# Critique of the Ad Hoc English Bird Names Committee Recommendations for Council of the American Ornithological Society (AOS)

## By J. V. Remsen, Jr. 16 April 2024

On 1 November 2023, the Council of the American Ornithological Society announced in a press release that it had voted to adopt the recommendations of its ad-hoc English Bird Names Committee to replace all 257 eponymous bird names in the Western Hemisphere with new descriptive names. The final report itself was not made available to AOS membership for comment. A June 2023 draft of the report was made available to the members of the AOS's North American Classification Committee and South American Classification Committee, on condition of secrecy. Committee members were given two weeks to respond. Collectively, NACC and SACC members voted 21-1 to reject the EBNC report and also provided extensive criticism, which was largely ignored in the final draft of the EBNC report other than correction of factual errors pointed out by committee members.

In the absence of any opportunity for AOS members to respond to the EBNC recommendations adopted by the Council, I here catalogue my criticisms of the EBNC report and its recommendations. I have divided this into two parts; in Part 1 are my general criticisms of the EBNC report, and in Part 2 are my responses to specific statements in that report.

# Part 1. The Ad Hoc English Bird Names Committee Recommendations report (EBNCR) has four major problems:

### 1. The Committee failed to carry out its mission.

As noted in the EBNCR, the charge given to this ad hoc committee by the AOS Council was "to develop a process that will allow the [AOS] to change harmful and exclusionary English bird names in a thoughtful and proactive way for species within AOS's purview." Thus, their charge was **not** to evaluate the advisability of removing **all** eponymous English bird names but explicitly to produce a process to address the problem of certain names being harmful.

Rather than address the fundamental problem, the EBNCR dismissed that process as too difficult to implement in only five paragraphs on pages 12 and 13 in a section with the heading "We found a case-by-case approach to be intractable." One of those five paragraphs actually outlines the steps needed for a case-by-case process, and the final three paragraphs outline the difficulties of "due process" in judging historical figures. Of note is that this conclusion was not unanimous within the EBNC itself. Much of the rest of the 27 pages of text in the report, largely "mission creep", is focused on why, in the opinion of the majority of the EBNC, removing all eponyms a good thing to do, whether or not the names are harmful.

# 2. The Committee failed to assess overall support for their proposed final solution.

The EBNCR received input from those who spoke at the AOS Community Forum in April 2022, which was organized by the AOS' Diversity & Inclusion Committee. Despite direct appeals from both the AOS' North American Classification Committee (NACC) and South American Classification Committee (SACC) to assess reaction from more diverse perspectives, no effort was made to do this despite specific acknowledgment in the EBNCR that the issue was highly divisive. In fact, the EBNCR does not even mention the possibility of obtaining broader input. A reasonable explanation for this omission is that the Committee was not interested in additional, potentially contrary views. Indeed, the opposition to removal of all eponyms was extensive and in fact unprecedented in the history of ornithology. A public petition to the AOS Council asking for a repeal of their decision has been signed by more than 6200 people with a vested interest in bird names as well as a resolution to Council from more than 230 AOS Fellows, including many past presidents, journal editors, major AOS award winners, Honorary Fellows, and former Council members.

# 3. The Committee has created unnecessary divisiveness within the AOS and the birding community that will have long-term negative impacts.

The EBNCR had an opportunity to mobilize and unite almost every AOS member and birder in the Western Hemisphere in an effort to eliminate the

harmful names. The "due process" approach would have sent a strong signal that the AOS was committed to its goal of increasing diversity and inclusiveness by identifying names that are obstacles for participation in the AOS. Outlining a mechanism for identification of harmful names, which was the charge given to the EBNC by the AOS Council, would have almost certainly been greeted with overwhelming approval by AOS members as well as the birding community, even in the absence of any evidence that these changes would increase diversity. Yes, there would have been complaints from those opposed to any judgments of past behaviors, and yes, criteria would have been disputed, but these are minor compared to the current reactions by the birding public and members of the AOS. It is sad that this opportunity was lost and instead twisted into an exceptionally divisive issue that will certainly have short-term, and likely long-term, negative impacts. Further, rather than sending a powerful, focused message concerning those individuals judged to be offensive, the message will instead be diluted by what constitutes a sweeping policy change on eponyms that includes more than 200 people with no known problematic past. Dishonoring those people by replacing their honorific bird names is widely regarded as callous and disrespectful, including to those who bestowed or endorsed the names.

### 4. The Committee failed to assess broader impacts.

At a time when support for environmental issues and even science itself is under increasing attack, the EBNC did not mention how their recommendation would affect public perception of the AOS and ornithology. NACC feedback on the June EBNCR draft included calls for this and warnings about potential trivialization of the AOS. A formal evaluation (now published) by Kevin Winker of public reaction to a Washington Post article on changing names indicated strongly negative (>3:1) reaction to the proposed blanket elimination of eponyms in English birds names, with persistent themes that fell into three categories: (a) "don't ornithologists have more important things to do given threats to bird populations?", (b) "things like this make me ashamed to be a liberal", and (c) "is this a parody?". (See Technical Note #1.) Despite being aware of Winker's analysis, the final EBNCR did not mention potential negative repercussions for the AOS, including perception that the AOS is not a scientific society, but rather an agenda-driven axis of the decolonization movement.

Further, the recommendations of the EBNCR report represent a new brand of "colonialism" in dictating the removal of eponyms in Neotropic countries without their input. Although the EBNC had one member from Colombia and another of Chilean descent, the report made no mention of the problem that renaming birds in Neotropical countries would be perceived as an edict from the Global North to the Global South, specifically, the negative reaction expected by removing eponyms honoring national icons such as Zeledon, Gundlach, Koepcke, Sick, Olrog, Hudson, Snethlage, Pinto, Goeldi, Chico Mendes, and others without even discussing this with the ornithologists in the countries affected. Did the EBNC know that the national bird of Anguilla is the eponymous Zenaida Dove? This is the sort of thing that after two years of deliberation one would have expected the EBNC to research thoroughly rather than ignore completely.

# Part 2. Responses to specific points (in quotes) in the EBNCR report, as encountered in sequence in its text

(Under "Opportunity")

2.1` "Another widespread concern with eponymous and certain other names is that they confer little value to better understand, connect with, or capture the essence of a species."

• Eponyms constitute only about 5% of AOS names, yet they can provide better understanding of and connection to those bird species. Each eponym has a story behind it in terms of the discovery and naming of that species. People like stories. Those stories can potentially connect people to those birds and inspire interest in birds. That there are now at least three major books that focus on the people behind the names demonstrates widespread popular interest in these stories (Mearns and Mearns "Audubon to Xantus: The Lives of Those Commemorated in North American Bird Names" 1992, Beolens and Watkins "Whose Bird? Common Bird Names and the People They Commemorate", 2004, Boelens et al. "The Eponym Dictionary of Birds," 2014). It is clear that many people like eponyms and enjoy learning about their derivation. That viewpoint, however, is ignored by the ENBCR, which makes no mention of this positive side of eponyms.

### (Under Recommendations):

- 2.2 "This recommendation [to involve the public] speaks to the direct intention for the renaming process to promote transparency and a sense of public engagement and investment, while decreasing perceptions of arbitrary or cosmetic changes."
  - Although labeled only as a "perception", this statement, which lacks documentation, ignores the existing transparency in NACC and SACC decisions. All proposals for change, including any that involve changes in English names, are posted online at the NACC and SACC websites and thus are available for public input. At the SACC's site, it is clear that public input is welcomed, and indeed, especially on English names, the online Comments section typically has input from people outside SACC, solicited or unsolicited. Further, to get a broader perspective on English name proposals, SACC substitutes up to six voters from a pool of field guide authors, bird tour leaders, and birders, for members of the core taxonomic committee (e.g., see

https://www.museum.lsu.edu/~Remsen/SACCprop974.htm). Obviously, this is not as extensive an involvement of the public as the EBNCR proposes for future decisions, the facts clearly contradict allegations of lack of transparency or arbitrary changes.

### (Under "Rationale" for removing all eponyms)

- 2.3 "The majority conclusion was that changing all names avoids the value judgments and focus on human morality, both of which are likely to lead to extremely fraught debates, required for a case-by-case approach."
  - But those value judgments have been made already. It was these accusations of immorality that initially caused the AOS Council to ask EBNC for a reasonable process to make further informed judgments. Further, the EBNC had, in fact, already categorized the names in terms of categories using moral judgments, i.e. "Therefore, committee members sorted eponymous bird names into categories including birds with obviously problematic eponyms (e.g., those named after people who committed racist acts)" (https://americanornithology.org/english-birdnames/behind-the-scenes-with-the-english-bird-names-committee/). Well, that's one reasonable criterion right there that the EBNC could have endorsed unanimously that would eliminate some problematic names. NACC had already provided an additional, related guideline with respect to McCown, namely that quitting the U.S. Army to command troops against Union forces for the purpose of maintaining a slave state in an era when slavery was already widely banned in Western civilization was clearly another reasonable criterion for replacing an eponym. How about suggesting and voting on a few others instead of dodging the charge to the committee? If this were "intractable" as claimed in the EBNCR, Council would not have sent them on a "fool's errand." Ironically, the EBNCR was quick to recommend tapping diverse expertise (e.g. in ethics, equity, PR/marketing, art, poetry) in creating new English names but here failed to mention that such additional, diverse expertise could also be brought to bear on this tricky issue. What about including ethicists, historians, and sociologists (as specifically recommended in the NACC response to the June EBNCR draft? Producing reasonable guidelines for behavior, evaluating relevant evidence, and "due process" are hallmarks of an enlightened society; this is not just a "morality police" endeavor as claimed in the EBNCR. Finally, in terms of avoiding "extremely fraught debates", this is just conjecture. The McCown example with NACC suggests that debates would be mild at worst. Further, it is ironic that the EBNCR shows no such reluctance when considering the repercussions of

their decision to remove all eponyms, which was guaranteed to produce bitter debates – we have already passed the point of no return in terms of avoiding "extremely fraught debates."

- **2.4** "The majority opinion was that focus on which eponyms to change felt like a deviation and, potentially a large distraction, from the goal of a public renaming effort focused on birds, their natural history, and conservation."
  - A reasonable interpretation of this statement is that it reveals the true reason for labeling the "due process" approach as "intractable." A majority of the EBNC here announces that their goal is really to remove all eponymous bird names not because some or even all are potentially harmful but because they share the views of the Bird Names for Birds group and thus have dodged the explicit mandate from Council.
- 2.5 "The committee is aware that other, non-eponymous names vary in their descriptiveness and that some may even be confusing (e.g., Ring-necked Duck, Red-bellied Woodpecker)."
  - This is a classic understatement. Some non-eponymous names are dead wrong. Many are misleading, and many more (not just "some") are confusing. The only two examples provided here are, in fact, names that are at least accurate. This might be perceived as a minor point, but because the EBNCR touts descriptive names for providing more information on birds than do eponyms, this sentence from the EBNCR could be interpreted as an attempt to cover up this problem with existing names. Further, this reveals the common misconception that English names are only for birders and field ornithologists. Overlooked by the EBNC is that the clientele for English names included bird-banders, artists, wood-carvers, and ornithologists who study plumage and morphology. Names that are of limited use in the field can be useful to those who handle birds. See Note 2 in Technical Comments.

(Under: "The use of honorifics itself reflects exclusion in scientific participation"):

- 2.6 "While many of the individuals honored by English eponyms contributed significantly to the growth of ornithology in the Americas, the fact that nearly all eponyms honor white men is a function—and a reminder—of practices by which women and people of color were excluded from education and science."
  - In my opinion, this is unnecessary hyperbole and simplistic. No one who uses, much less favors, eponyms is in favor of "exclusion in scientific participation", and it is either unlikely or unknown whether those who were honored actively excluded anyone from participation. Yes, they were almost all white males (at least in the NACC area), but that reflects the demography of the era of discovery. The esteem with which pioneers Emilie Snethlage and Florence Merriam Bailey, for example, were regarded by their male contemporaries suggests that the "exclusion" was due to societal norms of there era that limited participation in science by women rather than any active exclusion by ornithologists. As for the absence of BIPOC eponyms in that era, if any of the honorees were active participants in their exclusion, then that should be considered a criterion for removal of those honorific names.
- 2.7 "Eponyms themselves are reminders of this differential treatment, as many of the few eponyms honoring women (e.g., Lucy's Warbler, Virginia's Warbler, Anna's Hummingbird) do so by their familiar and less deferential first names (a notable exception is Snethlage's Tody-Tyrant)."
  - Given that the ENBCR took two years to write, this sentence reveals surprisingly incomplete knowledge of the topic addressed. A correction of this statement would read: " ... as six of the eponyms honoring women (i.e., Lucy's Warbler, Virginia's Warbler, Anna's Hummingbird, Grace's Warbler, Rosita's Bunting, Zenaida Dove) do so by their familiar and less deferential names to avoid confusion with husbands and fathers. On the other hand, we have Blackburnian Warbler, Koepcke's Hermit, Koepcke's Screech-Owl, Snethlage's Antpitta, and Snethlage's Tody-Tyrant." This is a trivial point, but note that the "exceptions" are almost as numerous as the "reminders of differential treatment."

- 2.8 "For example, 95% of the bird species described between 1950 and 2019 occur in the Global South, yet the describers of these species were disproportionately from the Global North, and 68% of the eponyms established in this period honored individuals from the Global North (DuBay et al. 2020). Such patterns reflect the broader issue of systematic exclusion of professionals from the Global South within ornithology in the Americas (Ruelas Inzunza et al. 2023, Soares et al. 2023)."
  - By extending this analysis back to 1950, DuBay et al. included an era when there were very few ornithologists resident in Global South countries, and those that were there had few resources for doing fieldwork. Other than at a few museums, there were basically no jobs for ornithologists in Neotropical countries. No wonder there was a major imbalance. Fast-forward to the current era. Two EBNC members, one of whom is Colombian and an author on four of the new species descriptions during the era studied by DuBay et al., should have recognized instantly how distorted this analysis is. I took the last 10 years of DuBay et al.'s sample period, 2010-2019, and found that of the 27 species described in the SACC region during that period, 25 of 27 (93%) were co-authored by ornithologists from the Global South, and 8 of 27 (35%) were authored solely by ornithologists from the Global South. See Note 3 in Technical Notes for details. Further, the wording here "systemic exclusion of professionals from the Global South" has the connotation of a nefarious conspiracy. Nothing could be further from the truth, as I suspect that an honest evaluation by EBNC members themselves would reveal. Global North ornithologists actively seek Global South colleagues and also recruit students from the Global South into their graduate programs; this is certainly known to EBNC members. Since 1974, I have worked in the Neotropics and also worked with Global North ornithologists also doing fieldwork there. I am unaware of a single colleague who has not sought collaboration with Global South ornithologists. As for NACC, the number of voting members from Middle America and the Caribbean on the committee is limited by an absence of interested, qualified candidates. Regular NACC discussions involve trying to augment the current number (two) of Global South representatives, but there are only a few scientists in Middle America and the Caribbean interested in taxonomy and willing to put in the time required by NACC duties. As for SACC, my stated goal in the founding documents of that

committee was to empower scientists from South America to take charge of taxonomy of their region, and my official title is and has always been "Acting Chair" in recognition that this committee will soon be led by a South American. Although the shortage of interested and qualified South American members is not as bad as it is for NACC, that shortage will soon be over; interest in phylogenetics and taxonomy, as well job opportunities in those fields, is increasing rapidly in South America. SACC would already be staffed primarily by South Americans if not for attrition: six South Americans, including one EBNC member, have served but have had to drop off SACC because of the time commitment required.

(Under "Justification for a separate standing committee"):

- 2.9 "The skills we are proposing for choosing future English bird names—which lie in the realm of culture, public communication, outreach, and education—are distinct from the training and expertise of taxonomically focused committees."
  - Yes and no. I take the essence of the point on this one but will use it as an opportunity to address the false dichotomy vaguely implied here (but strongly in social media by at least one EBNC member). First, no NACC or SACC member is exclusively focused on taxonomy. Because bird distribution and English names are also part of our mission, people exclusively focused on taxonomy or phylogenetics are seldom recruited by either committee, and those asked to serve have declined. Current NACC and SACC members have almost all started out as birders who learned bird names from their field guides just like everyone else and only subsequently pursued academic careers. Many on both committees continue to be highly active birders with extensive ties to the non-academic birding community. The seriousness with which they take their responsibilities on English names is best appreciated by viewing online the extensive and detailed comments on English name decisions, with discussions often longer and more tortuous than on almost any taxonomic proposals. Finally, all members of SACC are involved in "public communication, outreach, and education" as professional teachers, guides, and participants in outreach programs; their continued employment depends

in part on evaluations of their performance in those areas. See Note 4 in Technical Comments for details.

(Under "Justification for a public Process):

- 2.10 "Our goal is for these actions to foster a more inclusive and engaged community, united around our shared love of birds, that paves the way for the biodiverse, equitable, and healthy futures toward which we all strive."
  - NACC and SACC members unanimously endorse these goals. However, we believe (22 to 1, anyway) that those goals are better reached through a different, more focused action, namely the far less divisive process sought by Council for a mechanism for due process for determining which eponyms interfere with that goal.
- **2.11** "Nonetheless, for reasons explained in the next section, we believe there are other ways in which scholars can be recognized and celebrated by their communities—ways which **avoid pitfalls in the practice of naming nature after people.** 
  - Of course there are lots of ways to honor scholars. That is irrelevant. What is relevant is that removing an honorific name already in place because one does not deem the honoree worthy of being honored is clearly something different - it is deliberately dishonoring them. In the cases of those people deemed unworthy through an AOS-endorsed due process system, then dishonoring them would be the appropriate course of action. But removing all the "innocent bystanders" as collateral damage is to dishonor them without cause. Ah, but here again the EBNCR also reveals its underlying agenda. The total removal of eponyms is not just because it is the expedient way to avoid evaluating morals, but rather because in the opinion of the majority of the EBNC, naming nature after people has "pitfalls." This itself is a moral judgment, without adequate justification in the EBNCR, and does not necessarily reflect the opinion of AOS members, or even Council, whose charge to the EBNC was, once again, to find a fair way to remove harmful names. Here the EBNCR exposes the real reason why many on the EBNC thinks all eponyms should be deleted.

(Under "There are other, better opportunities to commemorate historical or living figures who have made important contributions to ornithology")

- 2.12 "While we acknowledge that, for many, encountering these eponyms in English bird names is their first introduction to Wilson, Cooper, Baird, and other important men involved with in the development of Western ornithology in North America, serious students of ornithological history will still encounter these names in many other ways."
  - Of course the history of Western ornithology in North America is not hidden and is readily available to "serious" researchers. But the vast majority of users of English bird names are not "serious students of ornithological history", and one benefit of eponyms is to provide lasting reminders of that history to people with a casual interest, or to provoke curiosity about who these people were. Granted, many will not take that step, but many will. The existence of the three books previously mentioned on the biographies of those honored in bird names, in addition to the inclusion of skeletal biographic notes in Gruson (1972, "Words for Birds: a Lexicon of North American Birds with Bibliographical Notes") and Choate (1973 "The Dictionary of American Bird Names") demonstrates the popular interest in this level of ornithological history. People are naturally curious about people, and eponyms are a vehicle for piquing that curiosity.

Under "Alternative methods of naming nature that do not imply ownership should be used."

- 2.13 "Eponyms, bestowed as honors and awards to specific people, not only ignore and conceal attributes of birds, they imply ownership or possession of an entire species by one human. To paraphrase a recent article in The Atlantic about naming nature, species have their own worth and stories which can be reflected in their names (Yong 2023). Under this view, wildlife does not belong to anyone and should not be named as if it does."
  - This moralistic proclamation is not shared universally and thus should not be forced on the AOS. As for possession, this is a **deliberate**

overinterpretation of the use of apostrophes in the AOS list. Things that bear people's names are seldom "owned" by that person, e.g. the Washington Monument, Humboldt County, Mount Mitchell, Martin Luther King Boulevard, Johnson City, and so on. Even when an apostrophe is used, it is widely understood that ownership per se is not implied, e.g. Halley's Comet, Newton's Law, Martha's Vineyard. In everyday English, we use apostrophes to indicate direct association, not necessarily ownership or possession in the sense implied by the EBNCR, e.g. "the nestling's growth", "the song's pitch", "the camera's quality", etc. Regardless, if this is a serious concern, then removal of apostrophes, as was the policy of the Cooper Ornithological Society for many years in *The Condor*, generates a quick fix. In fact, a proposal to NACC to do just that for AOS names was put forth but rejected (and see J. R. Rigby's analysis therein).

(Under "Addressing potential concerns of changing all eponyms 1. Stability.")

- 2.14 "While stability in naming systems is indeed crucial for scientific research and communication, the names used to refer to birds frequently do change for various reasons, one of which is increased scientific knowledge leading to taxonomic splits or lumps. Instability from such accepted name changes is regularly tolerated and expected across users of bird names."
  - The "bird names change frequently" is an argument frequently used in defense of the proposed change of 150+ names in the NACC area and a counter-argument to the value of stability. But the EBNCR's use of "frequently" is a distortion of the facts. In the 25 years from the 7<sup>th</sup> edition of the AOU Checklist (1998) through 2023, the English names of 25 (3%) of 782 species on the North American list (USA and Canada) were changed, i.e. 1.0 per year, due primarily to changes in species limits or conformity to global usage. See Technical Note 5. Whether that constitutes "frequently" is in the eye of the beholder, but one fact is certain: The EBNCR's recommendation to change 257 names represents a new level of "frequently". The AOU Council's proposed change of 80+ English names for North America would have to be extended over a period of 80+ years to be at the same frequency as the current rate of change. Expanding that analysis back to the 5<sup>th</sup> edition of the AOU Checklist, only 52 novel names have been introduced, i.e. at a rate of 0.8/year.

- 2.15 "Name changes occur annually, and dozens of name changes occurred in 1957 and 1973 (American Ornithologists' Union 1957, Eisenmann et al. 1973)."
  - This is misleading. Those spikes in 1957 and 1973 were artifacts. None of the changes in species limits and names were introduced in the supplements between the 4<sup>th</sup> edition (1931) and the 5<sup>th</sup> edition (1957), so there were 0 changes/year in the 26-year interval between 1931 and 1957. As for 1973, there were no supplements published at all between 5<sup>th</sup> edition (1957) and the 1973 supplement, i.e., 0 changes/year for those intervening 16 years.
- 2.16 "Given such a precedent, and because scientific names (which are required for scientific publication) serve as anchors to which English names are attached, any confusion caused by changing a subset of English names, although an acknowledged concern and accompanied by some impact to AOS, can be minimized through leveraging technology."
  - One of the big advantages of English names is that they do not change as frequently as scientific names. From the 7<sup>th</sup> edition of AOU Checklist (1998) to 2023, either the genus or species name changed for 143 (18%) of the 782 species, i.e. **5 times more frequently than the rate of change of English names**, so in that sense it is the English names that serve as anchors, *not* the scientific names. This was documented and pointed out to the AOS Council in July 2023, but was not mentioned in the EBNCR. Although "leveraging" technology can help sort this out, it nonetheless presents an obstacle to communication, especially for those not familiar with the way the naming systems work.
- 2.17 "It is also debatable whether stability as applied to scientific nomenclature should be extended in the same way to common names. As new phylogenies, analyses of species' limits, and species' descriptions are published, specialists need to weigh potential taxonomic changes. But such changes, and taxonomy in general, can exist entirely without English names; indeed, the system is built to function outside of English or any other language's naming system."

- The point here escapes me. The statement is correct, but its relevance is unclear. Indeed, we don't really need English names at all in science, and they are nonexistent or at least non-standardized in many animal groups. However, the mission of NACC and SACC was to provide English names to correspond to the binomial scientific names to make science more tractable to the non-specialist. This was the explicit rationale for English names provided in the first AOU Checklist over 125 years ago. As noted above, the genus or species name in a binomial can and does change without any effect on the English name, further enhancing the value of stability of English names.
- 2.18 "There are also reasons why not acting to change English names at this moment could, in fact, undermine stability and consistency in the near future. We are cognizant that the AOS authority for creating official bird names is conditioned upon acceptance by the public, ornithologists, and various governmental and non-governmental entities. As mentioned above, some professional ornithologists, as well as members of the public, already refuse to use some current AOS English names."

"Continued and expanded public rejection of AOS English names risks the creation of a confusing array of alternative names and further erosion of AOS's nomenclatural authority."

- The EBNCR did not mention the possibility that **this might actually happen in reverse**. SACC has already bolted from the AOS to the IOU, thereby undermining AOS nomenclatural authority over the world's richest avifauna. Whether international lists, national lists outside the USA and Canada, and even local lists will follow the new AOS names is uncertain. The same applies less future field guides and bird books here and elsewhere in the world. The state of <a href="Utah is banning the use of the AOS">Utah is banning the use of the AOS</a> names replacing eponyms in its state wildlife agencies, and other states may follow. The only true authority that AOS can exert is over the English names used in its own publications.
- 2.19 "We recognize that the act of changing names may generate momentum to change names often, thus creating instability in English names. To mitigate

this, a future standing committee should develop criteria to guide its process in evaluating and choosing names, so that they will be durable and thus avoid needing subsequent changes."

• The irony is that here the EBNCR advocates for stability, minimized as a problem previously, once the 250+ new names have been chosen.

(Under "Justification for a separate standing committee")

2.20 "Under current practice, new English bird names are created and established by the NACC and SACC, with no specific public process. The primary task of these committees is to maintain an up-to-date taxonomy by reviewing the scientific literature and interpreting evidence relevant to matters such as species limits, which typically change via lumping and splitting. Specifically, for example, NACC "evaluates and codifies the latest scientific developments in the systematics, classification, nomenclature, and distribution of North and Middle American birds" (American Ornithological Society 2019b). To that end, members of the NACC and SACC are generally academic ornithologists with expertise in this specific field."

 Here, the EBNCR continues to portray both committees as comprised of academic scientists unqualified to evaluate English names. For example, conspicuously omitted here is that NACC has one member, Jon Dunn, who has no academic training in systematics but who is a full member of the committee because of his extensive experience bird identification and distribution; he has written at least three field guides (National Geographic Field Guide to the Birds, A Field Guide to Warblers of North America, and Peterson Reference Guide to Gulls of the Americas) as well as Birds of Southern California and the National Geographic Birding Essentials: All the Tools, Techniques, and Tips You Need to Begin and Become a Better Birder. Andy Kratter also serves as an official liaison between NACC and the ABA Checklist Committee. Further, all members have an extensive background in birding. See Technical Note 4. As for SACC procedures on English names, because two authors of the EBNCR report are or have been SACC voting members, the omission of details on SACC voting procedures (below) is puzzling. SACC has a separate subcommittee for voting on English names that includes two members specifically added for votes on English names because of their experience with IOC and eBird with this topic. Further, Spanish-first members are replaced on English name votes by additional members of the birding committee who are field guide authors, bird tour leaders, or experienced South American birders. In fact, if AOS were to assemble a committee to evaluate English names for South American birds, then these same people would logically be leading candidates for membership. With respect to both committees, proposals for change are solicited from the general birding and ornithological communities, and SACC posts comments from those communities with proposals on English names. Thus, although neither committee may have a "specific public process", both committees provide opportunities for public input that are frequently used, at no additional cost to the AOS.

# EBNCR critique: Technical notes By J. V. Remsen, Jr. 16 April 2024

# Note 1. Sample of public comments on <u>WAPO article</u> on renaming birds to get rid of the "stench of colonialism.

When the article on "removing the stench of colonialism" from bird names appeared in the Washington Post (link to be posted in the Comments), the backlash from WAPO readers was pretty intense, i.e. more than 3-to-1 negative according to an <u>analysis by Kevin Winker</u>. To be fair, keep in mind there were also many well-written comments in support of the purge, just many fewer. But also note that this was the readership of what is often considered the most liberal-leaning major newspaper. The public comments fell into three major themes: (1) sarcastic comments on whether the article was serious, (2) condescending comments as to the "importance" of this issue and how it reflects on the priorities of bird people, and (3) political repercussions. Below I present "as is" cherry-picked comments, without trying to defend or rebut any of them, to give bird people an idea of what the general public thinks about all this.

# Is this a parody?

- "Good grief. My first fleeting thought as I read was to wonder if the Post had published a parody of unbalanced social justice advocate virtue signaling. I don't think it's their practice, but who can tell in this case?"
- "This is a joke, right? A caricature of political correctness?"
- "I had another window open and was reading the Onion. I thought I was in that window when I read this."

# Trivialization of AOS and ornithology:

• "How do you know when a movement has gone too far? When a liberal reads a piece like this and gags."

- "Pro tip- if bird names are what you're worried about, you really, really, really need to take a look at your priorities."
- "When cowards are powerless to solve a real problem, they seek symbolic low-risk actions instead."
- "Scouring our culture for ridiculous facts about people from the distant past seems a strange thing to do when we are busy wiping out species at a rate never seen before."
- "The world is falling apart and you bothered to write this silliness. Get a life, guys."
- "These 1st world hand wringers really must find something to do with their silly complaints. . .like how about fighting for habitat preservation for bird species on the decline! How about helping the rest of us bring new folks into nature to see what they are at risk of losing with the Orange Goon in the WH?"
- "Meanwhile, REAL conservation issues exist..."
- "My God this is so stupid. All of the problems we have in the world and these people care about frigging bird names."
- "As an amateur ornithologist, I know there are more pressing concerns for birds than their names."
- "Such a 1st world complaint. Nothing important to do."
- "Yeah, this is a big problem that needs addressing ASAP. Let's forget about everything else going on in the world and fix this immediately."
- "This ranks infinitely low on the list of things to be concerned about right now."
- "'Yet these honorific names known as eponyms also cast long, dark shadows over our beloved birds and represent colonialism, racism and

inequality' ... you have got to be kidding me ... get an efffing life for gods sake."

- "Deal with that before starting on birds killed in the past. This is all ludicrous. It makes me ashamed to call myself a liberal. In the meantime, can we get some anti-discrimination laws with teeth? Stuff like this is a distraction from real problems that are hurting real people today."
- "After we've solved poverty, illiteracy, unemployment, homelessness and hunger, fixed racism among actual people, raised car mileage and cut carbon emissions, cured COVID-19, cancer, Alzheimer's, kidney stones and E.D. in dogs, figured out a name for the 'Washington Football Team' and re-signed Trea Turner and Juan Soto to long-term contracts, then maybe we can get around to perfecting what birds are called."
- "OMG! Is this for real? We are going down this path now? Go volunteer at a food bank, Gabriel and Jordan; do something benefiting the community."
- "Quite frankly, any movement or effort on these birds names jeopardizes other movements to remove more significant and meaningful homages to Confederate or other problematic folks from history. It invites ridicule and could turn off those who are lukewarm on the whole thing."

### Politics:

- "It's this kind of nonsense that is going to get Trump Re-elected."
- "Are they a couple of heh, stool pigeons, working on behalf of Russian trolls as a plot to give right wing db nutters a false flag to wave in the face of liberals and other genuine American patriots, while simultaneously shaking them out of the woodwork?"
- "If they keep this tumult and craziness up I fear it means another four years of Trump and a Republican Senate."

- "Nonsense articles such as this are a partial cause of how we end up with failed demagogic business men with no apparent abilities as \*president. We take our eyes off of the immediate issues that are affecting our lives and children's lives like food and shelter. Instead we worry about not offending the less than 1% of the population who have even heard of these birds, much less knew about questionable behaviors, that while abhorrent in the 21st century eye, were not considered as such in the past centuries. Are people who have caged birds in their homes the avian Stalins or Hitlers?"
- "This is the kind of silly document that powers the Trump hate machine. In fact this piece is so 'out there' it reeks of the dreaded 'False Flag' attack!"

Note 2. The problem with existing non-eponymous names. In my opinion, the value of descriptive names in learning to identify birds is over-rated. Has anyone really had a problem remembering which Spizella is the Brewer's Sparrow because it is not as descriptive as Chipping, Clay-colored, Field, or Black-chinned. Are the other four really more easy to learn because of their names? All of them chip, none of them have plumage that is particularly the color of clay, depending on how you define that color, the Field sparrow is not the only one found in fields, and "Black-chinned" has black on more just the chin. One can nit-pick like this endlessly on most English names. But why? The world of bird identification has not come to a grinding halt because the names aren't perfect. No one in would suggest that we "improve" those names by changing them from, say, Chipping to "Chestnut-crowned", Claycolored to "Gray-collared", Field to "Eye-ringed", or Black-chinned to "Blackfronted". We have learned them as a label, a bar code, so to speak. using words, without thinking about how which sparrow is the one most likely to be in a fields, and so on. Where are the data that show that the eponym presents an obstacle to learning any more than the other names? The real obstacle to learning would be having to learn the new names and dealing with all printed literature on them becoming instantly obsolete.

For 40 years I taught an undergraduate course in Ornithology with an average of about 22 students per year or a total of about 880 students. They had to learn how to identify about 240 bird species using English names. I was unaware of any difficulties students had learning eponymous versus descriptive names, and I was often asked about the people who were the sources of these names, especially Wilson and Swainson (because they both has more than 1 bird named for them). I was, however, aware of the obstacles certain descriptive names were to learning identification, e.g. Yellow-throated Warbler vs. Common Yellowthroat, and "Purple" Finch, as well as difficulties with unfamiliar words such as Prothonotary, Pomarine, and cockaded. For undergraduates with for the most part no previous experience with birds, descriptive names definitely facilitated learning to identify the bird if it highlighted a diagnostic feature of that species with respect to similar species, but names like Ring-billed Gull, Red-headed Woodpecker, Chestnutsided Warbler, and so on are in the minority. Sticking with the sparrow theme, of the 10 sparrows they had to know, the English names of 5 were no more useful than eponyms and some potentially confusing in implying something unique that is not (Chipping, Field, Savannah, Song, Dark-eyed Junco), 2 were useful in the field but not lab (Eastern Towhee, Seaside), 1 was useless in lab and misleading in the field (Swamp, which does not occur in swamps but rather in marshes and grassy fields), 1 was somewhat useful but not diagnostic (White-throated; a Swamp can look almost as white-throated, and that mistake was frequent on tests), and only 1 was close to being a diagnostic name (Fox, as in colored like Red Fox).

Standardized AOS English names actually include many erroneous and misleading names, yet there is no evidence that these represent obstacles to the study of and identification of North American birds. Mountain Plover, a species of conservation concern, has nothing to do with mountains. The Olive Warbler is not olive. A sighting of a Pelagic Cormorant in pelagic waters would be unusual. Hermit Warbler is highly social. Inca Dove has not been seen on the continent where the Incas lived. Prairie Warbler does not occur in prairies. Worm-eating Warbler has little to do with worms and does not feed on the ground. Magnolia Warbler likely avoids magnolias. Pine Grosbeak has almost nothing to do with pines but rather firs, spruces, and deciduous trees. Evening Grosbeak typically goes to roost before the evening. Hairy Woodpecker has no conspicuous hair-like feathers. Downy Woodpecker is no

more "downy" than any other adult bird. I'm still looking for my first Orchard Oriole in an orchard. Ancient Murrelet is not ancient. Etc. Many names are misleading in implying that the feature noted is unique to that species with respect to similar species: American Tree Sparrow, Parasitic Jaeger, Herring Gull, Glossy Ibis, Zone-tailed Hawk, Yellow-bellied Sapsucker, Gilded Flicker, Green Parakeet, Ash-throated Flycatcher, Brown-crested Flycatcher, Dusky Flycatcher, Blue Jay, Blue-gray Gnatcatcher, Brown Thrasher, Curve-billed Thrasher, Hermit Thrush, Wood Thrush, and almost any species with the modifier Common. Toponymic names are mostly useless and often misleading, e.g. just within wood-warblers, Cape May, Nashville, Connecticut, and Kentucky; the derivation of other toponyms is generally so obscure as to be useless, e.g. Acadian, Manx, Sandwich, Gila, Aplomado, etc. Other "descriptive" names use obscure or archaic terminology that is little use in identification, e.g., Pileated, Glaucous, Ferruginous, Blackpoll, Cerulean, Calliope, Crissal, etc. I suspect not 1 in 100 birders or ornithologists could explain what Aplomado means, much less find it saying something helpful about the bird. And then we have names like Phainopepla and Pyrrhuloxia. Should all these be "fixed"? Most people would say "no" for the stake of stability and, in many cases, continuity of a century or more in printed literature. Although all these names "say something about the bird," but what they say is wrong and misleading, yet we have learned them and use them with no documented adverse effects. Eponyms say nothing wrong or misleading about the bird, other than the strawman "ownership" issue (see section 2.15 in main text).

The ENCR mentions Ring-necked Duck and Red-bellied Woodpecker as examples of names that "may even be confusing." This is a minor point, but I find it amusing that the EBNC authors are evidently so used to using Sharpshinned Hawk, Red-cockaded Woodpecker, N. Rough-winged Swallow, Semipalmated Plover, Semipalmated Sandpiper, Purple Sandpiper, and other descriptive names that are basically useless in the field that after two years of thinking about English names that these examples weren't the first ones used, but instead two examples in which the feature described can actually be seen in the field. Further, the ENCR remark reveals lack of awareness that English names aren't just for birders but also for banders, hunters, artists, and others whose primary concern is not identification of distant birds through binoculars.

Note 3. Species described as new to Western science from 2010-2019 recognized by SACC. Authors on 8 of 27 descriptions were exclusively from the Global South, and for 11 more, the majority of authors were from the Global South. Only 2 of 27 papers did not have an author from the Global South (only because of lack of collaborators on those projects).

Grallaria urraoensis Carantón and Certuche 2010\*\*

Scytalopus petrophilus Whitney, Vasconcelos, Silveira, and Pacheco 2010\*

Scytalopus androstictus Krabbe and Cadena 2010\*

Turdus sanchezorum O'Neill, Lane, and Naka 2011

Hylopezus whittakeri Carneiro, Gonzaga, Rêgo, Sampaio, Schneider, and Aleixo 2012\*\*

Thryophilus sernai Lara, Cuervo, Valderrama, Calderón-F., and Cadena 2012\*\*

Oceanites pincoyae Harrison, Sallaberry, Gaskin, Baird, Jaramillo, Metz, Pearman, O'Keeffe, Dowdall, and Enright 2013

Nystalus obamai Whitney , Piacentini, Schunck, Aleixo, de Sousa, Silveira, and Rêgo 2013\*

Herpsilochmus praedictus Cohn-Haft and Bravo 2013\*

Herpsilochmus stotzi Whitney, Cohn-Haft, Bravo, Schunck, and Silveira 2013\*

Hypocnemis rondoni Whitney, Isler, Bravo, Aristizábal, Schunck, Silveira, Piacentini, Cohn-Haft, and Rêgo 2013\*

Scytalopus gettyae Hosner, Robbins, Valqui, and Peterson 2013
Lepidocolaptes fatimalimae Rodrigues, Aleixo, Whittaker, and Naka
2013\*

Thripophaga amacurensis Hilty, Ascanio, and Whittaker 2013

Hemitriccus cohnhafti Zimmer, Whittaker, Sardelli, Guilherme, and

Aleixo 2013\*

Zimmerius chicomendesi Whitney, Schunck, Rêgo, and Silveira 2013\* Polioptila attenboroughi Whittaker, Aleixo, Whitney, Smith, and Klicka 2013

Sporophila beltoni Repenning and Fontana 2013\*\*

Scytalopus gonzagai Maurício, Belmonte-Lopes, Pacheco, Silveira, Whitney, and Bornschein 2014\*

Scytalopus perijanus Avendaño, Cuervo, López-O., Gutiérrez-Pinto, Cortés-Diago, and Cadena 2015\*\*

Sporophila iberaensis Di Giacomo and Kopuchian 2016\*\*

Campylopterus calcirupicola Lopes, Ferreira de Vasconcelos, and Gonzaga 2017\*\*

Megascops gilesi Krabbe 2017

Scytalopus alvarezlopezi Stiles, Laverde-R., and Cadena 2017\*

Machaeropterus eckelberryi Lane, Kratter, and O'Neill 2017

Oreotrochilus cyanolaemus Sornoza-Molina, Freile, Nilsson, Krabbe, and Bonaccorso 2018\*

Myrmoderus eowilsoni Moncrieff, Johnson, Lane, Beck, Angulo, and Fagan 2018

# Note 4. Birding backgrounds of NACC and SACC members voting on English names.

#### 4a. NACC:

- Shawn Billerman: [incomplete]. Birder since age ##. Number 4 in eBird's Top 100 species totals for Wyoming, and has contributed 6600+ complete checklists to eBird.
- Kevin Burns: Birder since childhood, and first official bird list at age 13; now with over 6000 eBird checklists; 282 hours birding in 2023 alone (i.e., seven 40-hr work weeks) Has taught ornithology course for 25 years involving roughly 600 undergraduates.
- Terry Chesser: Editor, A Birder's Guide to Georgia, Third edition, 1988.
- Carla Cicero: Birder since age 10. Emeritus Staff Curator of Birds at the Museum of Vertebrate Zoology, University of California Berkeley.

<sup>\*\*</sup> authors exclusively from Global South

<sup>\*</sup> majority authors from Global South

Mentored over 130 undergraduates in museum science and research involving birds.

- Jon Dunn: Birder since age eight. Leader for Wings bird tours since 1977 and has led approximately 375 tours with some 4000 clients up to this point; additional tours for WFO, ABA, and state or local organizations, brings that total to over 5000 participants. Chief Consultant/Author for all seven editions of the NGS Field Guide. See also sections in main text.
- Oscar Johnson: Birder since age 7. Active member of California (2004-2012), Hawaii (2011-2012), Louisiana (2014-2021), and Florida (2024-present) birding communities. Statewide eBird reviewer for California, Hawaii, and Louisiana. Voting member of California Bird Records Committee (2010-2012). Compiler of the South End Salton Sea CBC (2004-2013), consistently one of the highest inland CBCs in the nation. Has contributed 7900+ complete checklists and 13,900+ photos to eBird. Teaches undergraduate course in Ornithology.
- Andy Kratter: Birder since age 12; Active member of California (1972-1989), Louisiana (1989-1995), and Florida (1995-present) birding communities. Voting member of ABA Checklist Committee (2004-2010; 2018-present). Secretary (2006-11; 2016-present) and voting member (2003-2011,2014-2021, 2022-present) of Florida Ornithological Records Committee. Has contributed 5900+ complete checklists to eBird.
- Nick Mason: Teaches undergraduate course in Ornithology.
- Pam Rasmussen: Birder since about age 8, has birded in 81 "countries, territories, or dependencies", coauthored a field guide on birds of South Asia, taught ornithology, which included several field trips, for over 20 years. Has been involved in many public outreach events and curated several museum exhibits. Sound-recorded over 3000 species and photographed nearly 4000. Co-managing editor of IOC-WBL bird list and now also responsible for the Clements checklist.

• Van Remsen: Birder since age 6; kept life list starting at age 11. Active member of Colorado, California, and Louisiana birding communities. For about 20 years, held (along with Jon Dunn) ABA Big Day record (231 species) for North America. Co-founder of state bird records committees for Colorado and Louisiana. Has contributed 10,900+complete checklists, 30,000+ photos, and 580 videos to eBird. Compiler of numerous CBCs in Louisiana, Colorado, and California, including the Oakland CBC that set a new national record for number of participants, and the CBC that still holds the record for highest number of species in Louisiana.

### 4b. SACC (core voters on English names)"

- David Donsker: Active birder since early teens. Particular interests in avian biogeography, taxonomy and nomenclature, and the art and literature of ornithology from the 16<sup>th</sup> though the current centuries. Birding activities have taken him all over the globe with a world bird total of well over 7000 species. Taxonomic editor of *Birds of the World: Recommended English Names* (Gill & Wright 2006) sponsored by the IOC (now IOU). Co-editor (with Frank Gill and Pamela Rasmussen) of IOC World Bird List since its inception. Long time interest in English bird names since first reading *Words for Birds: A Lexicon of North American Birds with Biographical Notes* (Gruson 1972) soon after its publication. Active member and former trustee of Audubon Society of New Hampshire. Member and former chairman of the New Hampshire Rare Birds Committee episodically since 2000. Member of ABA, AOS, WOS, BOU, IOU, and Nuttall, Neotropical, Oriental and African Bird Clubs, amongst others.
- Alvaro Jaramillo: Owner "Alvaro's Adventures" bird tour company. Author of the field guide *Birds of Chile*.
- Dan Lane: Birder since childhood. Professional bird tour guide for Field Guides since 1999; has led hundreds of tours that have included several thousand clients. Author of the field guide *Birds of Peru* and several bird identification articles. Member of the bird records committees of Peru

and Louisiana. Number 2 in eBird's Top 100 list for species seen in Peru, where he has submitted over 1200 complete checklists.

• Pam Rasmussen: (see above)

• Van Remsen: (see above)

- Gary Stiles: Birder since age 7. Taught ornithology full-time in two and occasionally in four Global south countries always with field trips involving birding. Several former students have published field guides to their regions. Helped organize the Sabana de Bogotá Christmas Count and coordinated it for over 25 years, during which over 400 people, nearly all Colombians, got their first taste of birding and quite a few of whom have become active in bird conservation. Author *Field Guide to the Birds of Costa Rica*.
- Kevin Zimmer: Birder since age 13. Full-time international birding tour guide for Victor Emanuel Nature Tours since 1984, and has led 450+ tours with 4000-5000 clients to this point. Author of forthcoming *Field Guide to the Birds of Brazil* Princeton University Press), and previously authored *A Birder's Guide to North Dakota*, *The Western Birdwatcher*, and *Birding In The American West*, as well as dozens of articles in *Birding* on the topics of birding, bird-finding and bird identification. Two terms as voting member of the ABA Checklist Committee; former compiler of the Hueco Tanks State Park Christmas Bird Count, the Las Cruces, NM CBC, and founder and former compiler of the Percha Dam SP (NM) CBC. Led the team that broke the existing New Mexico Big Day Record in 1976, and continued to break and set new New Mexico Big Day records for the next 8 years, before moving to California. Holds the Big Day record for Nome, Alaska, with 115 species, set at a time when the Alaska State Big Day record was only 119.

### Note 5. The rate of change of English names in North America.

I analyzed changes in English names between the 1998 hard-copy "AOU Checklist, 7<sup>th</sup> edition" and 2023. That's ca. 25 year timespan. I sampled 785

species of regular occurrence in the USA and Canada, i.e. no vagrants, even those as regular as Ruff. I also excluded almost all introduced species, including all those in Hawaii. Where to draw the line was subjective in some cases, but I don't think it biased the results.

So, here are the results: out of these 785 species, only 25 (3%) have changed names in 25 years, i.e. 1.0/year. Of those 25, 17 (68%) of the changes were required by changes in species limits (e.g. Sage Grouse, Blue Grouse, Common Snipe, etc.). Four more were changed to conform to global usage (Rock Pigeon to Rock Dove, Greater Shearwater to Great Shearwater, Blue-throated Hummingbird to Blue-throated Mountain-gem, Clay-colored Robin to Clay-colored Thrush); in all four cases, a direct connection was retained to the original name to minimize confusion.

That leaves 4 of 785 names changed for other reasons. McCown's Longspur (canceled), Gray Jay (to Canada Jay; actually correcting a mistake in AOU procedure made sometime in the 1950s), and removing the "Sharp-tailed" group name from Nelson's and Saltmarsh sparrow but retaining the connection between old and new).

So, when you encounter the chant "names change all the time", keep in mind the contrast between 1 per year over the last 25 years versus 80 or whatever within whatever time span the new EBNC acts.

If anyone wants a copy of my spreadsheets on this, send me an email at najames at lsu dot edu. Having whipped out this analysis in a few hours, there have to be mistakes, and I would like these ferreted out before I publish a little article on this. I may also do a similar analysis from the 6<sup>th</sup> (1983) to 7<sup>th</sup> editions out of curiosity and OCD tendencies.

A statement in the June draft of the EBNCR read: "As stated above, there is historical precedent for large-scale changes to English names. In 1957, the AOU altered 188 English names to align them better with British names". This major error was pointed out to them, and it was edited out of the final draft. Nevertheless, the analysis that I did to refute this is still relevant to the "names change all the time" argument. I checked for changes in English

names for all species between the 4<sup>th</sup> (1931) and 5<sup>th</sup> (1957) AOU Checklists. The salient points concerning stability of English names were as follows:

- 1. The number of substantive changes to align them better with British (Western Palearctic) names was **TWO**, not 188. They were Water Pipit (from American Pipit) and House Martin (from European Martin). The latter was known in our area at that time only from a handful of records from Greenland.
- 2. Expanding the list of changes to those in which a clear connection between the new and old name is retained (in contrast to deletion of eponyms), there were another **SIX** changes (e.g. White-winged Tern to White-winged Black Tern, Razor-billed Auk to Razorbill). That gets us up to EIGHT changes.
- 3. Further expanding the list of changes to include those apparently first made by AOU 1957 in anticipation of greater global uniformity beyond the Western Palearctic, there was 1 substantive change (Yellow-billed to White-tailed Tropicbird) and an additional 6 with obvious connections retained. That brings the total 15
- 4. What stood out in the overall analysis is the AOU Checklist's commitment to stability. I could find ZERO substantive changes introduced de novo by the AOU 1957 Checklist. In fact, there were only 8 names out of 793 analyzed that were substantive, novel introductions by AOU 1957, and those were mandated by changes in species limit introduced in the same volume.
- 5. The greater stability of English names compared to scientific names was also evident in the comparison between the 1931 and 1957 checklists: for English names, only 6.7% has changed during that period, whereas 32.1% of the scientific names had changed, or a **nearly five-fold differences in the rate of change**.