

AOU Classification Committee – North and Middle America
Proposal Set 2015-B
20 Feb 2015

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03	07	Revise the generic limits and linear sequence of Hawaiian honeycreepers: (a) divide <i>Hemignathus</i> into four genera, (b) separate the monotypic genus <i>Manucerthia</i> from <i>Loxops</i> , (c) merge <i>Drepanis</i> and <i>Vestiaria</i> , (d) change the specific epithet of the Akiapolaau from <i>munroi</i> to <i>wilsoni</i> , and (e) revise the linear sequence of Hawaiian honeycreepers
04	14	Revise species limits in three extinct complexes of Hawaiian honeycreepers: (a) split Nukupuu <i>Hemignathus lucidus</i> into three species, (b) split Greater Akialoa <i>Hemignathus [Akialoa] ellisianus</i> into three species, and (c) split Akepa <i>Loxops coccineus</i> into three species
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13	59	Revise the composition and linear sequence of the Thraupidae based on comprehensive phylogenetic studies: (a) transfer 14 genera from the Emberizidae to the Thraupidae, (b) transfer <i>Saltator</i> and <i>Coereba</i> from <i>incertae sedis</i> to the Thraupidae, (c) temporarily transfer six genera from the Thraupidae to <i>incertae sedis</i> , (d) revise the linear sequence of genera in the Thraupidae, and (e-f) revise the linear sequence of species in the genera (e) <i>Ramphocelus</i> and (f) <i>Sporophila</i>

Add Waved Albatross *Phoebastria irrorata* to the main list

Note from Chair: This is the same proposal as 2014-C-1, which passed unanimously. We did not publish this result in last year's supplement due to AOU policy about not publishing new distributional information until published by the local committee, in this case the Scientific Committee of the Ornithological Association of Costa Rica (AOCR). This record has now been published by the AOCR (Obando-Calderón et al. 2014).

Background:

This species is currently included in the Appendix - Part 1, as a species reported from the A.O.U. Check-list area with insufficient evidence for placement on the main list:

***Phoebastria irrorata* (Salvin). Waved Albatross.**

Diomedea irrorata Salvin, 1883, Proc. Zool. Soc. London, p. 430. (Callao Bay, Peru.) This species breeds on Hood Island in the Galapagos and on Isla de la Plata off Ecuador, and ranges at sea along the coasts of Ecuador and Peru. A specimen was taken just outside the North American area at Octavia Rocks, Colombia, near the Panama-Colombia boundary (8 March 1941, R. C. Murphy). There are sight reports from Panama, west of Piñas Bay, Darién, 26 February 1941 (Ridgely 1976), and southwest of the Pearl Islands, 27 September 1964. Also known as Galapagos Albatross.

New information:

The Costa Rican Rare Birds and Records Committee (Scientific Committee - Association of Ornithology of Costa Rica - AOCR) received a report and photographic material as the first evidence of the species in Costa Rica. Waved Albatross had first been included in the Official List - Update 2007 (Obando et al, 2007) based on a single sight record on Cocos Island on May 07, 1993 (Acevedo, 1994).

- **Report:** January 09, 2014. Keiner Berrocal Chacón found a single bird resting on the water 15 miles from Cabo Blanco, Puntarenas province. Keiner was accompanied by his father on an artisanal fishing day.
- **Committee decision:** The proposal was accepted by unanimous decision by the Scientific Committee of the AOCR. The photographic material presented clearly

shows a Waved Albatross. Photos taken by Keiner Berrocal were archived and catalogued in the Department of Natural History - National Museum of Costa Rica (MNCR) as MNCR Z8393-Z8397. This is MNCR-Z8394:



Recommendation: Move the species from the Appendix to the main list.

Literature Cited:

- Acevedo-Gutiérrez, A. 1994. First records and nesting of three birds species at Isla del Coco, Costa Rica. *Revista de Biología Tropical* 42 (3): 762
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- Obando-Calderón, G., Camacho-Varela, P., Chaves-Campos, J., Garrigues, R., Montoya, M., Ramírez-Alán, O., Zook, J. 2014. Lista Oficial de las aves de Costa Rica. Actualización 2014. Comité Científico, Asociación Ornitológica de Costa Rica. *Zeledonia* 18 (2): 33-50.

Submitted by: Gerardo Obando-Calderón – Coordinator, Official List of the Birds of Costa Rica, on behalf of the Costa Rican Rare Birds and Records Committee (Scientific Committee-AOCR)

Date of proposal: 12 March 2014

**Change the species epithet of Wilson's Plover *Charadrius wilsonia*
from *wilsonia* to *wilsonius***

Note from Chair: Normand David and Michel Gosselin, advisors to the committee, have reviewed this proposal and fully agree with the author's conclusions.

Background:

The Fifth Edition of the *AOU Check-List* (AOU 1957) restored Wilson's Plover to the genus *Charadrius*. That edition and those subsequent (AOU 1983, AOU 1998, AOU 2014), however, retained the species epithet *wilsonia*, apparently considering that name a noun in apposition (see ICZN 31.2.1) rather than an adjective requiring gender agreement (see ICZN 31.2) with the masculine genus name *Charadrius*. The most recent such assertion can be found in the Fourth Edition of the *Howard and Moore Complete Checklist* (Dickinson and Remsen 2013), where the epithet *wilsonia* is indicated to be "invariable."

There is no documented suggestion anywhere that George Ord considered *wilsonia* a noun when he described and named the species in 1814. There is, however, unequivocal evidence that he considered it an adjective, as did his contemporaries and as did ornithological taxonomists for the next 143 years.

Absent any exercise of the plenary power of the ICZN (see ICZN 78.1) to stabilize the species epithet *wilsonia* by declaring it a noun in apposition, *wilsonia/us/um* in the name of the Wilson's Plover must be treated as an adjective and must agree in gender with the name of the genus to which the species is assigned. The correct scientific name of the Wilson's Plover is thus *Charadrius wilsonius*.

Discussion:

George Ord described the new species *Charadrius wilsonia* in the ninth, posthumous volume of Alexander Wilson's *American Ornithology* (Ord 1814). It is the lack of grammatical agreement between the masculine genus name and Ord's species epithet that has apparently misled more recent authorities to construe *wilsonia* as a noun in apposition. There is, however, no indication anywhere that Ord meant to create a new noun, or what such a noun, feminine or neuter plural in form, might be intended to mean. (The erstwhile parulid genus name—itself by definition a noun—*Wilsonia* would not be coined until 1838 [Bonaparte 1838]).

Instead, the original ending *-a* of Ord's *wilsonia* was a grammatical error, whether committed by Ord or by his printer's compositor. Ord's lapsus—the combination of a masculine noun with a feminine adjective—was soon noted and corrected, first by Louis-Pierre Vieillot (Vieillot 1818) and then, tellingly and definitively, by Ord himself, in the "Ord reprint" of the *American Ornithology* (Ord 1824) and in the smaller, three-volume popular edition (Ord 1828). In both of those editions of the *American Ornithology*, Ord emended the name of the plover to *Charadrius wilsonius*, a correction he would not have made had he—the original namer of the species—intended and understood that species epithet to be a noun. Instead, by changing the ending to agree grammatically with the genus name, Ord confirmed that his *wilsonia* had been an adjective, even if an improperly formed one.

ICZN 31.2.2, providing that in cases of doubt an equivocal species epithet is to be construed as a noun in apposition, does not apply here. Ord's later corrections demonstrate clearly that he regarded the species name as an adjective.

Though mere subsequent usage cannot determine nomenclatural correctness, it is worth noting that authors through the nineteenth and for most of the twentieth centuries treated the species epithet of this plover as adjectival (see the bibliographic synonymy in Ridgway 1919). Elliott Coues, in the second edition of his *Check List* (1882), makes a point of the importance of the masculine gender of the genus to which he assigned the species (*Aegialites*), and the American Ornithologists' Union Committee on Taxonomy and Nomenclature regularly and correctly altered the ending of the species epithet each time the plover's genus name was changed from the first through the fourth editions of the *Check-list*: from *Aegialitis wilsonia* (1895) to *Ochthodromus wilsonius* (1910) to *Pagolla wilsonia* (1931). In an ironic echo of Ord's own error, the AOU's first edition had named the bird *Aegialitis wilsonius* (1886), notwithstanding Coues's (1882) admonition that the genus when spelled thus was feminine; the error was corrected in the abridged reprint of that edition (AOU 1889).

Recommendation:

Replace the name *Charadrius wilsonia* with the name *Charadrius wilsonius* in the AOU Check-List of North American Birds.

Literature Cited:

AOU. 1886. The code of nomenclature and check-list of North American birds adopted by the American Ornithologists' Union. American Ornithologists' Union, New York.

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Submitted by: Rick Wright

Date of Proposal: October 2014

Revise the generic limits and linear sequence of Hawaiian honeycreepers

Background:

The current AOU taxonomy of the Hawaiian clade of cardueline finches (hereafter Hawaiian honeycreepers) has changed little since the Sixth Edition of the AOU Check-list (AOU 1983), and is based largely on work done by Pratt (1979a) as published by Berger (1981). Only three subsequent changes have been made at the generic level: addition of *Dysmorodrepanis*, previously thought to be a sport (James et al. 1989, AOU 1998); recognition of the genus *Magumma* as separate from *Hemignathus* (Banks et al. 2008); and transfer of the Hawaii Creeper from *Oreomystis* to *Loxops* (Chesser et al. 2013). Thus the AOU Check-list uses a taxonomy for Hawaiian honeycreepers that was developed before the discovery of PCR, and that is, with a few minor exceptions, uninformed by three decades of advances in behavioral and ecological studies, paleontology, and genetics.

Those who study Hawaiian honeycreepers, virtually all of whom individually subscribe to taxonomies that differ from that of the AOU, are nevertheless burdened by AOU taxonomy in the many situations where adherence to the AOU Check-list is required. For example, the Hawaii Bird Records Committee, recently established under the auspices of Western Field Ornithologists, is tasked with compiling an official list of the birds of the Hawaiian Islands, and needs an updated AOU taxonomy with which to work. The revision proposed herein will bring AOU taxonomy into line with that of *Handbook of the Birds of the World* (Pratt 2010), the IOC World Bird List (Gill & Donsker 2014), the upcoming (E. C. Dickinson, pers. comm.) revised edition of the Howard & Moore world checklist (Dickinson 2003); a new volume of a publication in French on cardueline finches (Ottaviani, in press), a new edition (in prep.) of Pratt et al.'s (1987) widely used field guide, as well as the most recent comprehensive Hawaii checklist (Pyle & Pyle 2009), the taxonomy for which was developed independently from Pratt's work (P. Pyle, pers. comm.).

The primary reason for the present situation is, in part, that no one has yet proposed a comprehensive revision to this committee, and also because competing schools of thought had not, until now, been able to reach a consensus (Pratt 2005). The author of this proposal has been waiting many years for a promised (R. L. Fleischer pers. comm.) comprehensive molecular study that would include historically extinct species plus those known from subfossil remains (but forming part of the modern avifauna). Recently, a

team from Fleischer's lab published a phylogeny (Lerner et al. 2011) that included only the recently surviving species, despite the fact that several historically extinct taxa were sufficiently well known genetically over a decade ago for Fleischer (pers. comms. in Pratt 2005) to make general comments about several species-level questions. The fact that Lerner et al.'s (2011) study was far from comprehensive suggests that a truly comprehensive molecular phylogeny for Hawaiian honeycreepers may still be years away. Recently, Fleischer (pers. comm.) said that because of developments external to the project, no work is currently being conducted on it, and when work may resume is unpredictable. In the meantime, we need a revision based on the large amount of information we already have.

New information:

The changes recommended below are based on Pratt's (2014) comprehensive revision that brings together all lines of evidence currently available. His genera are monophyletic, diagnosable, and represent distinct morphotypes within the honeycreeper radiation. As such, they are comparable to the genera of Galapagos finches, the other great avian example of insular adaptive radiation (Grant and Grant 2008). In both cases, divergence times (Lerner et al. 2011, Grant and Grant 2014) are much more recent than is usually the case among continental genera, but the genera are phenotypically more divergent than most continental ones. Recent studies have shown that evolutionary processes can be highly accelerated in archipelagic settings (Grant and Grant 2008, 2014; Lerner et al. 2011, Andersen 2014). As with species, genera vary in age, and divergence times are not usually a basis for setting boundaries among them. Nevertheless, divergence time provides a useful benchmark for comparing genera within the honeycreeper clade.

Pratt's (2014) revision is completely compatible with the most recent molecular phylogeny (Lerner et al. 2011) despite the fact that seven extinct but historically known genera were excluded from that study. The terminal branches of Lerner et al.'s (2011) topology can be labeled using these generic names without any splits or repeats.

Bringing the AOU checklist into line with Pratt's (2014) results will require surprisingly few changes, as outlined below. Generic limits that remain unchanged on the checklist are discussed by Pratt (2014), and need not be reviewed here. Implementation of these changes will produce a generic-level taxonomy with strong likelihood of stability even as different phylogenetic topologies develop, i.e., the deck may be reshuffled, but the cards will remain the same.

Why so many genera? Given current knowledge, we must maintain *Melamprosops*, *Paroreomyza*, and *Oreomystis* no matter what. We could then merge all the “finches” (*Telespyza*, *Chloridops*, and *Rhodacanthis*) into *Loxioides*, keeping *Psittirostra* (and probably *Dysmorodrepanis* because we don’t know what else to do with it) separate. The rest of the radiation then falls into three distinct clades, which we could designate as genera: *Hemignathus*, *Loxops*, and *Drepanis* (where the extinct *Akialoa*, *Viridonia*, and *Ciridops* might fall among these is largely irrelevant in this assessment because each would likely fall into one of these three). Or we could just call them ALL *Drepanis*! But what would we gain by having fewer genera? Except in the case of the finches, such a reduction in number of genera would destroy the genus/morphotype equivalency in the Hawaiian honeycreepers and thus ruin the heuristic value of such a classification. It would render the genera morphologically undiagnosable; would make comparisons with Darwin’s finches, whose genera are also tied to morphotypes, more strained; and would obscure the much broader adaptive radiation of the Hawaiian group. It would also introduce numerous changes in scientific names, adding further confusion to an already chaotic taxonomic history. Inasmuch as genera are artificial units designed for our convenience, I recommend we adopt those that are most informative and least disruptive.

Recommendations:

a. Divide the genus *Hemignathus* into four genera. “Greater *Hemignathus*”, as created by Pratt (1979a) and adopted by AOU (1983), can be diagnosed by a large suite of apparently synapomorphic characters of color pattern, bill morphology, and vocalizations. Nevertheless, it comprises four easily distinguished subgroups, which Pratt (2005) first classified as subgenera. The monotypic genus *Magumma* was removed from *Hemignathus* in the 7th Edition (AOU 1998) based on both phenotypic (Conant et al. 1998) and genetic evidence. Because of mounting evidence that greater *Hemignathus* was paraphyletic (Tarr and Fleischer 1994, 1995; Fleischer et al. 1998; James 2004; Reding et al. 2008), Pratt (2009, 2010) elevated his subgenera to genera: *Hemignathus* for the heterobills (Nukupuu and Akiapolaau); *Akialoa* for the akialoos; *Chlorodrepanis* for the amakihis; and *Viridonia* for the Greater Amakihi.

b. Separate the monotypic genus *Manucerthia* from *Loxops*. The grouping of the Hawaii Creeper with the akepas has now been upheld by new phenotypic (Olson 2009) and genetic (Reding et al. 2008, Lerner et al. 2011) data, and Chesser et al. (2013) moved it from *Oreomystis* to *Loxops*. However, because it lacks the crossed mandibles of the akepas and the “drepanidine tubular tongue” of all other members of the core honeycreeper clade (Reding et al. 2008), it is clearly a distinctive morphotype and Pratt (2009) proposed the monotypic genus *Manucerthia* for it. The Hawaii Creeper diverged

from *Loxops* nearly 2Ma, well before the 1.58 Ma (Lerner et al. 2011) divergence of the straight-billed (*Himatione* and *Palmeria*) and sickle-billed (currently *Drepanis* and *Vestiaria*) nectarivorous genera. Merging *Manucerthia* with *Loxops* would not only upset the genus/morphotype equivalency but, to maintain temporal symmetry, would necessitate wholesale mergers within the nectarivorous clade, which would be premature based on current knowledge.

[Additional comments submitted by Storrs Olson](#)

c. Merge the genera *Drepanis* and *Vestiaria*. Keeping *Vestiaria* separate from *Drepanis* in this new revision violates the morphotype/genus principle. Pratt (1979a) first proposed the merger of these two sickle-billed genera, which can be diagnosed solely on what appear to be species-level color differences, but Berger (1981) and AOU (1983), along with most subsequent authors, did not combine them. Note that the color differences between the cardueline Red Siskin *Carduelis cucullata* and Black Siskin *C. atrata* parallel those of the liwi and Hawaii Mamo, yet no one would suggest putting them in separate genera on that basis (Pratt 2014). Amadon (1986) suggested that if *Vestiaria* and *Drepanis* were merged, then *Palmeria* and *Himatione* should be also. The merger of *Palmeria* and *Himatione* would not strongly challenge the morphotype principle advocated here because their bills and feeding habits are similar, but their plumage differences are far more striking than those between the liwi and the mamos. James (2004) found the liwi and mamos very similar morphologically, and did not include the mamos in some analyses, but maintained *Palmeria* and *Himatione* separate as sister groups. Further mergers may be warranted in the “red” clade once we have molecular data (especially for *Ciridops*), and this proposal is a first step.

d. Change the specific epithet of the Akiapolaau from *munroi* to *wilsoni*. Pratt’s (1979b) new name is no longer needed because, with the split of *Hemignathus* into four genera, this species is no longer congeneric with the Hawaii Amakihi from Maui *Chlorodrepanis virens wilsoni* (AOU 1998).

e. Revise the taxonomic sequence of Hawaiian honeycreepers as below. Lerner et al. (2011) provided a framework into which Pratt (2014) plugged the extinct taxa to produce this sequence. It is not intended to represent any particular phylogeny (and none could be derived from it), but it is compatible with the most recent ones. Lerner et al. (2011) placed the more recent radiation of the “green birds” at the terminus of their phylogeny, presumably for clarity and aesthetics, but as with any split in a topology, the axis of the divergence between the red birds and the green birds can rotate, so which group comes last in the list is essentially a matter of preference. Traditionally (AOU 1998, James 2004, Pratt 2005, 2010) the “red-and-black” honeycreepers have been

listed terminally, as they are here, which follows taxonomic custom inasmuch as they are the youngest genera. The placement of the extinct honeycreeper finches (*Rhodacanthis*, *Chloridops*, *Psittirostra*, and *Dysmorodrepanis*) and *Akialoa* follows James (2004). The “arrowbill” (Pratt 2014) *Viridonia sagittirostris* is placed between the two “green” clades because it could just as well fit into either one given current knowledge. Listing it as *incertae sedis* would not be inappropriate. *Ciridops* is clearly a member of the “red” clade, but its position within it purely speculative at this time, and *incertae sedis* might be appropriate for it as well. Numbers in parentheses represent the number of species in each genus under current AOU taxonomy plus those known from subfossil remains that were contemporaneous with historically known species (those with alternatives are subject to approval of species limits recommended in pending proposals):

<i>Melamprosops</i>	Poouli
<i>Paroreomyza</i> (3)	alauahios
<i>Oreomyza</i>	Akikiki
<i>Telespyza</i> (4)	“drepanidine” finches
<i>Loxioides</i> (2)	palilas
<i>Rhodacanthis</i> (4)	koa finches
<i>Chloridops</i> (3)	Hawaiian grosbeaks
<i>Psittirostra</i>	Ou
<i>Dysmorodrepanis</i>	Lanai Hookbill
<i>Akialoa</i> (3 or 6)	Akialoas
<i>Hemignathus</i> (3 or 5)	Heterobills
<i>Pseudonestor</i>	Maui Parrotbill
* <i>Viridonia</i>	Greater Amakihi
<i>Magumma</i>	Anianiau
<i>Manucerthia</i>	Hawaii Creeper
<i>Loxops</i> (2 or 4)	akepas
<i>Chlorodrepanis</i> (3)	Amakihis
<i>Drepanis</i> (3)	liwi and mamos
<i>Himatione</i> (1 or 2)	apapanes
<i>Palmeria</i>	Akohekohe
* <i>Ciridops</i> (2)	palmcreepers

*or *incertae sedis*

Proposal 2015-B-3e amended by the committee with a revised linear sequence:

[view amended sequence](#)

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Submitted by: H. Douglas Pratt, Emeritus Curator of Birds, North Carolina Museum of Natural Sciences, Raleigh, NC

Date of Proposal: 31 October 2014

Revise species limits in three extinct complexes of Hawaiian honeycreepers

Background:

This proposal is a follow-up to a previous one involving the genera of Hawaiian carduelines. I decided to separate the species-level considerations so that the committee could focus on the genera only and not be burdened with possibly controversial species-level decisions. Also, the species taxa of living Hawaiian honeycreepers are mostly now well established and noncontroversial. However, several extinct taxa have not received the same amount of attention as the living species. I have combined these three into this single proposal, but each could be considered separately. Note that the species limits advocated herein are those used in *Handbook of the Birds of the World* (Pratt 2010b) and numerous other international checklists and books listed in my prior proposal. To the extent possible, they reflect modern attitudes about application of the biological species concept (BSC), in particular a new paradigm (Pratt 2010a) for assessing species rank among closely related allopatric island populations. Please note that the case of the Laysan Honeycreeper *Himatione fraithii* is the subject of a separate proposal now before the committee. Much of the discussion below is paraphrased or taken directly from Pratt (2014).

New information: Nukupuu

The Nukupuu (*Hemignathus lucidus*) comprises historically known populations from Kauai (*hanapepe*), Oahu (*lucidus*), and Maui (*affinis*). The Akiapolaau *H. munroi* was long thought to be the island of Hawaii's representative of the complex, but the recently discovered Giant Nukupuu (*H. vorpalis*) was sympatric with it into human times on that island (James and Olson 2003). The above populations have long been regarded as subspecies of *H. lucidus*, but Pratt and Pratt (2001) and T. K. Pratt et al. (2001) noted what they regarded as species-level color differences among them, and they suggested these taxa might be better regarded as separate species. R. C. Fleischer (pers. comm. in Pratt 2005) reported as yet unpublished large genetic distances among them. Pratt and Pyle (2000) believed that conflation of plumage characters of the three forms in field guides, which resulted from considering them conspecific, contributed to many false sight reports.

Pratt (2005, 2010b) was the first modern author to recognize three species of nukupuu. The discovery of the Giant Nukupuu (James and Olson 2003) now suggests that the currently recognized single species might be paraphyletic, and given interisland

plumage differences greater than those among the three species of amakihi (T. K. Pratt et al. 2009), recognition of three nukupuu species may be the most reasonable classification for now.

New information: Akialoas

The akialoas resemble giant long-billed amakihi, and have a tangled history at the species level. Bryan and Greenway (1944) combined them all as a single species. Current AOU (1998) taxonomy recognizes two, as did Amadon (1950), but the line between them shifted, based on comments by Pratt et al. (1987), from between Oahu and Kauai (AOU 1983) to between Maui and Hawaii (AOU 1998). The Kauai form survived into the 1960s, but the others were extinct before the 20th century, and none of their songs were ever recorded (Lepson and Johnston 2000; Pratt 2005). The few specimens from Lanai and Oahu are scattered among the world's museums, so that even accurate depiction of plumages has been problematic (Pratt 2005).

Paleontological discoveries have complicated the picture. Olson and James (1995) described the Hoopoe-billed Akialoa *A. upuipirostris* from bones found on Kauai and Oahu, where it was sympatric with historically known forms, and an as yet unidentified or undescribed large akialoa was sympatric with the Lesser Akialoa on Hawaii (James and Olson 2003). Given the uncertainty of relationships among them, Olson and James (1995) recommended the recognition of all four historically known forms (*stejnegeri* on Kauai, *ellisianus* on Oahu, *lanaiensis* on Maui-nui, and *obscurus* on Hawaii) as species, and Pratt (2005, 2010b) concurred. As with the nukupuus, such a taxonomy seems the most prudent for the time being because we simply do not know enough to form the hypothesis that any of the named taxa are conspecific. Perhaps future paleontological discoveries or analysis of ancient DNA will clarify the situation.

New information: Akepa

The split of the Akekee from the Akepa, based on a convincing suite of potential isolating mechanisms (Pratt 1989, AOU 1991), is not controversial, but whether the remaining three forms (*wolstenholmei* on Oahu; *ochraceus* on Maui; and *coccineus* on Hawaii) should be treated as subspecies of the Akepa or as three species is difficult to determine given the limited data available for two of them (Pratt and Pratt 2001, Pratt 2005). The Oahu bird is long extinct and known from few specimens, and the Maui birds were known in the 20th century from only a few sightings (Lepson and Freed 1997) and are also likely extinct (Pratt 2010b). Limited evidence suggests that the Maui Akepa and the Hawaii Akepa differed in nest placement, a key factor in splitting the Akekee from the Akepa (Pratt 1989). Maui males resembled Hawaii birds in being brilliant orange, except that roughly half of adults were a distinctive mustard-yellow (Pratt 2005). Oahu

males were a much darker brick red instead of orange. Females differed less than males among the three islands. These differences are certainly as large as those observed among several other species groups of honeycreepers. According to R. L. Fleischer (pers. comm. in Pratt 2005), preliminary unpublished molecular data indicate fairly large genetic distances among the forms, and Pratt (2010b) treated them as three species.

Proposals:

a. Split Nukupuu *Hemignathus lucidus* into three species:

Kauai Nukupuu *Hemignathus hanapepe*

Oahu Nukupuu *H. lucidus*

Maui Nukupuu *H. affinis*.

b. Split Greater Akialoa *Hemignathus* [or *Akialoa* pending committee decisions] *ellisianus* into three species:

Kauai Akialoa *Akialoa stejnegeri*

Oahu Akialoa *A. ellisianus*;

Maui-nui Akialoa *A. lanaiensis* [Known historically only from Lanai, but subfossil remains have been found on other fragments of “greater Maui”, now widely known as Maui-nui, which was a single island as recently as 10Ka.]

c. Split Akepa *Loxops coccineus* into three species:

Oahu Akepa *Loxops wolstenholmei*

Maui Akepa *L. ochraceus*

Hawaii Akepa *L. coccineus*.

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Date of Proposal: 31 October 2014

**Adopt American spelling of words in bird names for which
British and American spellings differ**

Background:

Although the AOU has a long history of favoring American spelling over British in such familiar cases as gray vs. grey and color vs. colour, the AOU Committee on Classification and Nomenclature apparently has no stated policy on this matter. It is not discussed by Cheeseman and Oehser (1937, *Auk* 54:333-340), the basic source used in matters of orthography according to the AOU Check-list Sixth Edition (1983). As a result, the English names adopted by the AOU currently comprise a hodge-podge of British and American spellings.

Discussion:

Recent world checklists produced in the United States have struggled with the problem of reconciling two irreconcilable spelling traditions. The IOC World Bird Names list (Gill and Donsker 2014; www.worldbirdnames.org) tries to compromise, using some American spellings and some British, satisfying no one, but stating that they do not regard the spelling to be part of the name choice. Therefore, American publishers can use American spelling, British publishers can use theirs, and both can be regarded as correct and consistent with the IOC names. However, the AOU Check-list is not a worldwide list, but rather a focused American regional work, and as such should be, in my opinion, the authority on English names and their spelling within the coverage area. [The same would apply to the SACC.] To that end, I believe it should consistently use American spellings where a choice exists.

This change would result in relatively few changes in the North American list [but more in the South American list]. The list of American/British differences includes, but may not be limited to, the following that appear in bird names worldwide: gray/grey, color/colour, mustache/moustache, racket/racquet, ocher/ochre, somber/sombre, saber/sabre, miter/mitre, parakeet/paroquet, and sulfur/sulphur. I have not made a thorough search, but I believe only the last four affect names of North American birds.

More is involved here than simple consistency. Americans are unaccustomed to seeing the –re instead of –er endings, and that leads to mispronunciation. I know of at least one American folksong in which “sabre” is pronounced “say-bray”! I have also overheard more than one birder mispronounce “mitred” as “mitt-red”. And what king of

“brewing” is “say-brewing” (as in sabrewing). Such mispronunciations, based on ignorance, are not the reason for this proposal, but the suggested changes would certainly be helpful to nonbirding lay Americans who would, in any other circumstance, correctly spell such words “miter” and “saber”. I note that my spell checker flagged most of the British spellings above.

An exception could be made in the case of sulfur/sulphur. American dictionaries sanction both usages, whereas in such words as ocher/ochre, the –re endings are almost always flagged as *Brit* or *esp. Brit*. The British have no problem in this context. They just use their traditional spellings. We should, too.

Recommendation:

To make the AOU Check-list internally consistent in spelling, the AOU Committee on Classification and Nomenclature should adopt a policy to use American spellings in bird names wherever British vs. American differences exist.

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Date of Proposal: 12 November 2014

[Additional comments submitted by Retter et al.](#)

Split Northern Cardinal *Cardinalis cardinalis* into six species

Background:

Cardinalis cardinalis was first described by Linnaeus in 1758 as *Loxia cardinalis* from a picture by Catesby. Later it was placed in the genus *Cardinalis* Bonaparte 1888 and in 1918 was shifted to the genus *Richmondena* Mathews and Iredale. Finally, in 1963 the species was restored to *Cardinalis*. The current generally recognized list of 18 subspecies (in 4 geographic groups) within the range of Northern Cardinal below is adapted from A.O.U. (1998) and Halkin and Linville (1999), unless otherwise noted. Plumage descriptions have generally not been included because of concerns raised below about their utility (RCT, pers. obs.).

***cardinalis* group: four subspecies**

- (1) *C. c. cardinalis* (Linnaeus, 1758): Most of the eastern half of the U.S. and southeastern edge of Canada. Northern boundary extends from southeastern South Dakota northeast through southern Nova Scotia, western boundary through southeastern South Dakota, central Nebraska, western Kansas, western Oklahoma (Stuart 2004), western Texas (Tweit 2007), and central Louisiana; east to Atlantic Coast, except southeastern Georgia and peninsular Florida.
- (2) *C. c. floridanus* Ridgway, 1896: Southeastern Georgia and peninsular Florida; intergrades with nominate *cardinalis* on border of their ranges (Bent 1968). At least one recent author has judged the differences between nominate *cardinalis* and *floridanus* “too slight and clinal” to justify subspecific designation (H. M. Stevenson in Stevenson and Anderson 1994: 611).
- (3) *C. c. magnirostris* Bangs, 1903: Southeastern Texas and southern Louisiana; Oberholser (1974) proposed expanding this range to include central Oklahoma, southern Arkansas, south-central Texas, all of Louisiana, and southwestern Mississippi.
- (4) *C. c. canicaudus* Chapman, 1891: Western Oklahoma south through central and western Texas and central and eastern Mexico from Coahuila to eastern Jalisco, Guanajuato, Hidalgo, and central San Luis Potosí.

***coccineus* group: two subspecies**

(1) *C. c. coccineus* Ridgway, 1873: Atlantic slope of eastern Mexico in eastern San Luis Potosí, Veracruz (except extreme south), northeastern Puebla, and northern Oaxaca. Specimens from northernmost coast of Veracruz intergrade with *canicaudus* (Parkes 1997).

(2) *C. c. littoralis* Nelson, 1897: Lowlands of south Veracruz and Tabasco, Mexico.

These two subspecies are actually part of the *cardinalis* group, as shown by intergrades in plumage between adjacent subspecies and the differences in genealogy (Smith et al. 2011) presented in New Information below. The remaining Yucatan Peninsula subspecies will be listed here as the *yucatanicus* group (RCT).

***yucatanicus* group: four subspecies**

(1) *C. c. yucatanicus* Ridgway, 1887: Yucatán Peninsula in Yucatán, Campeche, and northern Quintana Roo, Mexico.

(2) *C. c. phillipsi* Parkes, 1997: Coastal scrub of Yucatán, Mexico; intergrades with *yucatanicus* a few kilometers south of coast.

(3) *C. c. flammiger* Peters, 1913: Central and southern Quintana Roo (Mexico), northeastern Belize, and Petén, northern Guatemala. See Parkes's (1997) correction of name change by Paynter (1970).

(4) *C. c. saturatus* Ridgway, 1885: Cozumel I. (state of Quintana Roo, Mexico).

***igneus* group: seven subspecies.**

Van Rossem (1932) claimed that female plumage of the northwestern Mexican subspecies fades considerably over the course of the year, and that males show extensive individual variation in plumage coloration, so the use of plumage coloration for subspecies distinctions in this group has been minimized (Halkin and Linville 1999).

(1) *C. c. superbis* Ridgway, 1885: Extreme southeastern California east through central Arizona to southwestern New Mexico and south to northern Sonora, Mexico. Largest subspecies, much larger than nominate *cardinalis*.

(2) *C. c. townsendi* van Rossem, 1932: Tiburon I. and adjacent coast of central Sonora, Mexico. Similar in size and bill shape to *affinis* (see below).

(3) *C. c. affinis* Nelson, 1899: Central western Mexico in southeastern Sonora, southwestern Chihuahua, Sinaloa, and western Durango. Larger than *igneus*, but smaller than *superbus*; bill narrower than that of *igneus*. (Note that Ridgway split this subspecies into *affinis* and *sinaloensis*).

(4) *C. c. mariae* Nelson, 1898: Tres Marías Is. (María Madre, María Magdalena, María Cleofás), state of Nayarit, Mexico.

(5) *C. c. seftoni* Huey, 1940: Central Baja California from about 28°N south to about 27°N. Intermediate in size between *igneus* (see below) and *superbus*, with smaller bill than either of these.

(6) *C. c. igneus* Baird, 1860: Baja California, Mexico, south of about 27°N. Smaller than *superbus*, and bill relatively shorter and thicker.

(7) *C. c. clintoni* Banks, 1963: Cerralvo I., Baja California, Mexico. Similar in size to *igneus*, wing length averaging shorter and bill length equal to or longer than *igneus*.

***carneus* group: one subspecies**

C. c. carneus Lesson, 1842: W. Pacific Coast of Mexico from the state of Colima to the Isthmus of Tehuantepec, Oaxaca. Upper mandible shallower than that of any other subspecies, with less sinuated tomia; crest-feathers longer and stiffer than those of other subspecies, and distinctly outlined (not blended), similar to Vermilion Cardinal (*Cardinalis phoeniceus*) of South America; female face-mask black (Halkin and Linville 1999). Thus, this population can be distinguished from all other populations in the Northern Cardinal complex.

The presence of 18 recognized subspecies, including island subspecies, and gaps between groups, as shown in Figures 1-4, suggest that some of these groups may be reproductively isolated.

Figure 1. Northern Cardinal *Cardinalis cardinalis* North American Breeding Bird Survey (BBS) Summer Distribution Map, 2006 – 2011 (Sauer et al. 2014)

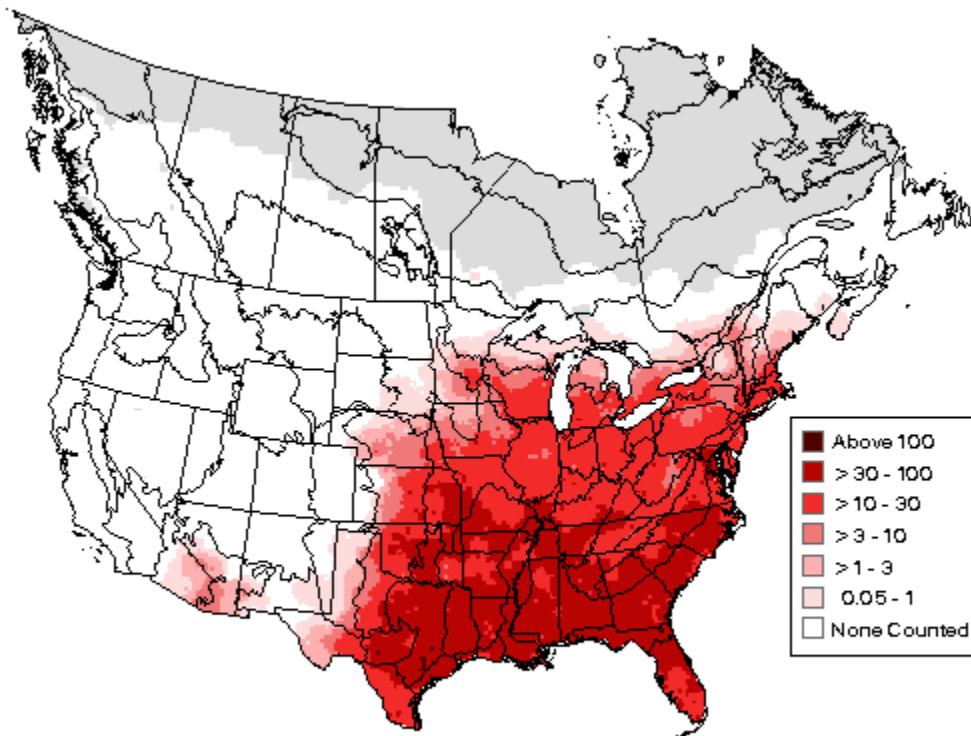


Figure 2. Range of the *Cardinalis* complex in Arizona (Wise-Gervais 2005).

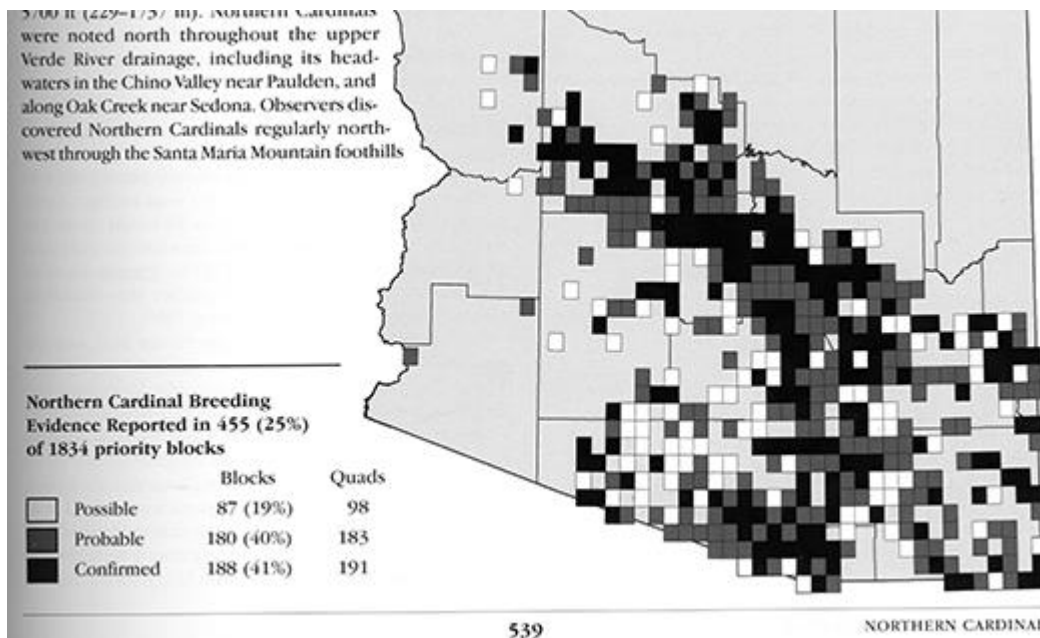


Figure 3. Range of the *Cardinalis* complex in Mexico (Howell and Webb 1995).

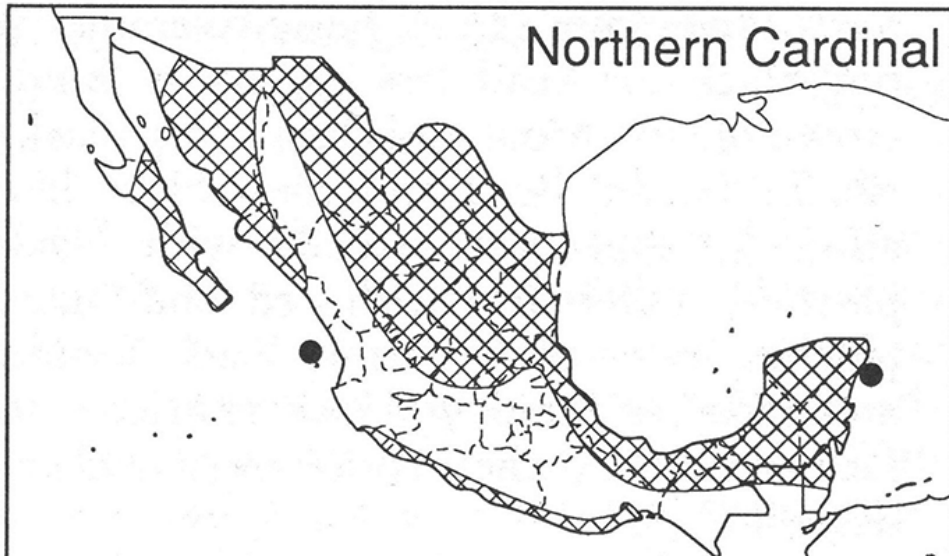
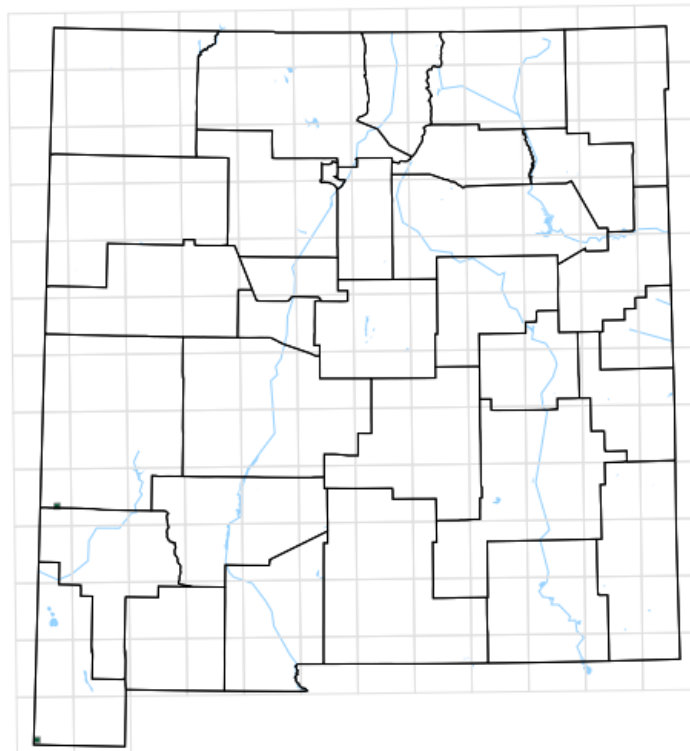


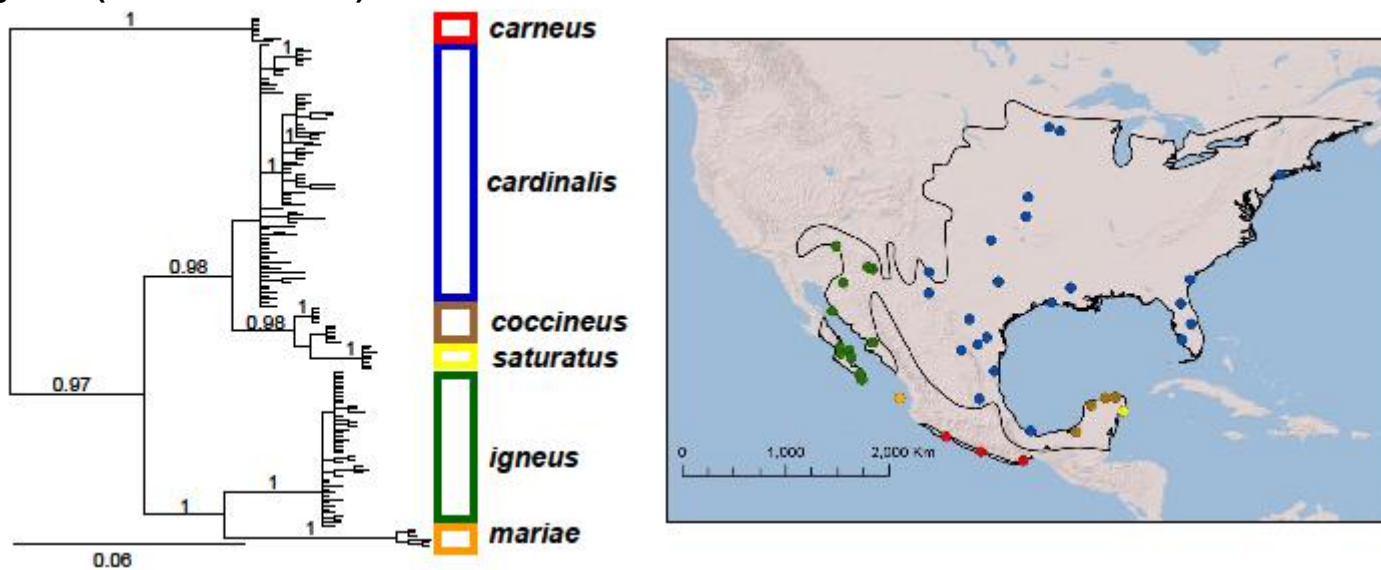
Figure 4. Preliminary New Mexico breeding bird atlas map for the *Cardinalis* complex (U. S. Geological Survey 2014). Breeding evidence for the *Cardinalis* complex was only found at the two locations near the Arizona border in southwest New Mexico (tiny green squares).



New Information:

A study using mtDNA (ND2; n=163) and nuclear DNA sequences (nine nuclear introns; 24-36 individuals sequenced per locus) of this complex was conducted to determine its genealogy and species limits. Genetic distances were derived from 1041 base pairs of the ND2 gene (Smith et al. 2011, Smith and Klicka 2013, B. T. Smith pers. comm.). The results indicated the presence of six reproductively isolated populations, four on the mainland and two on off-shore islands. Historically, molecular dating from mtDNA indicated the *C. cardinalis* complex diverged from the Late Pliocene to Late Pleistocene (Smith et al. 2011, Smith and Klicka 2013).

Figure 5 (Smith et al. 2011).



The genetic results obtained by sequencing of mtDNA genes and a map of sample collection locations are shown in Figure 5. The mtDNA tree and a modeled distribution of the *C. cardinalis* complex strongly indicated deep genetic structure across the range of the complex with no mtDNA haplotype sharing among regions (Smith et al. 2011). This same genetic structure was confirmed with multilocus data and species tree analyses (Smith and Klicka 2013). This evidence is consistent with fragmentation caused by historical climate change. This structure likely began developing well before the Late Pleistocene and is supported by the results of both contemporary and paleoecological niche models (Smith et al. 2011, Smith and Klicka 2013, B. T. Smith pers. comm.).

A modeled paleodistribution along with historical demographic hypothesis tests indicated cardinals expanded out of refugia in eastern North America since the Last Glacial Maximum. However, there is no signature of decreased genetic diversity in

areas colonized after the expansion. This suggests that on-going gene flow across eastern North America has likely homogenized genetic diversity across the region. These results demonstrate that both Earth historical events and contemporary processes are important in determining the geography of genetic diversity observed within species (Smith et al. 2011, Smith and Klicka 2013, B. T. Smith pers. comm.).

I use the name *yucatanicus* for the group of three subspecies on the Yucatan Peninsula because the genealogical data in Figure 5 show that the subspecies *coccineus* (and *littoralis*) are part of the *cardinalis* group and because *yucatanicus* was the first subspecies described in this group (Halkin and Linville 1999, Smith et al. 2011). The four mainland groups and two monotypic island populations are discussed in the order in which they appear in Figure 5.

carneus group. The restricted ranged of this allopatric population (Figure 3 and Smith et al. 2011) on the narrow coastal plain between the Sierra Madre del Sur and the Pacific Ocean clearly indicate its reproductive isolation from other members of the *Cardinalis cardinalis* complex and this distinction is confirmed by the genetic distance (4.9% difference in base composition; B. T. Smith pers. comm.) from the *cardinalis* group. This value is consistent with values for traditionally recognized species from the southwest United States and Mexico (e. g., Zink et al. 1999). The habitat of arid deciduous woodland and thorn forest (Howell and Webb 1995) differs from that of its closest neighboring groups, *yucatanicus* and *cardinalis*, on the Atlantic slope. The basal split in the mtDNA tree separating the *carneus* clade from all other cardinals occurred about 1.88 million years ago (95% credible interval: 1.08- 2.79; Smith and Klicka 2013, B. T. Smith, pers. com.). Additionally, the upper mandible is shallower than that of any other subspecies, with less sinuated tomia. The crest-feathers are longer and stiffer than those of other subspecies, and distinctly outlined (not blended), similar to Vermilion Cardinal (*Cardinalis phoeniceus*) of South America. The female face-mask is black (Halkin and Linville 1999).

cardinalis group. The remaining cardinals split into western and eastern clades approximately 1.54 million years ago (95% credible interval: 0.86-2.31; Smith et al. 2011)). The genetic distance between these two groups (*cardinalis* and *igneus*) is 3.2% (B. T. Smith pers. comm.), again consistent with the range expected for pairs of closely related species (e. g. Zink et al. 1999). Haplotypes in northeast México belong to *cardinalis* (Smith et al. 2011), although traditional taxonomy had placed specimens from this region with those on the Yucatan Peninsula. The *cardinalis* clade is geographically widespread, distributed throughout eastern North America and on the Central Plateau of Mexico. On the Gulf coastal plain this group is found as far south as the Mexican states of Veracruz and Tabasco, although numbers are low (Smith et al. 2011). The coastal plain has been largely cleared for agriculture, with forest remaining only along streams

and on steep slopes (Howell and Webb 1995). Results obtained by B. T. Smith (pers. comm.) were consistent with these habitat descriptions. “Ornithologists and locals from Veracruz told me that the bird is only a winter resident. I spent a week mist-netting and doing playback in September 2007 and I only observed one cardinal. I also scouted areas to the south and east and there were no cardinals in northern Oaxaca or Tabasco presumably because much of the area is flooded for part of the year. The absence of cardinals along the lower gulf coast is also confirmed with eBird data (2014), which shows there are very few cardinals south of Tamaulipas into you get to Campeche.” Thus the *cardinalis* and *yucatanicus* groups are reproductively isolated from each other.

***yucatanicus* group.** This group diverged from the *cardinalis* group approximately 1.2 million years ago (Smith et al. 2011, Smith and Klicka 2013) and these two groups are 1.3% divergent (B. T. Smith pers. comm.). *Yucatanicus*, consisting of 3 subspecies (and formerly known as *coccineus*), occurs on the Yucatán Peninsula in the states of Campeche, Quintana Roo and Yucatan, as well as the northern Petén of Guatemala and northern Belize. The group is paraphyletic with respect to the monophyletic *saturatus* group, which occurs only on Cozumel Island (Smith et al. 2011). The peninsula, a low-lying limestone shelf protruding into the Caribbean, gradually changes from rain forest in the south to arid coastal scrub in the north. This biogeographic region differs in habitat and avifauna from the coastal plain of northeast Mexico which extends south into Tabasco and whose current habitat is apparently not attractive to cardinals (see the discussion under the *cardinalis* group). The Yucatan is a center of avian endemism with at least 6 species whose English names start with Yucatan (Howell and Webb 1995, pp. 18-20), consistent with the presence of this reproductively isolated group.

***saturatus* group:** The divergence of the Cozumel Island cardinals occurred between 0.06 and 0.37 million years ago (95% credible interval; Smith and Klicka 2013). This group has a genetic distance of 1.7% from the *cardinalis* group and 0.7% from the *yucatanicus* group (B. T. Smith pers. comm.). Cozumel Island is home to endemic species, including Cozumel Wren, Cozumel Thrasher (possibly extinct) and Cozumel Vireo (Howell and Webb 1995, p.. 20), so the reproductive isolation of the *saturatus* group on this island is not unexpected.

***igneus* group:** This monophyletic group is comprised of most of the western clade that diverged from the *cardinalis* group approximately 1.54 million years ago (95% credible interval: 0.86-2.31; Smith and Klicka 2013). The 3.2% genetic difference between these two groups (B. T. Smith, pers. comm.), is consistent with the range expected for pairs of closely related species (e. g., Zink et al. 1999). *Igneus* is distributed throughout the Baja California peninsula, and the Sonoran and southern Mojave deserts. Its range in

Arizona has apparently expanded recently, as early explorers did not report it (Phillips et al. 1964). The range of this group extends into southwestern New Mexico, but not further east (Figure 4) The maps in Figures 1 & 4 indicate breeding of the *cardinalis* group in southeast New Mexico occurs rarely, if at all. In Mexico the *igneus* group is separated from the *cardinalis* group by the Sierra Madre Occidental, which completes the reproductive isolation of the *igneus* group (Figures 1- 4).

mariae group: This monophyletic and reproductively isolated population on the Tres Marias Islands off the Mexican state of Nayarit diverged from the mainland clade between 0.11 and 0.49 million years ago (95% credible interval; Smith and Klicka 2013). The genetic distance of 3.3% (B. T. Smith, pers. comm.) between this group and the *igneus* group is consistent with the range expected for pairs of closely related species (e. g., Zink et al. 1999). The three main islands in the Pacific Ocean, 80-100 km off the west coast of the Mexican mainland, support an avifauna including some populations endemic at least at the subspecies level (Howell and Webb 1995, p. 12), consistent with the reproductive isolation of this group.

Thus, the first divergence of the *Cardinalis cardinalis* complex is roughly concurrent with the emergence of the genus *Homo* nearly 2.5 million years ago at the beginning of the Quaternary ice age. The oldest fossils of our own species, *Homo sapiens*, date only to about 200,000 years ago with the advent of language even later (Tattersall 2012).

Recommendation:

I propose these six reproductively isolated groups, with allopatric ranges in different biogeographic regions, long histories of divergence into genealogically distinct populations deep genetic structure across the range of the complex with no mtDNA haplotype sharing among regions, and in some cases, habitat or plumage differences, be recognized as full species. I also submit the following species descriptions for the Checklist. The English names Eastern Cardinal and Western Cardinal are analogous to the current name of the complex, the names Yucatan Cardinal, Cozumel Cardinal and Tres Marias Cardinal refer to their ranges, and Long-crested Cardinal was used for this group in the 7th edition of the Checklist (A. O. U. 1998).

Cardinalis carneus (Lesson), Long-crested Cardinal.

Cardinalis carneus Lesson, 1842, R. P. 1842. Species avian novaut minus cognitae. Rev. Zool. 5: 174–175. (near coast of southwest Mexico)

Habitat.—Arid deciduous woodland and thorn forest (Howell and Webb 1995).

Distribution.—The narrow Pacific coastal plain of Mexico from the state of Colima to the Isthmus of Tehuantepec, Oaxaca, Mexico (Howell and Webb 1995).

Notes.—*Cardinalis carneus*, *C. cardinalis*, *C. igneus*, *C. yucatanicus*, *C. mariaae* and *C. saturatus* were formerly considered conspecific under the name *Cardinalis cardinalis* (Northern Cardinal).

Cardinalis cardinalis (Linnaeus). Eastern Cardinal.

Loxia cardinalis Linnaeus 1758, Syst. Nat.(ed. 10) 1: 172. Based mainly on “The Red Bird” Catesby, 1: 38, Pl. 38. (in America septemtrionali = South Carolina)

Habitat.—Thickets, bushy fields, deciduous forest with dense undergrowth, forest edges, suburbs and, in arid regions, in scrub and riparian woodland (Tropical to Temperate zones).

Distribution.—*Resident* in south Ontario, Canada and northeast along the St. Lawrence River into Quebec. In the United States, along the Gulf and Atlantic coasts north to southern Maine, west from there to southern Minnesota. The western boundary runs through eastern Nebraska, western Kansas, western Oklahoma and south through the Texas Panhandle to the Rio Grande River west of its junction with the Pecos River. The population in southeast New Mexico has a relative abundance of less than one Eastern Cardinal per 40 km Breeding Bird Survey (BBS) route. In Mexico the range continues south on the Central Plateau, east of the Sierra Madre Occidental, to central Mexico and along the Gulf coastal plain to the state of Tabasco (Howell and Webb 1995, Smith et al. 2011, Sauer et al. 2014).

Introduced and established on the Hawaiian Islands (common on all the main islands from Kauai eastward), coastal southern California and Bermuda. Casual or accidental in northern Utah, southern Alberta, Prince Edward Island and Newfoundland (A.O.U. 1998).

Notes.—See note under *Cardinalis carneus*.

Cardinalis yucatanicus (Ridgway). Yucatan Cardinal.

Cardinalis cardinalis yucatanicus Ridgway, 1887. A manual of North American birds. J.B. Lippincott, Philadelphia (Yucatan peninsula, Mexico.).

Habitat.—Tropical forest edges(south), overgrown and agricultural fields, open areas with shrubs and few trees, desert scrub (north; Howell and Webb 1995).

Distribution.—Yucatán Peninsula in Yucatán, Campeche, and Quintana Roo, Mexico, north Guatemala and north Belize (A.O.U. 1998).

Notes.—See note under *Cardinalis carneus*.

Cardinalis saturatus (Ridgway), Cozumel Cardinal.

Cardinalis cardinalis saturatus Ridgway, 1885. Description of some new species of birds from Cozumel Island. Proc. Biol. Soc. Wash. III pp. 21-24. (Cozumel Island, Quintana Roo, Mexico)

Habitat. -- shrubs and/or small trees, including tropical forest edges and second-growth forests, successional fields, hedgerows in agricultural fields, and plantings around buildings (adapted from Halkin and Linville 1999).

Distribution. -- Cozumel I., state of Quintana Roo, Mexico.

Note. See note under *Cardinalis carneus*.

Cardinalis igneus (Baird, . 1859. Western Cardinal.

Cardinalis igneus Baird, Proc. Acad. Nat. Sci. Philadelphia, (11), sig. 21-23, Oct.-Nov., (Jan. 12, 1860), p. 305 (Cape St. Lucas, Lower California.)

Habitat.—In Arizona, upland Sonoran desert, Sonoran riparian woodland, Sonoran desert woodland, interior riparian woodland (Wise-Gervais 2005). Similar in northwest Mexico and Baja California, avoids the most arid desert areas; also found in semi-open scrub and overgrown fields (Howell and Webb 1995).

Distribution.—*Resident* from west central Arizona (Mohave County) southeast below the Mogollon Rim to southwest New Mexico, then south on the west side of the Sierra Madre Occidental to Nayarit, as well as in both states of the Baja California peninsula (Howell and Webb 1995, Wise-Gervais 2005, Sauer et al. 2014).

Notes.—See note under *Cardinalis carneus*.

Cardinalis mariaae (Nelson). Tres Marias Cardinal

Cardinalis cardinalis mariaae Nelson, Birds of the Tres Marias Islands. N. Am. Fauna: 1899 No. 14: 21 – 62. (Tres Marias Is., Nayarit, Mexico.)

Habitat.—Scrub and deciduous and semi-deciduous tropical forests.

Distribution.—Three largest islands of Tres Marias Is., Nayarit, Mexico.

Notes.—See note under *Cardinalis carneus*

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Submitted by: Robert C. Tweit, R & J Assoc.

Date of Proposal: 12 November 2014

Revise the subfamilial classification of the Falconidae

Background:

The proposal addresses the classification of the Falconidae, in particular the establishment of the subfamilies Micrasturinae and Falconinae. This classification was set forth in the Forty-first Supplement:

“The family Falconidae is treated as consisting of three subfamilies, following studies of syringeal morphology (Griffiths 1994b). The subfamily Caracarinae includes three genera of caracaras, the subfamily Micrasturinae includes the genus *Micrastur*, and the subfamily Falconinae includes the tribe Herpetotherini, with the genus *Herpetotheres*, and the tribe Falconini with the genus *Falco*.”

New Information:

Since that time, several analyses have revised the phylogeny of the Falconidae. Griffiths (1999) used mtDNA sequences and syringeal morphological characters and proposed two subfamilies, Falconinae (caracaras and *Falco*, each designated as a tribe) and Herpetotherinae (*Micrastur* + *Herpetotheres*). These same results were found by Griffiths et al. (2004), using nuclear DNA sequences (RAG-1), and by Fuchs et al. (2012), using both mitochondrial and nuclear sequence data.

Recommendation:

Based on the above analyses, I propose the following change to the classification of the Falconidae.

“The family Falconidae is treated as consisting of two subfamilies, following studies of syringeal morphology and mitochondrial and nuclear DNA sequences (Griffiths 1999, Griffiths et al., 2004, Fuchs et al., 2012). The subfamily Herpetotherinae includes the genera *Herpetotheres* and *Micrastur*, and the subfamily Falconinae includes the tribe Caracarini (including the caracara genera) and the tribe Falconini with the genus *Falco*.”

- order: [Falconiformes](#)
 - family: [Falconidae](#)
 - subfamily: [Herpetotherinae](#)

- genus: [Herpetotheres](#)
 - species: [Herpetotheres cachinnans](#) (Laughing Falcon, Macagua rieur)
- genus: [Micrastur](#)
 - species: [Micrastur ruficollis](#) (Barred Forest-Falcon, Carnifex barré)
 - species: [Micrastur mirandollei](#) (Slaty-backed Forest-Falcon, Carnifex ardoisé)
 - species: [Micrastur semitorquatus](#) (Collared Forest-Falcon, Carnifex à collier)
- subfamily: [Falconinae](#)
 - genus: [Ibycter](#)
 - species: [Ibycter americanus](#) (Red-throated Caracara, Caracara à gorge rouge)
 - genus: [Caracara](#)
 - species: [Caracara cheriway](#) (Crested Caracara, Caracara du Nord)
 - species: [Caracara lutosa](#) (Guadalupe Caracara, Caracara de Guadalupe) †
 - genus: [Milvago](#)
 - species: [Milvago chimachima](#) (Yellow-headed Caracara, Caracara à tête jaune)
 - genus: [Falco](#)
 - species: [Falco tinnunculus](#) (Eurasian Kestrel, Faucon crécerelle) A
 - species: [Falco sparverius](#) (American Kestrel, Crécerelle d'Amérique)
 - species: [Falco vespertinus](#) (Red-footed Falcon, Faucon kobez) A
 - species: [Falco columbarius](#) (Merlin, Faucon émerillon)
 - species: [Falco subbuteo](#) (Eurasian Hobby, Faucon hobereau) A
 - species: [Falco femoralis](#) (Aplomado Falcon, Faucon aplomado)
 - species: [Falco rufigularis](#) (Bat Falcon, Faucon des chauves-souris)
 - species: [Falco deiroleucus](#) (Orange-breasted Falcon, Faucon orangé)
 - species: [Falco rusticolus](#) (Gyrfalcon, Faucon gerfaut)

- species: [*Falco peregrinus*](#) (Peregrine Falcon, Faucon pèlerin)
- species: [*Falco mexicanus*](#) (Prairie Falcon, Faucon des prairies)

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Submitted by: Dr. Carole S. Griffiths, Biology Department, LIU Brooklyn; Ornithology Department, American Museum of Natural History

Date of proposal: 19 November 2014

Split *Calliphlox lyrura* from *C. evelynae* (Bahama Woodstar)

Background:

Calliphlox lyrura was described as a species by Gould (Gould 1869), on the basis of the distinctively curved ('lyre shaped') outer tail-feathers of adult males, which are not present in *evelynae*. Cory considered *lyrura* a full species (Cory 1880, 1918), and was still considered such as late as Todd (Todd 1942), but it was lumped with *C. evelynae* by Bond (Bond 1945) and Peters (Peters 1945), without comment.

New Information:

Feo et al. (Feo et al. 2015) describe several differences between *C. evelynae* and *C. lyrura* that suggest *lyrura* is best considered a full species under the biological species concept. In this clade, tail-feathers produce sounds in courtship display that males direct towards females. In these two taxa, the differences in tail morphology result in a rather small, but statistically significant, acoustic difference in sounds produced during their courtship displays (Figure 7 in Feo et al. 2015). In my limited time in the field with *lyrura* I did not detect any differences in display behaviors worth presenting in Feo et al. (2015), but I suggest this is because I visually observed very few displays of *lyrura*. Males (but not females) of the two forms are morphologically distinct and are easy to distinguish; *lyrura* has a small iridescent patch on its forecrown and elongated, outwardly curved outer rectrices, whereas the forecrown of males of *evelynae* is green and the tail-feathers are straight and several mm shorter (Figures 1, 2 in Feo et al. 2015). The scolding calls given in agonistic interactions with other hummingbirds are completely different (Figure 4), and male song – sung both in territorial defense (similar to passerine song) and also directly to females during courtship displays—is also quite different between the two forms (Figure 5). In *lyrura* the song is a single syllable and very quiet, whereas in *evelynae* it is a series of short syllables and, although not particularly loud, much louder than in *lyrura*. Finally, molecular data show that these two clades are reciprocally monophyletic and diverged between 0.4 and 1 million years ago (Figure 8), with about a 3% genetic difference in mtDNA genes sampled, and a smaller difference in nuclear DNA (Tables 2, 3). The divergence also makes sense on biogeographic grounds: when sea levels were lower during glacial periods, many islands of the Bahamas were joined in just a few banks; Inagua is an isolated bank and has remained separate from the nearby Cuba, Hispaniola, and Caicos banks during Pleistocene sea level minima (Figure 1 in Feo et al. 2015).

These differences are based on genetic samples, sound recordings, and behavioral observations from one island population of *evelynae* (New Providence). Teresa Feo examined morphology from across the range (particularly, other banks, including birds from Caicos, the bank closest to the Inaguas [*lyrura*] that has *evelynae* on it); there is no evidence of a cline in morphology (Figure 3, Feo et al. 2015), and, lacking any data to the contrary, we assume the other phenotypic characters show similar patterns.

Summary: These two forms show several significant differences; in morphology, song, calls, and mechanical sounds, although not in display behaviors (given limited sample size). From these differences, it is likely that if the birds came into contact, a female could discriminate between males of the two forms. These two forms are easier to tell apart in the field than, for instance, are Allen's and Rufous hummingbirds. Similar to the Allen's-Rufous comparison, females of *evelynae* and *lyrura* are not diagnosable based on any of the plumage characters we considered (Table 1), and they don't sing or display, but they are diagnosable based on scolding calls.

Other comments:

Ignored in the present proposal: *Calliphlox* is polyphyletic (McGuire et al. 2014; Zusi 2013, Clark unpublished), and *evelynae* and *lyrura* are most certainly not woodstars (i.e., they are not members of the S. American bee clade, which includes *Tilmatura*, *Calliphlox*, *Thaumastura*, *Chaetocercus* and *Eulidia*), so it does not make sense to continue to call them woodstars. Instead they are likely going to fall either in an expanded *Calothorax* (Sheartails), or in an expanded *Mellisuga*. Ridgway's *Nesophlox* is a distant third option (Ridgway 1910), but it would be yet another tiny (2 species in this case) hummingbird genus. The best arrangement is not clear at the moment and will need to be the topic of a future proposal. Along those lines, I tentatively call them sheartails for the way they widely shear their tails open during the shuttle display, similar to *Calothorax* [*Doricha*] spp. (including a couple of behavioral synapomorphies; Clark, unpubl. data). Because *C. lyrura* is restricted to the islands of Great and Little Inagua, I propose the English name Inagua Sheartail for this species. *C. evelynae sensu stricto* is found only in the Bahamian archipelago (including Turks and Caicos, but not including the Inaguas), and it's been called Bahama Woodstar since at least Gould. The toponym Bahama seems appropriate and worth keeping, even though the Inaguas, where it is replaced by *lyrura*, are also Bahamian. Therefore, I propose the English name Bahama Sheartail for *C. evelynae sensu stricto*. Another possible name for *evelynae* is Bahama Hummingbird, and other possible names for *lyrura* are Inagua Lyretail, Inagua Hummingbird, or Lyre-tailed Hummingbird.

Recommendation:

On the basis of differences in morphology, calls, songs, mechanical sounds, and genetic distance between *lyrura* and *evelynae*, recognize *Calliphlox lyrura* (Inagua Sheartail) as a separate biological species from *evelynae sensu stricto*, which would be called Bahama Sheartail.

Calliphlox evelynae (Bourcier). Bahama Sheartail.

Trochilus Evelynae Bourcier, 1847, Proc. Zool. Soc. London, p. 44. (Nassau, New Providence [Bahamas].)

Habitat.—Pine Forest, Second-growth Scrub, Tropical Lowland Evergreen Forest Edge, Dune Scrub, Low Coppice, Gardens.

Distribution.—Resident throughout the Bahamas and Turks and Caicos, except Great and Little Inagua.

Casual in southern Florida (Lantana, Homestead, Miami area).

Notes.—Sometimes placed in the genus *Philodice*, *Nesophlox* (Ridgway 1910); or merged into *Calothorax* (Howell 2003).

Calliphlox lyrura (Gould). Inagua Sheartail.

Doricha lyrura Gould, 1869, Ann. Mag Nat. Hist. 4: 108-112. (Matthew Town, Great Inagua, Bahamas.)

Habitat.—Gardens, Dune Scrub, Freshwater Riparian, and Low Coppice.

Distribution.—Resident on islands of Great and Little Inagua (Bahamas).

Notes.—Also called ‘Lyre-tailed Hummingbird’ (Cory 1880) ‘Inagua Wood-star’ (Cory 1918), ‘Inaguan Hummingbird’, or ‘Inagua Lyretail’ (Feo et al. 2015). Lumped with *C. evelynae* by Bond (1945) and Peters (1945), but justification for species rank provided by Feo et al. (2015). See taxonomic notes for *C. evelynae*.

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Submitted by: Chris Clark, Assistant Professor, University of California Riverside

Date of Proposal: 26 December 2014

Separate *Phaethornis mexicanus* from *P. longirostris*

Background:

Long-billed Hermit Hummingbirds in Mexico and Central America have had a varied nomenclatural history. As is true with many birds, separate populations were originally named as species, later to be treated as subspecies, sometimes raised again to species level. Often this has merely reflected differing species concepts, but often changed taxonomy has been due to increases in knowledge of biology, especially song and behavior as they presumably act as isolating mechanisms. Such is the situation here.

Mexican and Middle American hermit populations named as the species *longirostris* and *mexicanus* were long merged with similar earlier-named more southerly populations known as *superciliosus* (e.g., Peters 1945, Friedmann et al. 1950, AOU 1983). In 2002, AOU split off the Mexican *longirostris* (including *mexicanus* and other subspecies) as a distinct species. Now there is evidence that *mexicanus* should further be separated at the species level.

New Information:

Acting in part on the basis of unpublished studies by Banks (yours truly) done while working on this group for the mythical 8th edition of the AOU Check-list, Howell (2013) has summarized morphological differences between allopatric *mexicanus* of western Mexico and *longirostris* in eastern and more southern Mexico. Western birds (including *griseoventer* Phillips [1962]) are larger and longer-tailed, and have white rather than buffy tips on the outer rectrices, more extensive white on the long central rectrices, and orange-red rather than pinkish or yellow lower mandible Howell and Webb 1995). To these perhaps only subspecific characters, Howell (2013) has added several behavioral and vocal differences.

Males observed singing in leks in Nayarit were more closely spaced and higher from the ground and wagged their tails less than birds of the east, and postures were slightly different. More tellingly, Howell (2013) reports these differences in sound: *longirostris* song is buzzy, with 15-21 notes, with a relatively high-pitched squeaky quality with complex internal structure on a sonogram, whereas the song of *mexicanus* is tinny or metallic, with 16-18 notes, relatively low-pitched, with simple internal structure. Howell stressed that there is individual variation but the squeaky versus metallic difference is consistent. "These vocal differences are comparable to those among other widely recognized species of hermits . . ." (Howell 2013).

Differences between *mexicanus/griseoventer* and *longirostris* in morphology and behavior are further supported by molecular data. Arbaláez-Cortés and Navarro-Sigüenza (2013), in addition to confirming the morphological findings discussed above, obtained sequences of two mitochondrial genes (partial sequences of ND2 and CO1) and two nuclear introns (locus 20454 and GAPDH) for as many as 67 individuals of *P. longirostris* from Mexico, Belize, Honduras, Panama, and Ecuador. Analyses of mtDNA revealed two clades, one consisting of all individuals of *mexicanus* and *griseoventer*, the other of all individuals of *longirostris*, *cephalus*, and *baroni*. These clades were 4.2% divergent. Arbaláez-Cortés and Navarro-Sigüenza (2013) also found fixed differences in alleles between these populations in locus 20454 and the presence of private alleles in GAPDH.

Recommendation:

These differences lend significant support to recognizing two distinct species, as was already done by Howell and Webb (1995:393) and suggested by AOU (1998: 283). We suggest that we now formalize this split and recognize *Phaethornis mexicanus* Hartert, 1897 as a species, Mexican Hermit, consisting of the two subspecies *mexicanus* and *griseoventer*.

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Submitted by: Richard C. Banks and Terry Chesser

Date of Proposal: 28 December 2014

Split *Stercorarius antarcticus* (incl. *lonnbergi*) from *S. skua***Background:**

This split has already been recognized by most authoritative works. The *Stercorarius antarcticus* (incl. *lonnbergi*) complex is extralimital (has not been recorded in our area of purview), but we presently treat it as a subspecies group under *S. skua*. We're cleaning up an old issue that has not seen a proposal before.

Relevant information:

Unlike the skuas of the Southern Hemisphere, among which there are natural areas of secondary contact during the breeding season, *Stercorarius skua* (*sensu stricto*) breeds allopatrically in the Northern Hemisphere, with no known hybrid individuals (Furness 1996, Malling Olsen and Larsson 1997). This makes its status uncertain. It is a classic case of needing to infer species limits between allopatric taxa based on how similar or closely related forms interact in contact (Mayr 1969, Mayr and Ashlock 1991). Using the comparative method and existing evidence, we can extend to this case what we know in those taxa that have secondary contact.

As we presently treat it (AOU 1998), *S. skua* + *antarcticus* is the only wild vertebrate species with an Arctic-Antarctic distribution (Furness 1987). While an allopatric range is not a valid criterion for species delimitation, this is an odd case that suggests the possibility of inaccurate species limits. *S. skua* (*sensu stricto*), for example, is more differentiated from the Southern Hemisphere taxa than the latter are from each other (Furness 1996). Given the evidence of species limits among more similar congeners in the Southern Hemisphere and our recognition of multiple species among these taxa (specifically, *chilensis* and *maccormicki* as being distinct from *antarcticus*; AOU 1998), it is natural to take this final step and recognize species-level distinction between them and the more differentiated allopatric form (*skua*) in the Northern Hemisphere. There is still much to learn in this genus (more on this below), but I don't think our lack of full knowledge impacts the justification for making this split.

The relationship of *Stercorarius skua* (*sensu stricto*) with other members of the genus remains uncertain. Some genetic evidence suggests it is more closely related to *Stercorarius pomarinus* rather than to the other "*Catharacta*" skuas (Cohen et al. 1997, Andersson 1999a,b, Ritz et al. 2008; though see Braun and Brumfield 1998), but this is countered by substantial phenotypic evidence that the "*Catharacta*" group is monophyletic (Andersson 1999a,b, Cohen et al. 1997, Chu et al. 2009).

S. skua differs phenotypically from the other “*Catharacta*” skuas in plumage and morphometrics (Furness 1987, 1996, Malling Olsen and Larsson 1997). The case for splitting *chilensis* and *maccormicki* from *antarcticus* is strong based on evidence of assortative mating where the forms (*chilensis* and *antarcticus*) and [*maccormicki* and *lonnbergi*, a subspecies of *antarcticus*] breed sympatrically despite evidence of some hybridization (e.g., Devillers 1978, Parmelee 1988, Ritz et al. 2006). Furness (1996) observed that *antarcticus* and *maccormicki* were more similar to each other than *antarcticus* is to *skua*.

Recommendation: Split.

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Submitted by: Kevin Winker

Date of proposal: 29 January 2015

Add Whistling Heron *Syrigma sibilatrix* to the Main List

Background:

Whistling Heron *Syrigma sibilatrix* has not previously been reported to occur in North America.

New Information:

Since 2010, Whistling Herons have been observed and diagnostic photographs have been obtained at four widely separated localities in Panama, probably representing at least five individuals. The records are as follows:

1. Near Portobelo, Colón Province, 27 February 2010, by Emily Horning (Fig. 1.). The species was initially not identified by the observers, and this report did not come to the attention of the Panama Records Committee until the following report was submitted in 2013.

2. Near Chepo, eastern Panamá Province, first reported 11 July 2013, by Kevin Easley, Harry Barnard, Jason Horn, and Macklin Smith (Fig 2a). The bird was seen and photographed along a road about 3 km west of Chepo, near the village of Unión Tableño, perched in a tree by a marshy pasture. It was observed for about 15 minutes before it flew off. Despite searches, it could not be relocated over the following days. The report and a photograph were published in Lee and Komar (2014).

What was probably the same bird was found again along the same road at some small artificial farm ponds about 3 km west of the original record (and 6 km west of Chepo) on 9 July 2014 by Guido Berguido. The bird was relocated and photographed by Rafael Lau the following day (Fig 2b.) Over subsequent weeks, the bird was seen and photographed by many other observers at this site, as well as near the original site and at other locations along the road, with the most recent report as of this writing being 11 October 2014 (Rafael Luck and Osvaldo Quintero).

3. Near Gorgona, western Panamá Province, 15 July 2014, by Euclides Campos, Arie Gilbert, and Ian Resnick. Two birds were photographed after they flew into a tree next to a pond at the Malibu gated community (Fig 3.). These birds have been seen and photographed repeatedly at the same locality, with the most recent report as of this writing on 13 January 2015 by José Tejada.

4. Near El Rincón, Herrera Province, 20 July 2014, by Rosabel Miró, Celeste Paiva, Yenifer Díaz, Michele Caballero, Stephany Carti, Asquena Aguilar, and Héctor Escudero. A single bird was photographed as it foraged actively in a recently plowed rice field (Fig. 4).

This highly distinctive species is easily identified from the photographs by the bicolored pink and black bill, blue facial skin, and other field marks. Based on the Easley record, the species has been accepted unanimously by the Panama Records Committee (George Angehr, Robert Ridgely, Dodge Engleman, Darien Montanez, and Jan Axel Cubilla).

Given that four birds were seen at three widely separated localities in July 2014, this is probably the minimum number of birds present in Panama at this time. The bird seen in 2010 could be one of the birds seen in 2013 or 2014, but given the gap in time and distance from the other records this seems unlikely. It is possible that the records from Chepo in 2013 and 2014 represent more than one bird, but no more than a single bird has been observed at one time.

The species occurs east of the Andes in Colombia and Venezuela, as well as in South America south of Amazonia. It is uncertain if the records simply represent vagrants, or whether the species is in the process of colonizing eastern Panama. The two birds seen together at Gorgona suggest that a pair could be present.

Recommendation:

Add Whistling Heron *Syrigma sibilatrix* to the Main List.

Literature Cited:

Jones, Lee, and Oliver Komar. 2014. Central America. [The Nesting Season: June through July 2013]. North American Birds 67(4): 256-258 (photo p. 665)

Submitted by: George R. Angehr, Smithsonian Tropical Research Institute

Date of proposal: 4 February 2015

Photos attached below.

Figure 1. Near Portobelo, Colón Province, 27 February 2010, Emily Horning



Figure 2a. Near Chepo, eastern Panamá Province, 11 July 2013, Kevin Easely.



Figure 2b. Near Chepo, eastern Panamá Province, 10 July 2014, Rafael Lau.



Figure 3. Near Gorgona, western Panamá Province, 15 July 2014, Euclides Campos.



Figure 4. Near El Rincón, Herrera Province, 20 July 2014, Rosabel Miró.



Move Choco Toucan *Ramphastos brevis* from Appendix 1 to the Main List**Background:**

Choco Toucan *Ramphastos brevis* appears in Appendix 1 of the main list on the basis of a specimen from Panama from the 1850s whose locality was believed to be uncertain. (This specimen has been found to be a misidentified *R. ambiguus swainsonii*. See note below for more information on this record.) More recently, in 2000 and 2001 numerous observers reported an individual to be present at Cana, in eastern Darién Province, Panama (see Angehr 2006, Angehr et al. 2006). Observers included Wilberto Martínez (mid-January 2000 and again on 17 March 2000); Paul Coopmans (seen several times between 24 and 30 March); José Tejada (mid-April 2000); Alberto Castillo and W. Carter (5 January 2001), and others. Although recordings were allegedly made by several observers, no documentation was submitted to the Panama Records Committee at this time.

New Information:

Photographic and audio documentation of this individual has recently become available that confirm its identification as *R. brevis*. During a Wildside Adventures eco-tour led by Kevin Loughlin, Martin C. Michener (in litt.) obtained a digiscoped photograph and a simultaneous audio recording of a bird perched in a *Cecropia* tree over the Cana River near the camp dining hall on 23 January 2001. According to Michener's notes, "Lower bill very black. ... The resemblance to *R. sulfuratus* was immediately obvious, but the bill and the sound very distinctly differed from the many of those I have recorded and seen throughout Central America." The photos and recording are posted on Michener's website, www.enjoybirds.com:

photo: http://www.enjoybirds.com/index_files/page0029.htm

recording: http://www.enjoybirds.com/index_files/rambre.mp3.

Although blurry, the photographs (Fig.1) show the bird to have a yellow culmen with the rest of the bill dark. Although not distinguishable from Black-mandibled (Chestnut-mandibled) Toucan *Ramphastos ambiguus swainsonii* on the basis of the photograph, it is clearly not *R. sulfuratus*. The call of the bird (Fig. 2), however, is essentially identical to that of *R. brevis* (Fig.3). Although the call of *R. sulfuratus* is similar to that of *R. brevis*, it is somewhat sharper and usually given more rapidly (Fig. 4). The call of *R. ambiguus swainsonii* differs dramatically from that of both of these species (Fig 5). (Reference recordings of the latter three species were downloaded from the Xeno-canto website, www.xenocanto.org). In conjunction, the photos and recording unequivocally identify the bird as *Ramphastos brevis*.

This record has unanimously been accepted by the Panama Records Committee (George Angehr, Robert Ridgely, Dodge Engleman, Lorna Engleman, Darién Montanez, and Jan Axel Cubilla).

Recommendation. Move Choco Toucan *Ramphastos brevis* from Appendix 1 to the main list.

Figure 1. Photos of *Ramphastos brevis*, Cana, Darién Province, Panamá, 23 January 2001, Martin C. Michener.



Figure 2. Spectrogram of call of the bird shown in Figure 2. Cana, Darién Province, Panamá, 23 January 2001, Martin C. Michener.

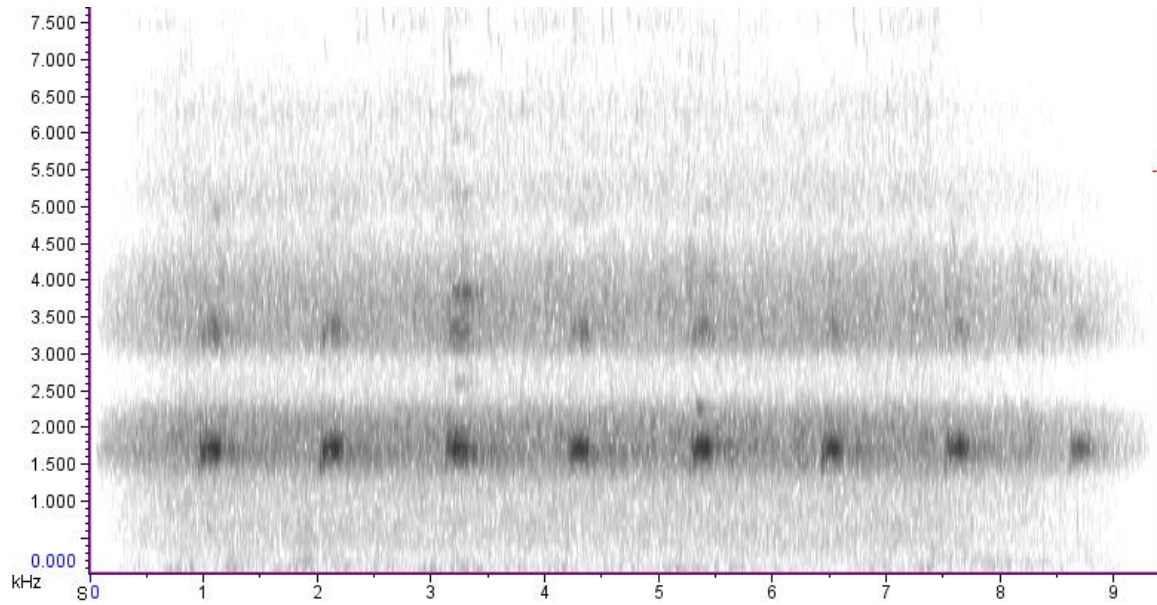


Figure 3. Spectrogram of call of Choco Toucan *Ramphastos brevis*. Paz de las Aves, Pichincha, Ecuador, 18 March 2012, Lars Lachmann. XC120802.

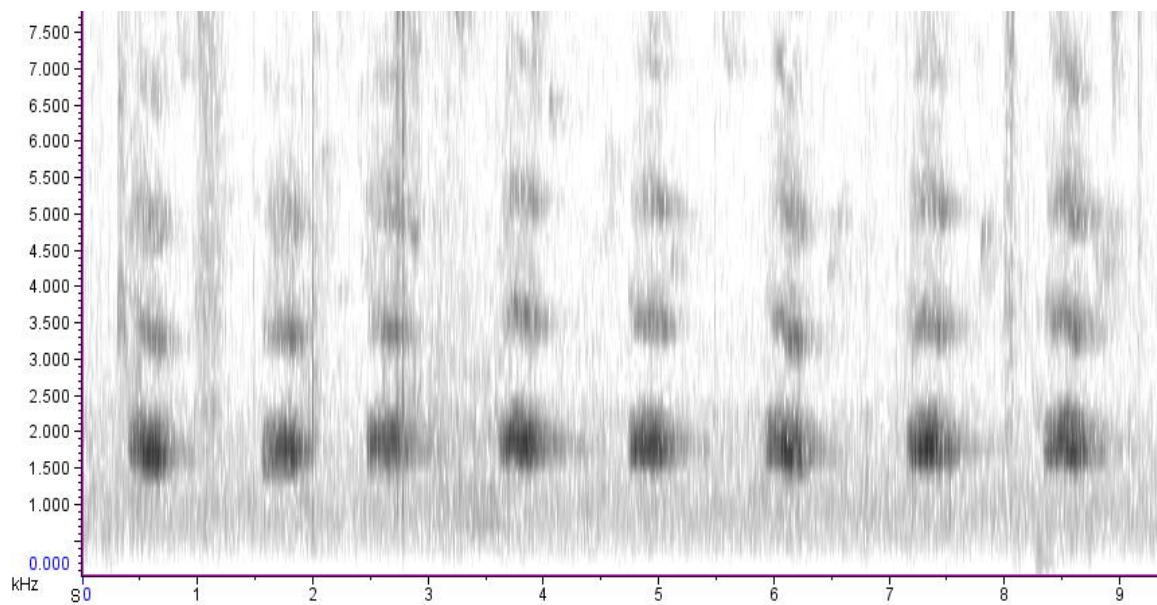


Figure 4. Spectrogram of call of Keel-billed Toucan *Ramphastos sulfuratus brevicarinatus*. RNA El Dorado, Sierra de Santa Marta, Magdalena, Colombia, 14 April 2012, Jeremy Minns. XC101601

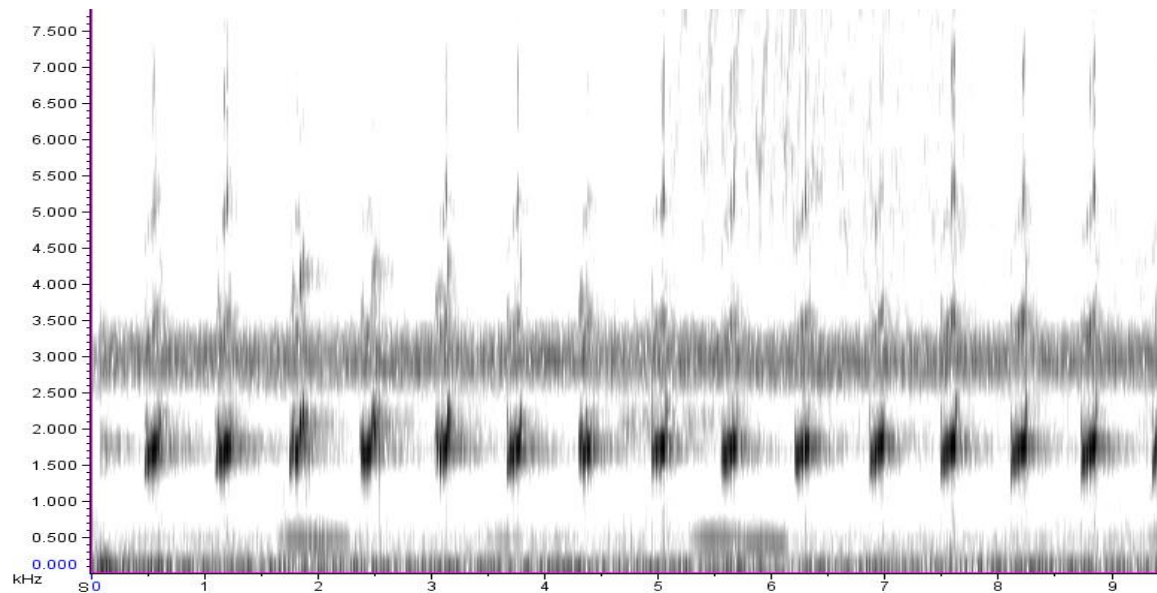
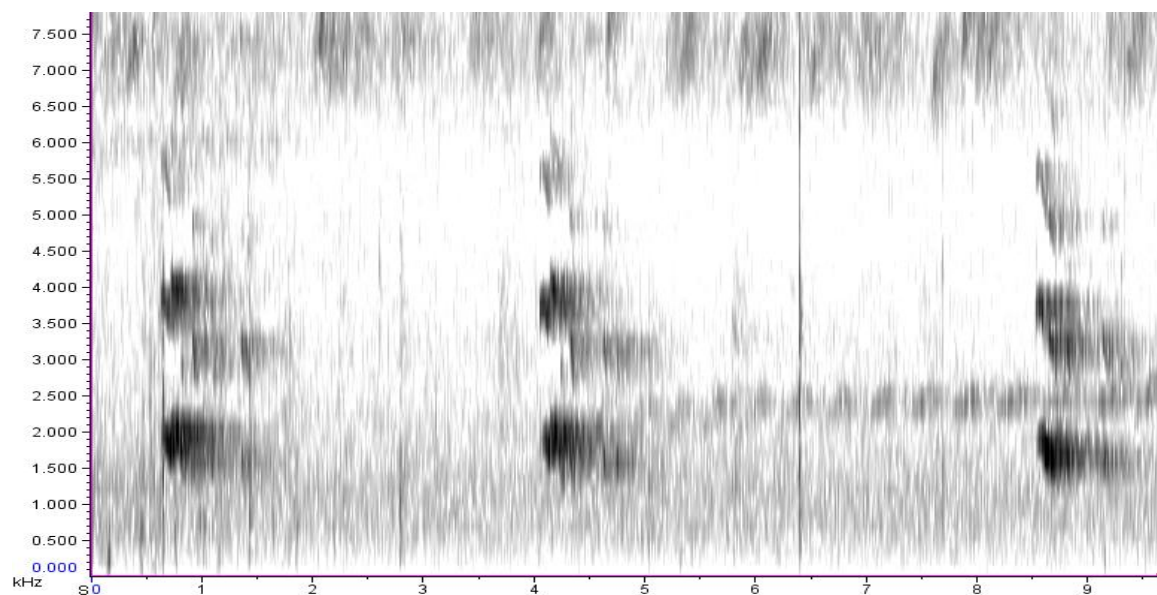


Figure 5. Spectrogram of call of Black-mandibled (Chestnut-mandibled) Toucan, *Ramphastos ambiguus swainsonii*. Pipeline Road, Colon Province, Panama, 7 August 2007, Sander Bot. XC112016



Note on the record of *Ramphastos brevis* in Appendix 1 of the Seventh Edition of the AOU Checklist (1998):

Ramphastos brevis has previously been included in Appendix 1 of the AOU checklist, with the following account:

This species, found in the Pacific lowlands of western Colombia and western Ecuador, was attributed to eastern Panama (as *Ramphastos ambiguus*) by Ridgway (1914) on the basis of a specimen in the Museum of Comparative Zoology reported from Loma del León (eastern Darién). Wetmore (1968) and subsequent authors regard the locality as uncertain, and recent field workers in eastern Darién have failed to discover it.

Although Ridgway gave the range as “Eastern Panama (Loma del León),” he also provided measurements for a female whose locality was given as “Canal Zone.” Loma del León can thus clearly be identified as the Spanish translation of Lion Hill, a well-known collecting site on the Panama Railway in Colón Province, now submerged in Lake Gatún, rather than being an unknown locality farther east. Ridgway’s record actually appears to be based on a misidentification of a specimen of Black-mandibled (Chestnut-mandibled) Toucan *R. ambiguus swainsonii*. This female specimen, MCZ 46485, is listed as having been collected on the “Line of Panama R.R.,” by James McLeannan, who was the stationmaster at Lion Hill in the 1850s. Photos of this specimen and its label, along with the accompanying male specimen MCZ 46486, are shown below (Figures 6a, 6b).

Both specimens were originally identified as *Ramphastos tocard* on their labels, but on the female *tocard* has been crossed out and replaced by *ambiguus*. Measurements of the female provided by Jeremiah Trimble, MCZ Collection Manager, are: total length= 58.5 cm; wing length= 213.5 cm, thus falling in the range of *swainsonii* rather than *brevis*. Ridgely and Greenfield (2001) give the lengths of *swainsonii* as 53-56 cm and *brevis* as 43-45.5 cm, while Wetmore (1968) gives the wing of female *swainsonii* as 211-233 mm. Identification of the female specimen as *ambiguus* appears to have been based entirely on the fact that its bill appears mostly blackish (although the base of the lower mandible is chestnut), presumably due to discoloration. The male’s bill remains mostly chestnut.

Wetmore (1968, p. 526) stated that the specimen was of “uncertain history as to its locality in the Museum of Comparative Zoology.” He evidently did not examine the specimen personally, since the locality is clearly marked on the label, and the fact that it was accompanied by a male *swainsonii* would have immediately suggested misidentification. Ridgely and Gwynne (1989, p. 242) stated the locality was “presumably in eastern Darién,” evidently also assuming that the specimen had been correctly identified. (It is unclear when the attribution of the specimen was changed from *ambiguus* to *brevis*; Wetmore referred to it as the former, whereas Ridgely and Gwynne referred to it as the latter. *Brevis* was described as a subspecies of *ambiguus* in 1945 and recognized as a full species in 1974.) Ridgely and Gwynne’s statement appears to

be the basis for AOU (1998) placing Loma del León in eastern Darién rather than in the Canal Zone. There does not actually seem to be any uncertainty about where the specimen was collected; instead it was the identification that was erroneous. This case is an interesting example of a scientific game of “telephone”: a series of assumptions by successive authors caused the locality of the specimen to migrate hundreds of kilometers from the Canal Zone to eastern Darien.



Figure 6a. Photos of MCZ 46485 (top) and 46486.



Figure 6b. Label of MCZ 46485.

Literature Cited:

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- Ridgely, Robert S., and Paul J. Greenfield. 2001. The Birds of Ecuador: Field Guide. Cornell University Press, Ithaca NY.
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Ridgway R. 1914. The Birds of North and Middle America. Part VI. Picidae, Capitonidae, Ramphastidae, Bucconidae, Galbulidae, Alcedinidae, Todidae, Momotidae, Caprimulgidae, Nyctibiidae, Tytonidae, Bubonidae. United States National Museum, Washington D.C.

Wetmore, A. 1968. The Birds of the Republic of Panama. Part 2. Columbidae (Pigeons) to Picidae (Woodpeckers). Smithsonian Institution, Washington D.C.

Submitted by: George R. Angehr, Smithsonian Tropical Research Institute

Date of proposal: 4 February 2015

Revise the composition and linear sequence of the Thraupidae based on comprehensive phylogenetic studies

Background:

Limits of the family Thraupidae have long been difficult to assess. Storer (1970) provided the family account in the Peters series, and this source formed the basis for tanager classification for the following 30+ years and the general conception of tanagers as colorful frugivores. However, molecular studies using DNA-DNA hybridization (Bledsoe 1988, Sibley and Ahlquist 1990) and DNA sequencing (e.g., Burns 1997, Burns et al. 2002, Yuri and Mindell 2002, Klicka et al. 2007) began to chip away at this conception of the Thraupidae, to include other ecomorphs, such as seedeaters, in the group, and to remove some frugivorous 9-primaried oscines from the family. Consequently, several genera on the Check-list were recently either removed from or added to the Thraupidae. For example, *Chlorophonia* and *Euphonia* were transferred to the Fringillidae (Banks et al. 2003), *Piranga*, *Habia*, and *Chlorothraupis* to the Cardinalidae (Chesser et al. 2009), and *Chlorospingus* to the Emberizidae (Chesser et al. 2011), and *Paroaria* was transferred from the Emberizidae to the Thraupidae (Chesser et al. 2012).

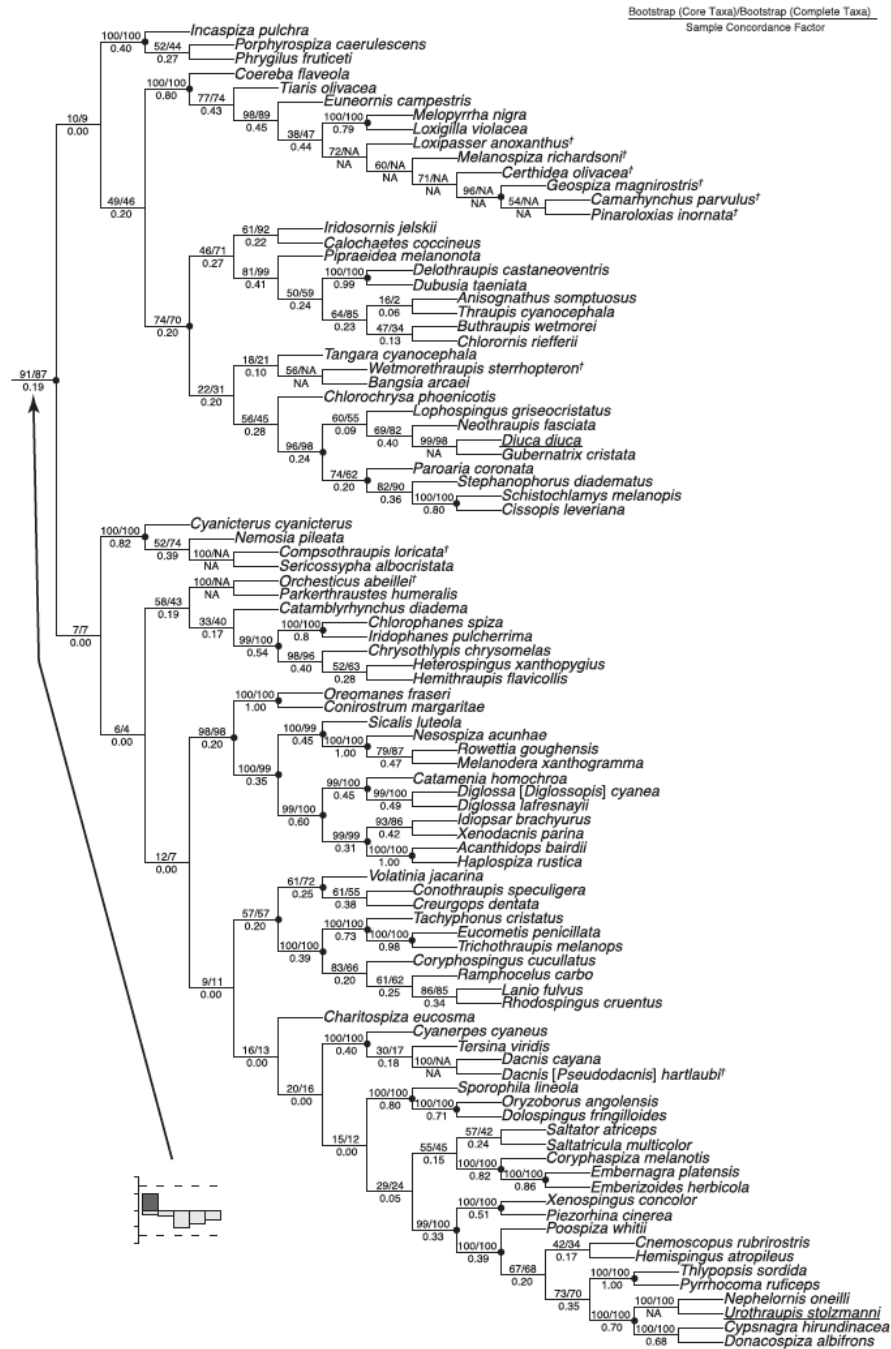
New Information:

Although these advances were welcome, the supporting studies were either based on subsets of the Thraupidae or used rather sparse taxon sampling. Anything approaching a complete phylogeny of the group was still lacking. We now have such a phylogeny, originally published at the genus level as part of a comprehensive study of the 9-primaried New World oscines (Barker et al. 2013) and more recently published at the species level for tanagers (Burns et al. 2014) and for 9-primaried oscines (Barker et al. 2015). The sampling included sequences of 95% of tanager species as re-defined (353 of 371 species). Mitochondrial genes ND2 and cytochrome *b* were sequenced for all species, and four nuclear genes were sequenced for at least one individual per genus (more in cases of suspected or demonstrated non-monophyly). The phylogeny recovered a strongly-supported monophyletic Thraupidae (91% and 87% bootstrap in the genus-level phylogeny in Barker et al. 2013; 100% bootstrap, 1.0 posterior probability in the species-level tree in Burns et al. 2014) that included a number of taxa previously placed elsewhere in classifications and excluded others previously considered to be tanagers. Within Thraupidae, 70% of the nodes were strongly supported in the concatenated Bayesian analyses (PP > 0.95), and 66% of nodes were strongly supported in the concatenated ML analyses (bootstrap > 70%). Nodes with weaker support include some of the deep nodes in the tree and nodes defining

relationships among some recent species that are only weakly differentiated from each other (Burns et al. 2014).

Burns et al. (2014) identified 13 strongly-supported nodes relatively deep in the tree that define subgroups of tanagers that they designated as subfamilies. Only two species (the extralimital *Catamblyrhynchus diadema* and *Charitospiza eucosma*) did not cluster into one of these clades and thus were designated as subfamilies as well. Relationships among these subfamilies were not strongly supported. The following pages show the genus-level phylogeny from Barker et al. (2013) (Fig. 1) and the species-level trees from Burns et al. (2014) for each individual subfamily (Figs. 2-6).

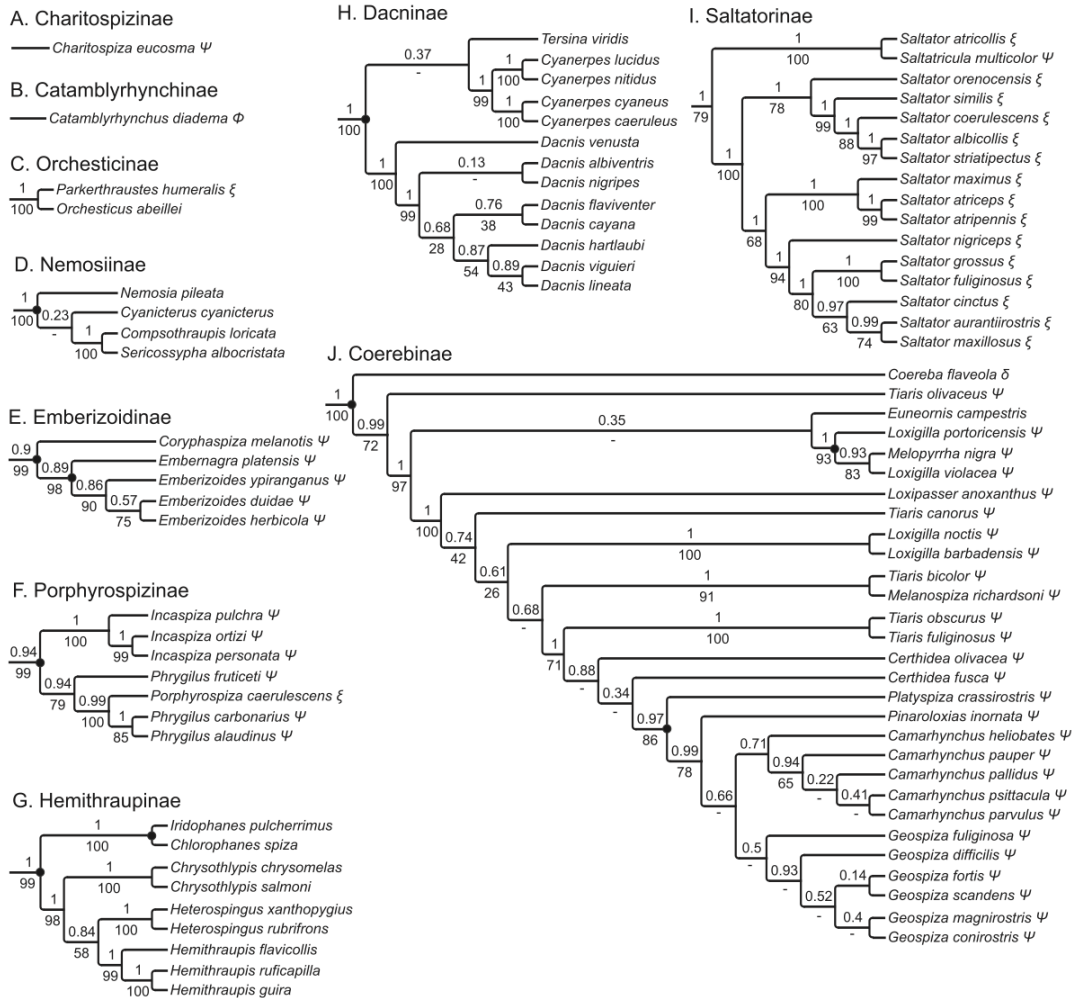
Fig. 1. Genus-level phylogeny of 9-primaried oscines from Barker et al. (2013).



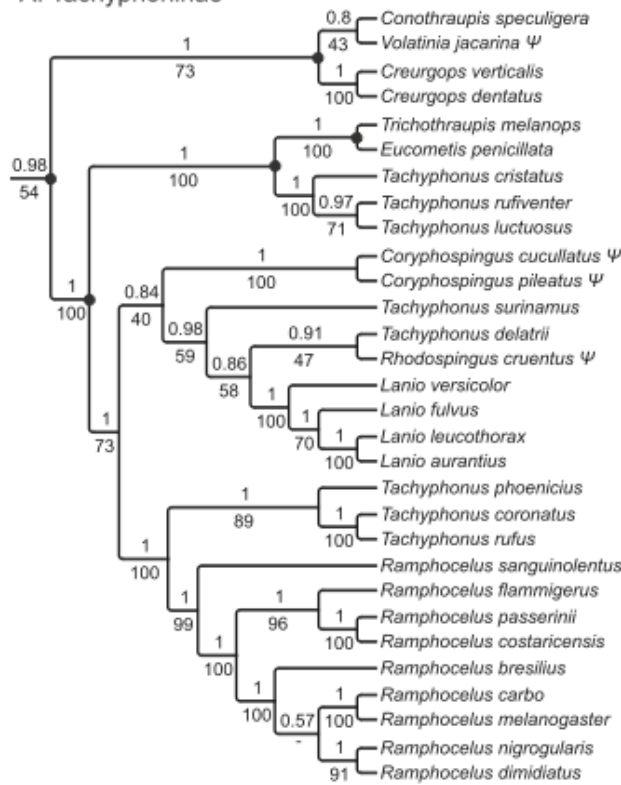
Downloaded from <http://sysbio.oxfordjournals.org/> at Library, Serials on March 18, 2013

FIGURE 7. Results of concatenated analysis of 6 genes from the tanagers (family Thraupidae). Labeling as in Figure 3.

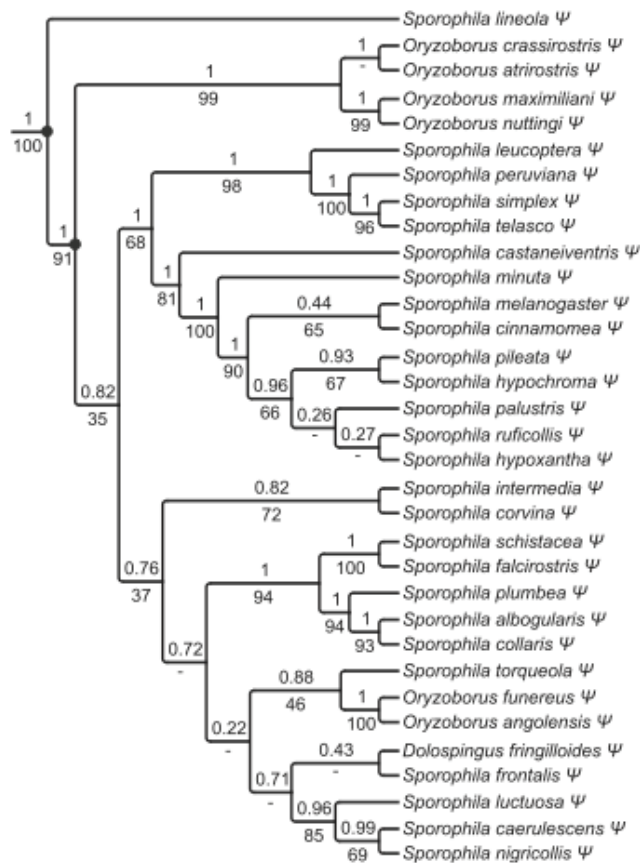
Figs. 2-6. Species-level phylogeny of the Thraupidae from Burns et al. (2014), showing trees for individual subfamilies arranged from least to most species-rich. Relationships among subfamilies were poorly resolved. Posterior probabilities from the BEAST analysis are above the nodes, bootstrap support from likelihood analysis below the nodes.



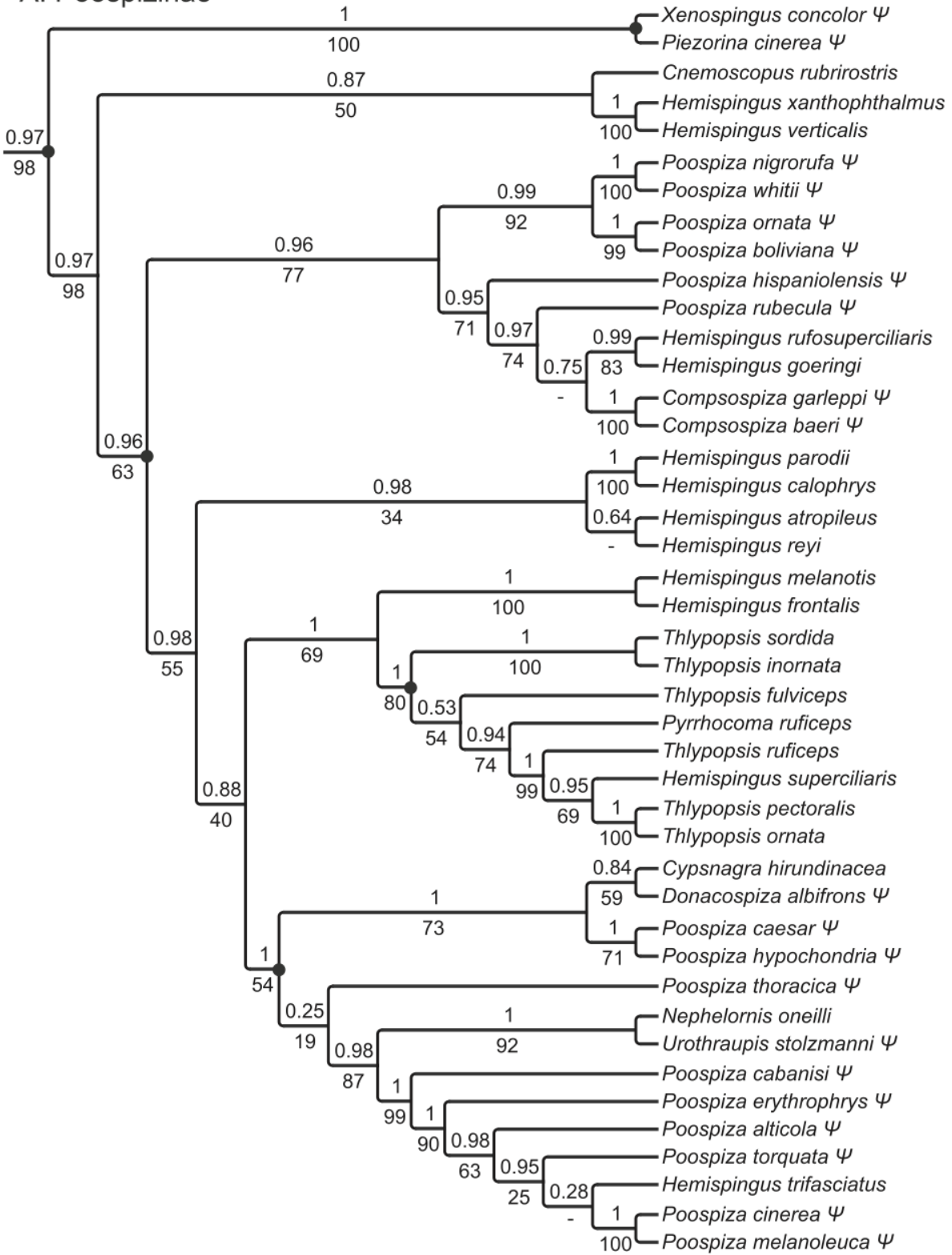
A. Tachyphoninae



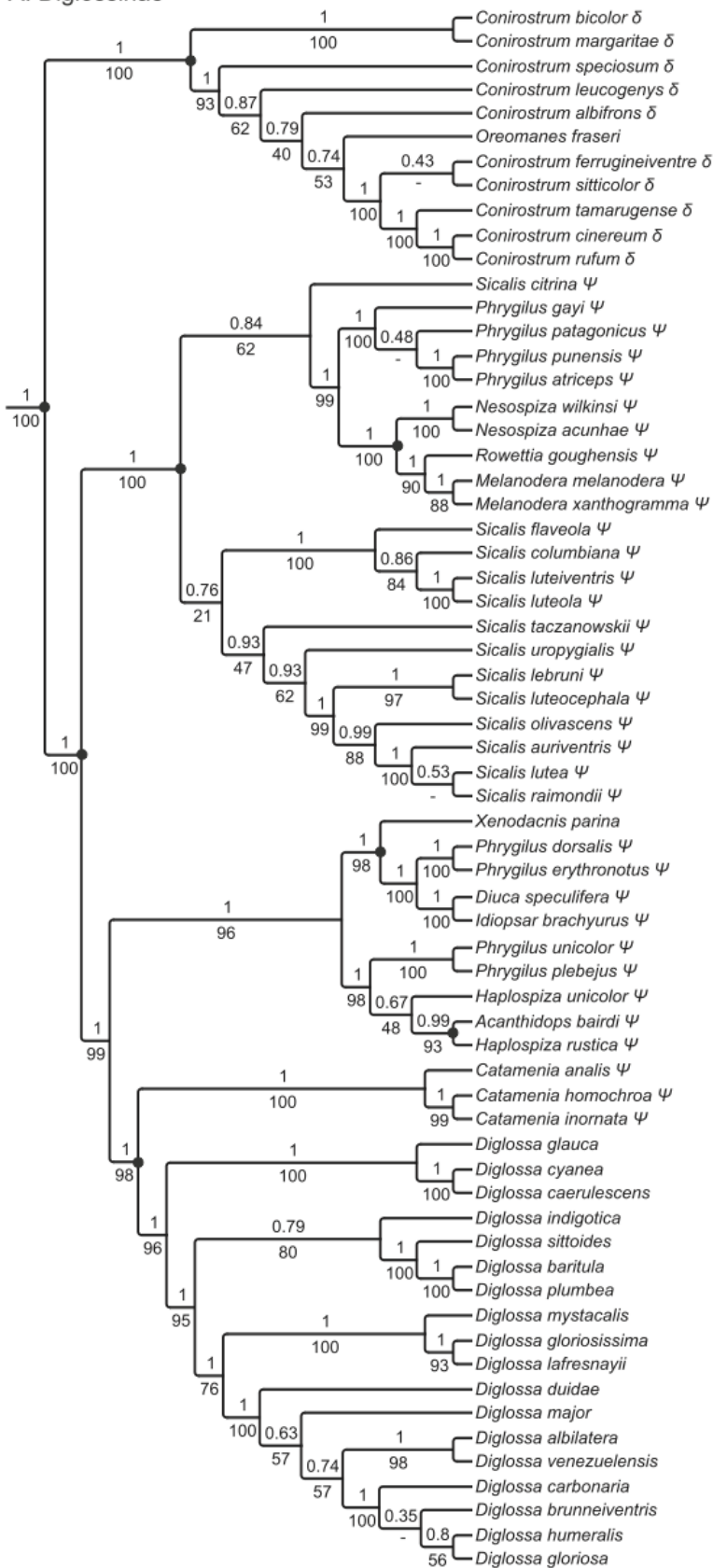
B. Sporophilinae



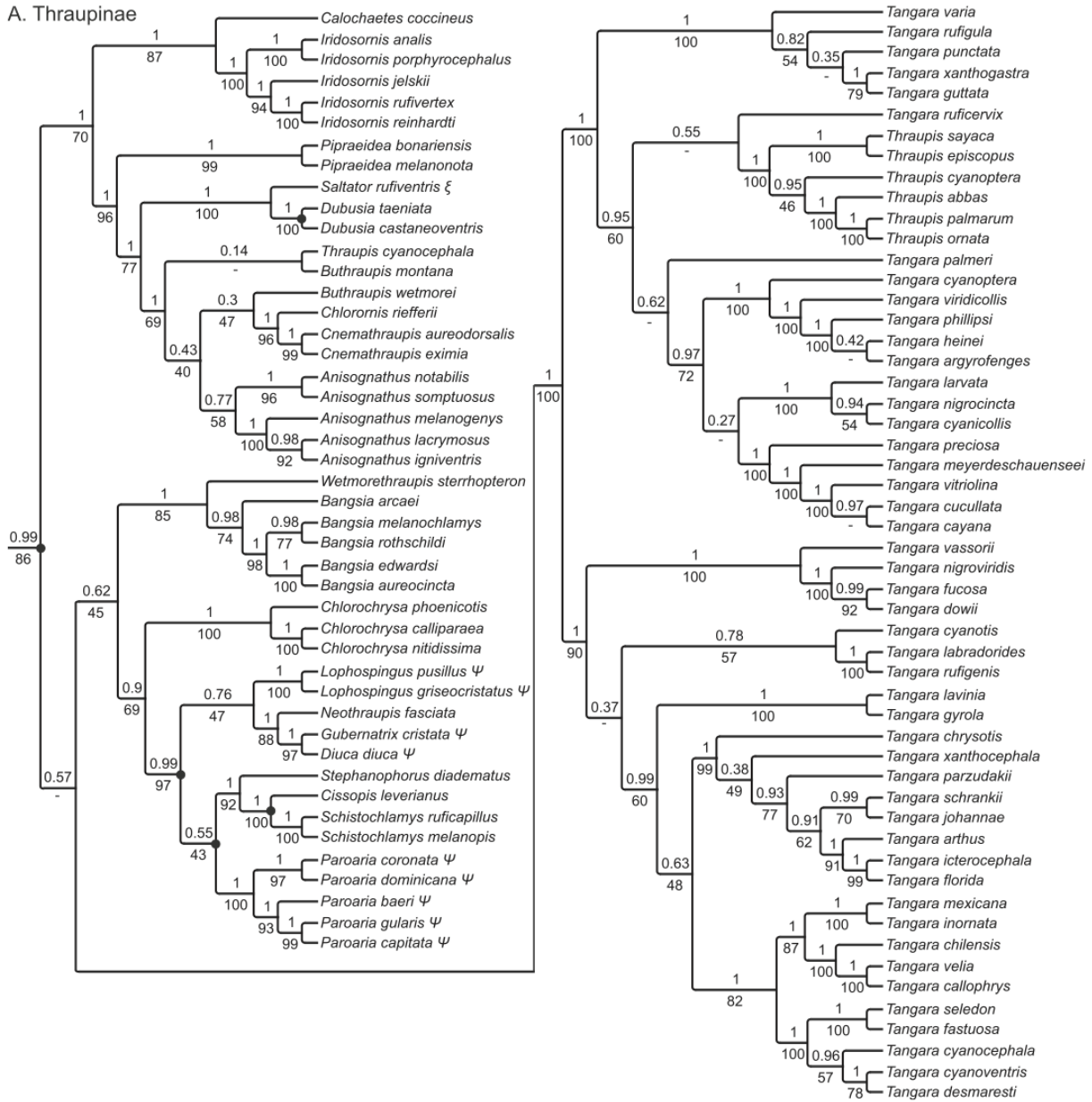
A. Poospizinae



A. Diglossinae



A. Thraupinae



Recommendations:

These new phylogenetic studies provide strong support for several results that are at odds with our current classification of the Thraupidae. To bring the AOU classification into agreement with the best available phylogenetic information, we recommend the following:

- a. Transfer 14 genera (*Volatinia*, *Sporophila*, *Melopyrrha*, *Tiaris*, *Loxipasser*, *Loxigilla*, *Euneornis*, *Melanospiza*, *Pinaroloxias*, *Haplospiza*, *Acanthidops*, *Diglossa*, *Sicalis*, and

Emberizoides) from the Emberizidae to the Thraupidae. These genera clearly belong in the Thraupidae (Barker et al. 2013, Burns et al. 2014). *Melopyrrha*, *Tiaris*, *Loxipasser*, *Loxigilla*, *Euneornis*, *Melanospiza*, and *Pinaroloxias* form part of the well-supported clade that includes Darwin's Finches (see also Burns et al. 2002); this clade is positioned near the top of Fig. 7 from Barker et al. (2013) (above) and forms part of the Coerebinae of Burns et al. (2014; Fig. 2J). The other genera are scattered throughout the tree.

b. Transfer *Saltator* and *Coereba* from *incertae sedis* to Thraupidae. *Saltator* and *Coereba* clearly belong in the Thraupidae (Barker et al. 2013, Burns et al. 2014). *Saltator* constitutes the subfamily Saltatorinae of Burns et al. (2014), whereas *Coereba* belongs to the Darwin's Finch clade (Coerebinae).

c. Transfer six genera (*Nesospingus*, *Phaenicophilus*, *Calyptophilus*, *Rhodinocichla*, *Mitrospingus*, and *Spindalis*) from Thraupidae to *incertae sedis*. These genera are part of the 9-primaried oscine radiation but do not belong to the Thraupidae or to any other traditionally recognized family (Barker et al. 2013, Barker et al. 2015). Barker et al. (2013) proposed that these taxa be accorded family status (Nesospingidae, Phaenicophilidae, etc.); this arrangement has implications beyond these taxa and will be considered in a separate proposal in the next proposal set. The higher-level linear sequence of the 9-primaried oscines will also require a proposal. At this point, we recommend that these genera be removed from the Thraupidae and placed together directly after the Thraupidae as a temporary place-holding measure.

d. Revise the genus-level linear sequence of the Thraupidae. Transferring 16 genera to the Thraupidae brings up the issue of linear sequencing within the family. Rather than trying place these 16 genera in the current sequence, we recommend changing the linear sequence of genera in the Thraupidae as a whole to conform to AOU linear sequencing protocols, based on Burns et al. (2014). The proposed linear sequence of genera uses a tree that collapses all weakly supported nodes that define relationships among the subfamilies, rather than sequencing according to poorly supported relationships that are likely incorrect. Following AOU protocols, groups with the fewest number of species are listed first. The new linear sequence would be:

Emberizoides
Chlorophanes
Chrysothlypis
Heterospingus
Hemithraupis
Saltator
Coereba
Tiaris

Euneornis
Loxigilla
Melopyrrha
Loxipasser
Melanospiza
Pinaroloxias
Volatinia
Eucometis
Tachyphonus
Lanio
Ramphocelus
Sporophila
Haplospiza
Acanthidops
Diglossa
Bangsia
Paroaria
Thraupis
Tangara

e and f. Change the linear sequence of species in (e) *Ramphocelus* and (f) *Sporophila* based on Burns et al. (2014). Unlike other sizeable genera in the Thraupidae, these genera form well-supported monophyletic groups. Other sizeable genera in this family await resolution of issues of poly- or paraphyly, but *Ramphocelus* and *Sporophila* can be placed in a linear sequence based on the new phylogeny. The tree for *Ramphocelus* is well supported and the new sequence is straightforward:

R. sanguinolentus
R. flammigerus
R. passerinii
R. costaricensis
R. dimidiatus

The phylogeny for *Sporophila*, apart from the deepest nodes (which support monophyly of the genus and the sister relationship of *lineola* to all other species) and nodes toward the tips of the tree, tends to be poorly supported. In this case, we have followed the procedure used for the Thraupidae above, i.e., all poorly supported branches have been collapsed and the resulting individual clades (which form a polytomy) are arranged from least to most species-rich. The single exception to this involves the former species of *Oryzoborus*. There is no support in the tree for uniting one of the former species (*funerea*) with the other two former species (*nuttingi* and *crassirostris*), but there is also

no strong support for separating them. Given this lack of clarity in the molecular data, we prefer to keep them together in the linear sequence, an arrangement supported by morphological characters. The new sequence for *Sporophila* would be:

S. lineola

S. torqueola

S. corvina

S. nigricollis

S. funerea

S. nuttingi

S. crassirostris

S. schistacea

S. minuta

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Date of Proposal: 5 February 2015