trend has pushed the threshold as much as 11.2 days later during the same period.

Despite the temperature trend toward earlier springs on the northern breeding grounds, seven of the eight warblers have shown no corresponding trend toward earlier arrival. The exception is the Yellow-rumped Warbler, which has been arriving earlier, presumably in response to earlier springs and, Strode suggested, to early emergence of flying insects that are this species' primary prey. Jon L. Dunn and Kimball L. Garrett explained in *A Field Guide to Warblers of North America* that the Yellow-rumped is notable among warbler species as a facultative migrant, varying the timing of its movements in accord with weather and food availability. Meanwhile, despite the cooling trend in southern Illinois, six of the eight species have not changed their arrival timing at the Urbana stopover site. The exceptions are the Yellow-rumped Warbler and the Ovenbird, which have trended earlier, perhaps surprisingly, in light of the trend toward later springs in that area.

Strode describes the migrants as "in a bind": For optimal prey abundance, if the temperature trends continue, birds will need to arrive increasingly later in their more southerly stopover areas but increasingly earlier on their northern breeding grounds. Unchanged arrival timing could indicate that the birds' response to photoperiod as a migration trigger is not flexible enough to adjust to the mixed environmental signals. Whether an uncoupling of migration timing and peak prey abundance would affect other neotropical migrants is unclear, but potentially it could add further stress to many species that are already at risk from habitat loss and other ecological dangers.

Surprisingly, mate choice in female Blue Grosbeaks may not be not directly dependent upon male plumage brightness. There may be an indirect effect, however: It is possible that territorial competition among males is influenced by plumage brightness, and that females, in turn, choose males on the basis of territory size and quality. *Kern County, California; June 2003. © Bob Steele.*

Blue Grosbeak Mate Choice

Darwin's comment in *The Descent of Man, and Selection in Relation to Sex* sounds quaint now: "On the whole, birds appear to be the most aesthetic of all animals, excepting of course man, and they have nearly the same taste for the beautiful as we have." Whether for beauty or more likely for other reasons, female birds of many species have been shown to prefer brightly colored over duller males for mates. To test the role of male Blue Grosbeaks' plumage brightness in females' mate choice, Barbara Ballentine and Geoffrey E. Hill devised an experiment using captive birds to create a range of plumage variation. As in virtually all blue birds, the hue in this species is not produced by color pigment; it results from differential reflection and scattering of wavelengths of light by microscopic structures in the feathers. The authors manipulated this structural "blueness" simply by using a blue marking pen to increase feathers' brightness on one set of males and a black marking pen to decrease the brightness on another set. Then, in a specially designed outdoor aviary, females were presented with a choice between brighter and duller males.

Ballentine and Hill reported an unexpected result in 2003 (*Condor* 105:593–598). Females chose males irrespective of plumage intensity. Of the 11 females tested, six showed a preference for a bright male, but five preferred a dull one. Although their sample was small, the authors suggested that it was sufficient to conclude that variation in males' brightness had a negligible effect.

What, then, might be the criterion for female Blue Grosbeaks' mate choice? Ballentine and Hill noted that males sang and displayed throughout the trials, but those behaviors could not be tested in the experiment focusing on plumage. The authors speculated on another, less obvious, possi-

bility. Previous research has shown that in territorial competition among males, brighter grosbeaks acquire larger territories with more food resources. A female might choose a male by his superior territory rather than directly by the bright plumage that enabled him to compete successfully for it. Answers await more work with marking pens and perhaps with microphones as well.

Thrasher Taxonomy

Breast, wing, and tail patterns of the Curve-billed Thrasher (*Toxostoma curvirostre*) differ markedly across the species' wide range in the southwestern states and Mexico. Birds of eastern populations—those in extreme southeastern Arizona, New Mexico, Texas, and the interior of Mexico—have well-defined dark breast spots, white wing bars, and large white spots on the tail. Birds in the westernmost portion of the range—those in central and western Arizona and along the Pacific slope of Mexico—are spotted indistinctly on the breast, lack wing bars, and show less-distinct white in the tail. Based on those differences, the eastern populations have been linked informally as three subspecies in a "*curvirostre* group" and the western populations as four subspecies in a "*palmeri* group".

Curve-billed Thrasher (*curvirostre* group). *El Canelo, Texas; February 2003. © Jim Burns.*

Curve-billed Thrasher (*palmeri* group). *Phoenix, Arizona; April 2003. © Jim Burns.*

The bird currently known as the Curve-billed Thrasher may, in fact, represent two separate species. The eastern group (*curvirostre*) is characterized by well-defined dark breast spots, white wing bars, and large white spots on the tail; the western group (*palmeri*) is distinguished by indistinct breast-spotting, absence of wing bars, and less-distinct white in the tail.

The two groups should be classified as separate species, Octavio R. Rojas-Soto suggested in 2003 (*Auk* 120:311–322). In several multivariate analyses that included 12 standard measurements, three coloration characters, and the different breast-spot and tail-spot patterns, he found two large non-overlapping statistical clusters of morphological features that corroborated the previously described eastern and western groups. The clusters separated the two groups even at their areas of contact in southeastern Arizona and northern Jalisco, according to Rojas-Soto.

At the same time, his results showed no geographic patterns of morphological variation within either of the two groups to support recognition of any of the seven named subspecies—even when analyzing the same characters that had been used originally to define the subspecies. Rojas-Soto viewed the described races as almost certainly arbitrary divisions based on single rather than multiple characters. Moreover, he said, the subspecific variations described previously might not have taken into account temporal variations such as molt and feather wear that arise merely from the individual's age and the month in which the specimen was collected.

Rojas-Soto's morphological findings correspond closely to the results of a mitochondrial DNA analysis reported in 2000 by Robert M. Zink and Rachelle C. Blackwell-Rago (*Condor* 102:881–886). Their genetic study separated the same eastern and western groups as being "reciprocally monophyletic" (i.e., representing mutually exclusive evolutionary ancestries). Zink and Blackwell-Rago said that such groups, especially when corroborated by morphological evidence, should be classified as separate phylogenetic species because of their evolutionary independence.

Although Rojas-Soto found no geographically patterned variation within either of the two groups, he suggested that

an endemic race on Tiburón and San Esteban islands in the Gulf of California warrants further study. Several morphological characters differentiate it from the western group, but he said that no taxonomic conclusions can be justified without genetic data about the population. Using phylogenetic analyses, Zink and Blackwell-Rago also found no geographic structure within either group, but they did detect genetic distinctions in individuals from the southernmost populations in Mexico that would require study of larger samples to establish taxonomic status.

Beyond morphology and genetics, another approach to the taxonomic question could focus on whether call notes differ between the eastern and western Curve-billed Thrasher groups. All other North American thrasher species—including Long-billed vs. Brown, and California vs. Crissal vs. Le Conte's—have species-specific call notes. If the two Curve-billed Thrasher groups are "good" species, they might be expected to have different call notes (J.L. Dunn, personal communication).

All of the authors have left open the question of whether the eastern and western groups are sufficiently isolated from each other reproductively to be classified as different biological species (the concept used for the American Ornithologists' Union *Check-list* and, by default, the ABA list). Nevertheless, as Kevin E. Omland remarked in 2001 in his article "Thrashing out species limits in the Southwest: A Curve-billed examination" (*Birding* 33:320–328), listers would be wise not to end their Curve-billed quest after seeing birds from only one of the two groups. A bird from the other group could be a new ABA-listable species someday.