

ON HYPHENS AND PHYLOGENY

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ABSTRACT.—We summarize the history of the varied practices of hyphenating compound English names of birds to highlight taxonomic relationships. English names do not and can not reflect phylogenetic relationships of birds very well, however lofty that ideal. Instead, English names of birds are driven more by tradition than by modern systematics; the consequence is that well-intentioned hyphenation practices misrepresent phylogenetic relationships too often to be helpful. We urge ornithologists to work together to simplify the use of hyphens as one small step towards improved standardization of English bird names. Received 26 February 2009. Accepted 31 May 2009.

The world of ornithology seems divided on the editorial question of whether we should hyphenate compound English names of groups of birds. The guidelines of the English Names Committee of the International Ornithological Congress (IOC) (Gill and Wright 2006) favor fewer hyphens and rekindled the debate, including a public recommitment by some to the taxonomic value of hyphenation (AOU Check-list Committee 2007). Most of the vigorous modern discussion of this issue has been informal on web site forums or in regional taxonomic discussions.

The controversial practice of hyphenating compound group names of birds traces back principally to a formal proposal by Kenneth Parkes (1978:326) that some names of this type, such as night-heron and whistling-duck, be spelled as two hyphenated and capitalized words. The sixth edition of the AOU Checklist (1983), its successors and its followers adopted this practice, largely without discussion, and continue to do so. In contrast, other major works such as the *Howard and Moore Complete Checklist of the Birds of the World* (Dickinson 2003) opt for ‘night heron’, ‘whistling duck’, ‘golden plover’, ‘pygmy tyrant’, etc. Outside ornithology, herpetologists among others do not hyphenate compound group names of the related species, e.g., cricket frogs, chorus frogs, or narrow-mouthed toads (Crother 2008).

The use of hyphens in the written English language is difficult, widely misunderstood, and often violated (<http://www.nyu.edu/classes/copyXediting/Hyphens.html>). Countering years of hyphenation creep where people added them with abandon, some being adopted, some not, mostly without careful thought or deliberative rigor, is the growing trend of scholars to drop inappropri-

ate or unnecessary hyphens to improve communication in our written language (Magrath 2007).

HISTORY

At Alexander Wetmore’s request on behalf of AOU’s Committee on Classification and Nomenclature, Cheesman and Oehser (1937) formulated a set of rules to standardize spelling of English names of birds of North America. Among their enduring recommendations, they advocated the use of one word names rather than two as in Webster’s dictionary at that time, i.e., meadow-lark not meadow lark, bushtit not bush tit, etc. Second, they advocated conversion of hyphenated names into a single word without hyphens wherever possible, i.e., bobwhite not bob-white, Ovenbird (*Seiurus auricapilla*) not Oven-bird, oystercatcher not oyster-catcher. Further, they accepted use of the hyphen as a historical transition from two words to one, e.g., meadow lark to meadow-lark to meadowlark. In addition, they explicitly excluded use of hyphens for multiple adjectival modifiers for species such as Great Horned Owl (*Bubo virginianus*) and American Golden Plover (*Pluvialis dominica*). A proposal to use hyphens to indicate group relationships, however, was not a part of this presentation.

In his sequel to Cheesman and Oehser’s (1937) recommendations, and as a corollary of Eisenmann’s (1955) effort to name the species of neotropical birds, Parkes (1978) proposed specifically that certain group names, including night-heron, whistling-duck, and storm-petrel, be spelled as two hyphenated and capitalized words when “the bird in question does belong to that particular group.” As a closing comment, Parkes (1978: 326) noted that: “No compound group-name for a bird should be spelled as two unhyphenated words. In some instances this conflicts with A.O.U. Check-list usage, but not

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with that of Eisenmann; thus, 'Night Heron' of the A.O.U. (1957) should be 'Night-Heron.' (On the other hand, 'Great Blue Heron' and 'Little Blue Heron' are unhyphenated, as there is no group of 'Blue-Herons,' both adjectives in these two names modifying the group-name 'heron'.)''

The 6th edition of the AOU Checklist (1983) switched to hyphenations as Parkes proposed but without explicit discussion. Rather the Preface (1983: xxi) mentions simply that they followed Cheesman and Oehser (1937) and Parkes (1978) "with respect to orthography and related matters." In addition, the landmark 6th edition introduced English name changes such as 'whistling-duck' instead of 'tree duck' for the species of *Dendrocygna*. This edition also adopted 'storm-petrel' for species of *Oceanites*, *Oceanodroma*, and *Pelagodroma* replacing 'petrel' in preceding editions of the AOU checklist.

Sibley and Monroe (1990) extended the practice in a major way in *Distribution and Taxonomy of the Birds of the World*. In their introduction, Sibley and Monroe (1990: xxi) confessed that "Hyphenation of compound group-names has caused some concern," and also that "Suggestions were made to omit the hyphenation entirely, or to omit it with adjectival first parts." Options for indexing, however, swayed them to hyphenate most compound group names, so that one could look up Screech-Owl under 'S,' cross-referenced from Owl, Screech – see Screech-Owl. In hindsight, we might question whether the gains of this practice exceed its costs.

Over the course of time, Parkes' (1978) formulation based on some general sense of 'belonging to a group' has evolved into firm advocacy and editorial policy for use of hyphens in group names as hypotheses of monophyletic evolutionary relationships (www.museum.lsu.edu/~Remsen/HyphensBirdNames.htm) (J. S. Greenlaw, pers. comm.).

The IOC guidelines (Gill and Wright 2006; <http://www.worldbirdnames.org>) echo Cheesman and Oehler's (1937) recommendation that compound group names should be spelled preferentially as one word with flexibility to use a hyphen to avoid awkward constructions. Contrary to Parkes (1978) the IOC guidelines recommend against the general use of hyphens to create a novel compound group name with the exception of 'bird-bird' group names. Thus, night heron and mountain tanager would be spelled without a hyphen, as is the editorial standard of the British

Ornithologists' Union, the *Howard and Moore Complete Checklist of the Birds of the World* (Dickinson 2003), *Birds of Northern South America* (Restall et al. 2006), and others.

The English names of birds involve hyphens in various ways. The use that provokes this debate is whether or not to place a hyphen between the modifier and the basic group name, for example Screech-Owl versus Screech Owl. In English generally such a two-word, compound name almost never has a hyphen; we would use 'Screech Owl' if there was just one species. The addition of a second modifier to create a three-word name, such as Eastern Screech Owl (*Otus asio*), does not normally call for a hyphen, because 'screech' clearly modifies 'owl.' The problem arises when two or more related species have the same two words in their names and different modifiers, such as Eastern Screech Owl and Western Screech Owl (*O. kennecottii*).

Consider green suitcases of different sizes. Why use 'big green-suitcase' and 'little green-suitcase' when 'big green suitcase' and 'little green suitcase' are simpler and perfectly clear? Similarly, Long-tailed Wood Partridge (*Dendrotyx macroura*) is clear without an extra hyphen (wood-partridge), as are English bird names such as Pygmy Hanging Parrot (*Loriculus exilis*), Wilson's Storm Petrel (*Oceanites oceanicus*), and African Green Pigeon (*Treron calvus*).

ISSUES OF PHYLOGENY

The principal argument advanced for inserting a hyphen into night-heron, screech-owl or whistling-duck is that the hyphen signifies relationships among species in a helpful way: "Hyphens in compound group names indicate relationships and separate the members of the groups from less closely related forms (e.g., whistling-ducks from other ducks and storm-petrels from other petrels)," (AOU Check-list Committee 2007:1472). Thus, the various 'night-herons,' for example, constitute a 'group' of species that are more closely related to each other than they are to other taxa. They are supposedly monophyletic. This argument concludes that compound group names require or benefit from a hyphen. Accordingly, some world lists (Sibley and Monroe 1990, del Hoyo et al. 1992, Clements 2007) used the hyphenated English name 'night-heron' to unite species in three supposedly related genera *Nycticorax*, *Nyctanassa*, and *Gorsachius*. However, the relationships of these genera to each other are now

deemed unresolved (Sheldon 1987, Sheldon et al. 2000, Tree of Life Web Project 2008; FHS, pers. comm.).

Parkes (1978) used Little Blue Heron (*Egretta caerulea*) versus Great Blue Heron (*Ardea herodias*) as an example of 'unrelated' species (now in different genera) that should not be hyphenated. Strict adherence to hyphenating group names of only closely related species, however, leads to esoteric mixes of hyphenated and unhyphenated English names. For example, related species of *Ninox* are hyphenated 'Hawk-Owls' whereas the lone and presumed unrelated species of *Surnia* is an unhyphenated (Northern) 'Hawk Owl' (*Surnia ulula*) (Sibley and Monroe 1990, AOU 1998).

Using hyphens to highlight possible relationships adds unnecessary complications to the inevitable tensions between English names and scientific names. Yes, formal English group names may parallel scientific names such as a genus or subgenus, and some (whistling duck) actually do so. But concordance of English names and avian genera is low for many historical reasons, and surely will sink lower with the extensive revisions of generic relationships that are now underway. Significant concordance would require wholesale changing of the English names of many species, which would be counter-productive and undesirable.

Consider some of the many examples of species in different genera that carry the same hyphenated compound proper English name: Wood-Rail (*Aramides*, *Canirallus* [*kioloides*]), Ground-Dove (*Columbina*, *Claravis*, *Metriopelia*, *Uropelia*, *Scardafella*, *Gallucolumba*), Palm-Swift (*Tachornis* except *T. furcata*, *Cypsiurus*), Bush-Tyrant (*Myiotheretes*, *Cnemarchus*, *Polioxolmis*); Water-Tyrant (*Ochthornis*, *Fluvicola*), and Bush-Tanager (*Cnemoscopus*, *Chlorospingus*).

Similar complications arise in the use of hyphens in names of subsets of congeneric species in the absence of confirming phylogenetic analysis. The tyrant flycatchers of the New World offer many cases of this. For example, the (hyphenated) Eastern Wood-Pewee (*Contopus virens*) and Western Wood-Pewee (*C. sordidulus*) may be conspecific, or sister species, or members of a superspecies that includes the Tropical Pewee (*C. cinereus*) (Fitzpatrick 2004). However, we lack a molecular phylogeny of the 15 species of *Contopus* to support any of these hypotheses. In another case, only seven of 11 species in the

neotropical genus *Knipolegus* are now 'black-tyrants,' partly reflecting their complicated taxonomic history. Some species of *Hemitriccus* are 'tody-tyrants,' but other species in this same genus are 'pygmy-tyrants' as are members of five other genera of tyrant flycatchers (*Pseudotriccus*, *Euscarthmus*, *Myiornis*, *Lophotriccus*, *Atalotriccus*), some of which may be relatives (Fitzpatrick 2004). In other families, 'mountain-finches' are in the genus *Leucosticte* (along with 'rosy-finches') and also in the genus *Poospiza* (along with 14 species of 'warbling-finches'). Such problems multiply in the full list of world bird species.

The name 'storm-petrels' would appear to be a clear cut case of related species in a family group (Hydrobatidae) to be distinguished from petrels and shearwaters in the family Procellariidae and, thus, to merit a hyphen (AOU Check-list Committee 2007). But the two subfamilies (Hydrobatinae, Oceanitinae) may not be monophyletic sister taxa as we thought them to be (Nunn and Stanley 1998, Christidis and Boles 2008, Hackett et al. 2008, Tree of Life Web Project 2008). Considering members of both subfamilies to be petrels, in the broadest sense of that name, 'storm petrel' could emerge as the preferred name for members of at least one of the two clades.

Requiring final mention are group names that already include a compound modifier. The list of group names preceded by a compound modifier includes the multiple species of 'white-fronted geese,' 'double-collared sunbirds,' 'rough-winged swallows,' and many others. Consistent use of hyphens to group such related species by their English names suggests that we should add a hyphen to define their relationship correctly. In the case of the swallows, the unpleasant result, which has no advocates, would be Northern Rough-winged-Swallow (*Stelgidopteryx serripennis*) and Southern Rough-winged-Swallow (*S. ruficollis*). Not to hyphenate them fully, however, introduces one more inconsistent application of an ill-founded principle.

RECOMMENDATIONS

Given the dynamic state of our knowledge about relationships among bird species, we and many colleagues prefer to follow plain, correct, and intuitive English, rather than to overload the orthography of English names of birds with phylogenetic inference through hyphens. We still can construct group names as single words and hyphenate them sparingly to avoid awkward

constructions as recommended by Cheesman and Oehler (1937) and Gill and Wright (2006). It seems time to retire the persuasion of Parkes (1978) that hyphens add taxonomic value to the English names of birds. Standardization away from this practice would be a simple step towards consistent use of English names on behalf of the world's birds.

From this position, we invite our colleagues to work together towards common editorial practices that foster a stable set of English names of the birds of the world. We compliment those journals, including the *Wilson Journal of Ornithology* and *Ibis*, which are doing so.

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LITERATURE CITED

- AMERICAN ORNITHOLOGISTS' UNION (AOU). 1983. Checklist of North American birds. Sixth Edition. American Ornithologists' Union, Washington, D.C., USA.
- AMERICAN ORNITHOLOGISTS' UNION (AOU). 1998. Checklist of North American birds. Seventh Edition. American Ornithologists' Union, Washington, D.C., USA.
- AOU CHECK-LIST COMMITTEE. 2007. Committee on Classification and Nomenclature of Birds policy on English names of birds (North and Middle America). *Auk* 124: 1472.
- CHEESMAN, W. H. AND P. H. OEHSER. 1937. The spelling of common names of birds. *Auk* 54: 333–340.
- CHRISTIDIS, L. AND W. E. BOLES. 2008. Systematics and taxonomy of Australian birds. CSIRO Publishing, Collingwood, VIC, Australia.
- CLEMENTS, J. F. 2007. The Clements checklist of the birds of the world. Sixth Edition. Cornell University Press, Ithaca, New York, USA.
- CROTHER, B. I. 2008. Scientific and standard English names of amphibians and reptiles of North America north of Mexico, with comments regarding confidence in our understanding. Sixth Edition. Herpetological Circular Number 37. Society for the Study of Amphibians and Reptiles, Shoreview, Minnesota, USA.
- DEL HOYO, J., A. ELLIOTT, AND J. SARGATAL (Editors). 1992. Handbook of the birds of the world. Volume 1, Ostriches to ducks. Lynx Edicions, Barcelona, Spain.
- DICKINSON, E. 2003. The Howard and Moore complete checklist of the birds of the world. Third Edition. Princeton University Press, Princeton, New Jersey, USA.
- EISENMANN, E. 1955. The species of Middle American birds. Transactions of the Linnaean Society of New York 7: 1–128.
- FITZPATRICK, J. W. 2004. Tyrannidae. Pages 170–462 in Handbook of the birds of the world. Volume 9, Cotingas to pipits and wagtails (J. del Hoyo, A. Elliott, and D. A. Christie (Editors). Lynx Edicions, Barcelona, Spain.
- GILL, F. B. AND M. T. WRIGHT. 2006. Birds of the world: recommended English names. Princeton University Press, Princeton, New Jersey, USA.
- HACKETT, S. J., R. T. KIMBALL, S. REDDY, R. C. K. BOWIE, E. L. BRAUN, M. J. BRAUN, J. L. CHOJNOWSKI, W. A. COX, K.-L. HAN, J. HARSHMAN, C. J. HUDDLESTON, B. D. MARKS, K. J. MIGLIA, W. A. MOORE, F. H. SHELDON, D. W. STEADMAN, C. C. WITT, AND T. YURI. 2008. A phylogenomic study of birds reveals their evolutionary history. *Science* 320:1763–1768.
- MAGRATH, C. 2007. Death-knell or death knell. The New York Times, Sunday 7 October 2007. New York, USA.
- NUNN, G. B. AND S. E. STANLEY. 1998. Body size effects and rates of cytochrome b evolution in tube-nosed seabirds. *Molecular Biology and Evolution* 15:1360–1371.
- PARKES, K. C. 1978. A guide to forming and capitalizing compound names of birds in English. *Auk* 95: 324–326.
- RESTALL, R., C. RODNER, AND M. LENTINO. 2006. Birds of northern South America. Yale University Press, New Haven, Connecticut, USA.
- SHELDON, F. H. 1987. Phylogeny of herons estimated from DNA-DNA hybridization data. *Auk* 104:97–108.
- SHELDON, F. H., C. E. JONES, AND K. G. MCCracken. 2000. Relative patterns and rates of evolution in heron nuclear and mitochondrial DNA. *Molecular Biology and Evolution* 17:437–450.
- SIBLEY, C. G. AND B. L. MONROE JR. 1990. Distribution and taxonomy of the birds of the world. Yale University Press, New Haven, Connecticut, USA.
- TREE OF LIFE WEB PROJECT. 2008. Ardeidae. Herons. Version 27 June 2008. <http://tolweb.org/Ardeidae/26331/2008.06.27>. University of Arizona, Tucson, USA.