N&MA Classification Committee: Proposals 2009-A

Change linear sequence of species in the genus *Cyanolyca*

Description of the problem:

Currently, the NACC sequence for the 5 North-Middle American taxa is:
Cyanolyca cucullata
Cyanolyca pumilo
Cyanolyca nana
Cyanolyca argentigula
Cyanolyca mirabilis

New information:

A recent study (Bonaccorso 2009) examined phylogenetic relationships and historical biogeography of *Cyanolyca jays*. Sampling included 40 individuals representing all species and all but one subspecies of *Cyanolyca.* Multiple individuals were included for geographically widespread or polytypic taxa. Analyses were based on two mitochondrial (Control Region, ND2) and three nuclear genes. The tree was rooted with sequences of several other jay genera.

Maximum parsimony, maximum likelihood, and Bayesian analyses produced congruent and highly robust topologies. The results showed a monophyletic *Cyanolyca* with clades consisting of (1) Mesoamerican “dwarf” jays (*C. argentigula, C. pumilo, C. mirabilis, C. nano*), (2) *C. cucullata* + *C. pulchra*, and (3) the remaining South American species. Within the “dwarf” clade, the mtDNA and pruned consensus trees (all genes combined) support a sister relationship between *C. argentigula* / *C. pumilo* and *C. nana* / *C. mirabilis* (Bayesian support 0.99-1.00). The sister relationship between *C. argentigula* and *C. pumilo* also is supported by two of three nuclear genes (DNA of *C. nana* was from a museum skin and was not included in the nuclear gene sequences). The third nuclear gene showed a sister relationship between *C. mirabilis* and *C. pumilo*. However, none of the nuclear genes had high support for these sister relationships (60-89% maximum likelihood or parsimony bootstrap support).

Recommendation:

These new data warrant a rearrangement of our linear sequence to better reflect phylogeny. The basal clade contains the four Mesoamerican “dwarf” species (*C. argentigula, C. pumilo, C. mirabilis,* and *C. nana*), with the total evidence supporting sister relationships between *C. argentigula* / *C. pumilo* and *C. nana* / *C. mirabilis*. The only remaining species in the NACC area (*C. cucullata*) follows in the tree, as sister to *C. pulchra* from the northern Andes. Translating the combined analysis into a linear sequence using the usual conventions ("basal" taxa first; for sister taxa, NW-most taxon listed first), the proposed sequence is:

Cyanolyca pumilo
Cyanolyca argentigula
Cyanolyca mirabilis
Cyanolyca nana
Cyanolyca cucullata

Literature cited:

Bonaccorso, E. 2009. Historical biogeography and speciation in the Neotropical highlands: Molecular phylogenetics of the jay genus *Cyanolyca*. Molecular Phylogenetics and Evolution 50:618-632.

Name and affliation of submitter: Carla Cicero, NACC

Date of proposal: 27 Feb 2009

Elevate *Aphelocoma* [*californica*] *woodhouseii* and *Aphelocoma* [*californica*] *sumichrasti* to species

Description of the problem:

The treatment of the Scrub Jay complex by the AOU has been variable over the last century. The 3rd edition of the Check-list gave full species status to the following: *Aphelocoma cyanea* Vieillot 1817 (Florida Jay, synonym of *A. coerulescens*), *A. woodhouseii* Baird 1858 (Woodhouse's Jay), *A. cyanotis* Ridgway 1887 (Blue-eared Jay), *A. texana* Ridgway 1902 (Texas Jay), *A. californica* Vigors 1839 (California Jay for the nominate race with two other named races for the United States and Baja California), and *A. insularis* Henshaw 1886 (Santa Cruz Jay). In addition, Ridgway (1904) gave full species status to two other Mexican subspecies, *A. sumichrasti* Baird and Ridgway 1874 (Sumichrast's Jay), and *A. grisea* Nelson 1899 (Blue-gray Jay).

By the 4th edition of the Check-list, the AOU (1931) recognized *A. coerulescens* and *A. insularis* as full species, but merged the others in the United States into *A. californica.* In addition, there is a footnote (p. 224) that *A. cyanotis*, formerly included on the basis of Texas specimens, was removed from the North American list as the specimens were referable to *A. c. texana*. The AOU (1931) thus treated *A. cyanotis* as a subspecies and its range was confined to east-central Mexico. By the 5th edition the AOU (1957) had merged all of the U.S. taxa into a single species, the Scrub Jay (*Aphelocoma coerulescens*). Miller et al. (1957) merged all of the Mexican taxa into a single species under *A. coerulescens*. By the 6th edition the AOU (1983) included a footnote that some authors favored listing the four groups (*A. californica, A. insularis, A. woodhouseii* and *A. coerulescens*) as separate species, but no citations were given. Apparently, *A. c. sumichrasti* was merged with the *woodhouseii* group, not warranting its own group status.

With the publication of the 40th Supplement (AOU 1995), the pendulum had swung part way back and *A. coerulescens* (Florida Scrub-Jay) and *A. insularis* were recognized as distinct from the other races now contained in *A. californica* (Western Scrub-Jay). Under the account for Western Scrub-Jay in the Notes section the following wording is used: "The two groups are considered by some authors to be distinct species, *A. californica* (Vigors, 1839) [California Scrub-Jay, 481] and *A. woodhouseii* (Baird, 1858 [Woodhouse's Scrub-Jay, 480]." By the 7th edition of the Check-list (1998) the wording is expanded: in the account for *A. coerulescens*, it indicates that the authors responsible for treating *A. coerulescens, A. californica,* and *A. insularis* as a single species were Hellmayr (1934) and Pitelka (1945, 1951). Papers providing evidence for species status of the Florida and Island scrub-jays were Peterson 1992, Pitelka 1951, Woolfenden and Fitzpatrick 1984, Haemig 1989 and Emslie 1996).

In the account for *A. californica* in the 7th edition, the Notes state that genetic and behavioral data (Peterson 1991, 1992, Peterson and Burt 1992) suggest that the three groups within the Western Scrub-jay may be separate species: *A. californica* (California Scrub-Jay), *A. woodhouseii* (Woodhouse's Scrub-Jay), and *A. sumichrasti* (Sumichrast's Scrub-Jay). However, no action has been taken since then to split this complex.

New information:

Delaney et al. (2008) analyzed control region sequences from samples of Western Scrub-jays throughout the range of the species. Although the number of base pairs was small (389 bp), they sequenced a large number of both Western Scrub-jays (n = 118) and Island Scrub-jays (n = 25). Samples of Western Scrub-jays spanned the range of the species from northern Oregon to southern Baja California (*californica* group), and from western and central Nevada to southern Mexico (*woodhouseii-sumichrasti* group). Sampling included 5 individuals from a narrow contact zone in western Nevada between "*A. californica*" and "*A. woodhouseii.*" This is the most thorough mtDNA analysis to date.

Results showed that the Western Scrub-Jay consists of two clades and is paraphyletic with respect to Island Scrub-jay. One clade consists of all samples from the west coast of the U.S. and Baja California (the "*californica*" group), and is sister to *A. insularis.* Divergence between the *californica* group and *A. insularis* was 3.8%. The second clade corresponds to the *woodhouseii-sumichrasti* group, and consists of samples from the interior of the U.S. through Mexico. Divergence between this clade and the *californica-insularis* clade was 3.2%, and there was no sharing of haplotypes. In addition, one insertion-deletion separated the two major groups. The paraphyly shown in this study corroborates prior results using ND2 sequences from 2-3 individuals of each taxon (Rice et al. 2003). Within the *woodhouseii-sumichrasti* clade, samples comprising *sumichrasti* were separate from *woodhouseii* but with low support and relatively small sequence divergence (1%). Nonetheless, samples comprising *woodhouseii* and *sumichrasti* likewise did not share any haplotypes. In the narrow zone of overlap between the *californica* and *woodhouseii* groups in western Nevada (Pine Nut Mountains), samples were genetically of the *woodhouseii* group, but phenotypically closer to the *californica group*.

These results indicate that the *californica* group is as divergent from the *woodhouseii* group as it is from *A. insularis*, and that these two groups have had a long history of separation. Furthermore, these two groups are readily diagnosable by plumage and morphology (birds from the interior are more grayish-blue, with a less contrasting breast band, and have a thinner straight bill that lacks the hook of coastal birds), occupy different habitats (primarily oak woodland versus pinyon-juniper), and are known to behave and vocalize differently (e.g., Dunn and Garrett 2001, Curry et al. 2002). Dunn and Garrett (2001) qualitatively described vocal differences between these groups – the calls within the *woodhouseii* group are consistently higher pitched and on average consist of two syllables compared with the harsher, lower pitched, and one syllabled notes from coastal birds. Thus, genetic differences between the *californica* and *woodhouseii* groups are congruent with phenotypic and ecological differences, with the possible exception of the narrow contact zone in western Nevada. However, an examination of 2,647 museum skins by Peterson (1991) showed only 15 possible hybrids between *californica* and *woodhouseii* on morphological grounds.

Although divergence between the *woodhouseii* and *sumichrasti* groups is less than between the *woodhouseii* and *californica* groups, they are genetically distinct (no shared haplotypes, significant genetic structure between groups) and also differ morphologically and behaviorally. Birds of the *sumichrasti* group are the largest of the Western Scrub-jays, are diagnosable by plumage (brighter blue, white throat color compared to *woodhouseii*), and have hooked (like *californica*) versus pointed bills. Pitelka (1951) found them "easily separable on the basis of color as well as size." In addition, *sumichrasti* has the only known population of cooperatively breeding Western Scrub-jays, and their calls are reported to be acoustically distinct from northern subspecies (Hardy 1964, Howell and Webb 1995, Curry et al. 2002, JLD personal experience) – although Pitelka (1951) did not observe differences in call notes. Pitelka (1951:306) indicates that *cyanotis* intergrades with *sumichrasti* in the region along the borders between Hidalgo and Mexico, and between Morelos and Puebla, but that evidence for intergradation is scant (five possible intergrade specimens are listed).

Recommendation:

It is clear that the current taxonomy does not accurately reflect phylogeny (Delaney et al. 2008 and citations therein). On the basis of genetic, phenotypic, behavioral, and ecological differences, we recommend that the *californica* and *woodhouseii* groups be treated again as full species. This treatment recognizes the strong divergence between these groups in multiple traits, and also solves the problem of paraphyly. Furthermore, because *woodhouseii* and *insularis* are equally divergent from *A. californica,* maintaining the status quo is inconsistent with the treatment of *A. insularis* as a full species (AOU 1995).

The evidence for separating *sumichrasti* (including *remota* as an allied subspecies) is less compelling because of its weaker genetic divergence (1%). However, the lack of shared haplotypes and other differences in morphology, plumage, behavior, and voice argue for treating it as a separate species.

The *californica* and *woodhouseii* groups are allopatric over most of their range, although they come into local proximity or contact in the western Great Basin. In the Owens Valley of eastern California, the *woodhouseii* group (*nevadae* subspecies) breeds in the dry mountain ranges to the east (White-Inyo ranges) and the *californica* group is found in certain oak canyons to the west (east slope of Sierra Nevada). Scrub Jays are generally absent on the floor of the Owens Valley, except just north of Independence where oaks are found along the drainage that crosses US 395 at about Fort Independence. These are all clearly *californica* group types. At one location in the Pine Nut Mountains of extreme western Nevada, the two groups come into contact. Pitelka (1951) found intermediate birds here, presumably hybrids, although phenotypically the birds seem to fall into one group or another (JLD personal observations; Dunn and Garrett 2001 – birds in the color photograph accompanying that publication were photographed in the Pine Nut Mountains; more recent specimens have been collected by Johnson and Cicero at MVZ). The degree of hybridization here is unknown and is a priority of further research (Delaney et al. 2008), but it appears that breeding is primarily assortative and that the region is not represented by a hybrid swarm of two groups of Western Scrub-Jays. To the north in the Washoe Valley of Nevada (Carson City and Reno), the birds are all of the *californica* group, as they are throughout northeast California, even in seemingly suitable habitat (juniper woodland, etc.) for the *woodhouseii* group.

It is worth pointing out that both groups show significant dispersal in the non-breeding season, particularly in the *woodhouseii* group, when major invasions can send numbers of birds far afield into lowland desert areas. Individuals from the *woodhouseii* group have been seen in fall on the west slope of the Sierra Nevada at McGurk Meadow, Yosemite National Park, and individuals of the *californica* are casually noted in the Mohave Desert and one was collected in early August in El Centro in the Imperial Valley of California (Dunn and Garrett 2001). In the Owens Valley away from Fort Independence, individuals of both groups are irregularly seen, but the *woodhouseii* group predominates.

We believe that recognizing the *californica, woodhouseii*, and *sumichrasti* groups as full species is the best course. While we acknowledge that the case for splitting the *woodhouseii* group is stronger than for the *sumichrasti* group, behavioral and vocal differences merit a split for the *sumichrasti* group as well. Still, one might choose only to split the *woodhouseii* group for now, thus leaving the *sumichrasti* group with *A. woodhouseii.* An alternative option is to await further studies from the Pine Nut Mountains region, and perhaps elsewhere, before making any taxonomic changes. But that conservative treatment would make more sense if *A. insularis* had not already been split. In a sense, the horse has already left the barn.

Recommended English names:

The names California Scrub-Jay (*californica* group), Woodhouse's Scrub-Jay (*woodhouseii* group), and Sumichrast's Scrub-Jay (*sumichrasti* group) are widely in use. At least recently, we've seen no alternative English names.

Taxonomy:

There are a variety of opinions about the number of subspecies to be recognized in the coastal group, which includes the Baja California group. The AOU (1957) recognizes eight races, but Pitelka (1961) later synonymized *superciliosa*. Pyle (1997) recognizes only three races north of Baja (*californica, superciliosa, and* *obscura*). The central Baja California race, *cactophila*, is recognized by some (AOU 1957, Phillips 1986), but not by others (Peters 1962 and Curry et al. 2002).

Within the *woodhouseii* group, Phillips (1986) believes the type specimens apply to the slightly duller birds from the western part of the range (*nevadae* of Pitelka 1951 and AOU 1957), thus *woodhouseii* is the western race and the slightly brighter birds from father east (not *texana*) are *suttoni*. Phillips (1986) calls into question the type location of Fort Thorn and indicates with a "?" that it might equal Fort Webster. JLD spent some time trying to identify these locations which are near Hatch, New Mexico on the Rio Grande (either Grant or Dona Ana County). They certainly are close to each other, and may indeed be one and the same. We have therefore used Phillips (1986), but some members may want to revisit this.

Within the *sumichrasti* group, there are only two subspecies, the nominate form and *remota* of the Sierra Madre del Sur of Guerrero. Phillips (1986) extends the range of that race east to include the Oaxaca birds.

Range Comment:

The 7th edition (p. 447) lists "group uncertain" for the southwestern British Columbia record. Campbell et al. (1997) list two certain records for British Columbia, the one from Langley which we cite, and one in Vancouver from 28 July 1993 until 7 April 1984. The species account (*ibid*) includes a color photo of the latter bird and it clearly pertains to the *californica* group (deep blue upperparts, sharply defined blue breast band and otherwise white underparts). We suggest including southwestern British Columbia in the casual range for the *californica* group. The species is rapidly spreading north in western Washington, as noted by Wahl et al. (2005): "Scrub-jays have exhibited one of the most dramatic range expansions of any Washington species in the last several decades."

Position in the Check-list:

We have tentatively inserted the accounts of *A. woodhouseii* and *A. sumichrasti* to follow the account for *A. californica*, going from west to east.

Effect on Check-list:

We suggest the following revisions to the accounts for *Aphelocoma coerulescens* and *A. californica*:

p. 446: Modify **Notes** section for *A. coerulescens* as follows: *Aphelocoma coerulescens, A. insularis, A. californica, A. woodhouseii,* and *A. sumichrasti* were previously treated as a single species, *A. coerulescens* [Scrub Jay], following Hellmayr (1934) and Pitelka (1945, 1951). Species-level differentiation of the widely disjunct *coerulescens* and the Santa Cruz Island endemic *insularis* is confirmed by genetic, morphologic, behavioral, and fossil data (Peterson 1992, Pitelka 1951, Woolfenden and Fitzpatrick 1984, Haemig 1989, Emslie 1996). More recent genetic data (Delaney et al. 2008), combined with phenotypic and behavioral (including vocal) differences, also support recognition of *A. woodhouseii* and *A. sumichrasti* as full species.

p. 446: Change English name from Western Scrub-Jay to California Scrub-Jay. Under the **Habitat** section for this account, end the paragraph after "(southern Baja California)" by deleting "and tropical deciduous forest (southern Mexico) (Subtropical and Temperate zones, upper Tropical Zone in southern Mexico)."

p. 446-447: In the **Distribution** section for this account, remove statements for the *woodhouseii* and *sumichrasti* groups and revise section as follows: *Resident* from west-central Washington south through western and central Oregon, California (except eastern and southeastern mountains) and northwestern and west-central Nevada to southern Baja California.

Casual to coastal and eastern Washington, and to southeastern California (Mohave Desert and the Imperial Valley).

Notes.- See notes under *A. coerulescens.*

p. 447: After the account for California Scrub-Jay, insert new account for

Aphelocoma woodhouseii (Baird). Woodhouse's Scrub-Jay.

Cyanocitta woodhouseii Baird, 1858 (*in* Baird, Cassin, and Lawrence, Rep. Expl. and Surv. R.R. Pac., vol. 9, 1858, pp. xliii and 584-585 – Central line of Rocky Mountains to table lands of México = Fort Thorn, New Mexico [AOU 1957]). ["San Francisco Mts., north-central Arizona, and 'Fort Thorn', *i.e.* Fort Webster (?), New Mexico" - Phillips, Known Birds of North and Middle America, Part I, 1986:47).

Habitat.- Pinyon and juniper woodland; also open oak and pine-oak woodlands and brushland.

Distribution.- *Resident* from southeastern Oregon, southern Idaho, southwestern Wyoming, western, north-central and southeastern Colorado, and extreme western Oklahoma south to eastern California (from White Mountains to Providence Mountains), southern Arizona, and in Mexican highlands to northeastern Sonora, Jalisco, central Guanajuato, México, Distrito Federal, and Hidalgo, and east to northern (panhandle), western and central Texas.

Rare to uncommon, and irregular, to lowlands of southeastern California, southern Arizona, northeast Sonora, eastern Colorado, and extreme southwest Kansas.

Casual or accidental north to southern Manitoba, northern Wyoming, Illinois, Indiana, and central Kansas; possibly to southeastern Washington (Wahl et al. 2005)

Notes.- Formerly considered conspecific with *A. californica* but they differ in plumage, morphology, behavior, and voice, and recent molecular studies (Delaney et al. 2008) indicate that the two groups are genetically distinct and not sister taxa. Narrowly contacts with *A. californica* in the Pine Nut Mountains, Douglas County, western Nevada. See notes under *A. coerulescens*.

p. 447, after the new account for Woodhouse's Scrub-Jay, insert new account for

Aphelocoma sumichrasti (Baird and Ridgway) Sumichrast's Scrub-Jay

Cyanocitta floridana var. sumichrasti Baird and Ridgway, 1874, Bull. Essex Inst., 5 (1873), p. 199 – Orizaba [Veracruz], Mexico

Habitat – A variety of open woodland and brushy environs.

Distribution.- *Resident* from Tlaxcala and west-central Veracruz south through Puebla to Guerrero and central and eastern Oaxaca.

Notes.- Formerly considered conspecific with *A. californica* but distinguished genetically, phenotypically, vocally, and in exhibiting cooperative breeding unlike *A. californica* or *A. woodhouseii* (Peterson and Burt 1992 and Burt and Peterson 1993, Delaney et al. 2008). Genetically, *A. sumichrasti* is close to *A. woodhouseii* (Delaney et al. 2008). See notes under *A. coerulescens*.

Literature cited: * = new literature for species accounts.

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Name and affiliation of submitter: Carla Cicero and Jon Dunn, NACC

Reviewed and edited by: Kimball Garrett

Date of proposal: 6 Mar 2009

Elevate *Troglodytes troglodytes pacificus* to species status

Description of the problem:

Deep divergence in mitochondrial DNA (8.8% ND2 maximum likelihood divergence; Drovetski et al. 2004) and singing patterns (Kroodsma, 1980) between ‘eastern’ (*Troglodytes troglodytes hiemalis*) and ‘western’ (*Troglodytes troglodytes pacificus*) subspecies of winter wren have led to the suggestion that this species may in fact consist of multiple cryptic species, with the group in western North America being specifically distinct from those in eastern North America and Eurasia (Hejl et al. 2002; Drovetski et al. 2004; Kroodsma 2005).

New information:

Toews and Irwin (2008) report that the distinct differences in singing type and genetic patterns are maintained in an area in northeastern British Columbia, Canada, where both subspecies were found to have neighbouring territories. Toews and Irwin (2008) report that singing types are perfectly predictive of mitochondrial DNA, with no evidence of mixed singers or intermediate song types (which would be expected if the two were exchanging genes). Toews and Irwin (2008) also include an analysis of multilocus nuclear markers (amplified fragment length polymorphisms) and report that 1) individuals in the contact zone were as different from each other as those outside this area, and 2) F_{ST} values (a measure of population differentiation that ranges from 0 to 1, 0 being totally panmictic and 1 completely differentiated) of 0.42, which is at the upper end of F_{ST} values similarly calculated from AFLP data from other avian sister species.

Recommendation:

The finding that *pacificus* and *hiemalis* subspecies are genetically and behaviourally distinct in sympatry suggests that they are reproductively isolated and should qualify as ‘good species’ under the biological species concept, as well as most other major species concepts. Thus, we propose that within the currently defined *Troglodytes troglodytes*, the western subspecies, *pacificus*, along with other closely related western subspecies (e.g. *salebrosus*) should be promoted to the species level designation of *Troglodytes pacificus*. We suggest the common name ‘Pacific wren’ for this new species, as that name reflects its scientific name as well as its geographical distribution (although it should be noted that other subspecies of *T. troglodytes* inhabit the Pacific Coast of Asia). The eastern subspecies, *hiemalis*, and other closely related subspecies (e.g. *pullus*), as well as Old World forms, should retain the *T. troglodytes* species name for now. This includes the European form with the original ‘pure’ trinomial *Troglodytes troglodytes troglodytes*. We speculate that future work may determine that additional cryptic species may occur with *T. troglodytes*, as suggested by Drovetski et al. (2004). In particular, *Troglodytes troglodytes hiemalis* is phylogenetically distinct from Eurasian forms of *T. troglodytes* in mtDNA (Drovetski et al. 2004), suggesting they may also be best treated as separate species.

Literature cited:

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Name and affiliation of submitter: David P.L. Toews and Darren E. Irwin, Department of Zoology, The University of British Columbia

Date of proposal: 22 Apr 2009

Change *Cyanocorax morio* to *Psilorhinus morio*

Description of the problem:

Ridgway (1904), Hellmayr (1934), Friedmann et al. (1957), and Blake (1962) treated the Brown Jay in its own genus, *Psilorhinus morio*, but this species was merged into *Cyanocorax* by the AOU in the 6th edition of the Check-list (1983) with a comment "Frequently treated in the genus *Psilorhinus.*" The 7th edition of the AOU Check-list (1998) maintained this treatment, although the comment was deleted, and the treatment was followed by Dickinson (2003) and Clements (2007). However, Madge and Burn (1994) retained the name *Psilorhinus* and cited significant differences with other New World jays, including an extra air sac and two color phases.

The reason for the merger by AOU (1983) into *Cyanocorax* is unclear from the text of the Check-list. A memorandum from Les Short to the AOU Check-list Committee dated 2 Jan 1979 sheds light on the subject. In this letter on corvid relationships and recommendations, Short accepts generic changes proposed by Hardy (1969), including the merger of *Psilorhinus* into *Cyanocorax*. Hardy (1969:368-369) noted that *Psilorhinus* (there treated as a subgenus) is "a specialized, aberrant form, differing from other *Cyanocorax* species in the possession of the furcular pouch of the intraclavicular air sac…there is no evidence in the literature for the existence of this structure in other living species of jays….The Brown Jay exhibits one other extreme characteristic, which, however, is shown in lesser development by some other members of the genus. It has lost the structural blue coloration and is thus brown and whitish or yellowish." Despite these differences, Hardy argued for the merger based on similarities in plumage pattern to the "ornate line" of New World jays (white-tipped rectrices in one morph, faint but visible facial pattern in some individuals), vocal resemblances to some *Cyanocorax*, and social behavior. He also suggested that the furcular pouch is used to produce "punctuational popping sounds" and that this air sac mechanism is likely homologous to mechanical sounds uttered by other jays that seem to originate from respiratory rather than syringeal structures (Hardy 1961, 1969).

The unique furcular pouch of *Psilorhinus* was originally described by Sutton and Gilbert (1942), who noted that it produces the "popping" sounds which they described as a "hiccup." Anatomical comparisons between *Psilorhinus morio* and two other corvids (*Corvus brachyrhynchos, Cyanocitta cristata*) showed that the cleido-trachealis muscles are hypertrophied in *Psilorhinus*, presumably in correlation with the development of this structure. Sutton and Gilbert (1942) questioned whether the furcular pouch is a generic characteristic but stated, "if the genus *Psilorhinus* is to be maintained, the pouch is the most valid character the group possesses."

New information:

A recent study (Bonaccorso 2009) examined phylogenetic relationships and historical biogeography of New World jays. Sampling included 2 individuals from each of the New World jay genera, additional sampling within *Cyanocorax* (*n* = 6 of 16 species), and 4 samples of other closely related corvid genera (*Dendrocitta, Pica, Perisoreus,* and *Corvus*). Analyses were based on 3 mtDNA (ND2, cyt b, control region) and 2 nuclear (AK5, βfib7) loci.

Maximum parsimony, maximum likelihood, and Bayesian analyses all placed *Psilorhinus morio* as sister to *Calocitta*, and outside of *Cyanocorax*, with very strong support. Thus, *Cyanocorax* and *Calocitta* + *Psilorhinus* are reciprocally monophyletic. These data support a previous study based on control region sequences (Saunders and Edwards 2002).

Recommendation:

The molecular data, combined with the unique anatomical structure of the furcular pouch and the extreme loss of structural blue coloration, all warrant resurrection of the genus *Psilorhinus* for the Brown Jay. I recommend that the name *Cyanocorax morio* be changed to *Psilorhinus morio*, with the following wording for the supplement:

p. 444. Genetic (Saunders and Edwards 2002, Bonaccorso and Peterson 2007) and morphological (Sutton and Gilbert 1947) evidence warrant treatment of *Psilorhinus* as a valid genus. Thus, this name is applied to the species currently recognized as *Cyanocorax morio.*
Add the following sentence to the beginning of the Notes for *Psilorhinus morio*: Formerly treated as a species within *Cyanocorax* (Hardy 1969, AOU 1983, AOU 1998), but *Psilorhinus* resurrected on the basis of genetic (Saunders and Edwards 2002, Bonaccorso and Peterson 2007) and morphological (Sutton and Gilbert 1947) data.

A separate proposal presents a recommendation for the linear sequence of *Psilorhinus* and other New World jays.

Literature cited:

American Ornithologists' Union. 1983. Check-list of North American Birds, 6th Edition. American Ornithologists' Union, Washington, D.C.

American Ornithologists' Union. 1998. Check-list of North American Birds, 7th Edition. American Ornithologists' Union, Washington, D.C.

Blake, E. R. *In* E. Mayr and J. C. Greenway, Jr., eds. Check-list of Birds of the World, Volume 15. Museum of Comparative Zoology, Cambridge, MA.

Bonaccorso, E. and A. T. Peterson. 2007. A multilocus phylogeny of New World jay genera. Molecular Phylogenetics and Evolution 42:467-476.

Clements, J. F. 2007. The Clements Checklist of Birds of the World, 6th Edition. Cornell Univ. Press, Ithaca, NY.

Dickinson, E. C., ed. 2003. The Howard and Moore Complete Checklist of the Birds of the World, 3rd Edition. Princeton Univ. Press, Princeton, N.J.

Friedmann H., L. Griscom, and R. T. Moore. 1957. Distributional Check-list of the Birds of Mexico, Part II. Pac. Coast Avifauna 33, Cooper Ornithological Society, Berkeley, CA.

Hellmayr, C. E. 1934. Catalogue of Birds of the Americas and the Adjacent Islands. Field Museum of Natural History Publications, Zoological Series, Volume 13, Part 7.

Madge, S. and H. Burn. 1994. Crows and Jays: A Guide to the Crows, Jays, and Magpies of the World. Houghton Mifflin Co., Boston, MA.

Ridgway, R. 1904. The Birds of North and Middle America, Part III. Bulletin of the United States National Museum No. 50.

Saunders, M. A. and S. V. Edwards. 2000. Dynamics and phylogenetic implications of mtDNA control region sequences in New World Jays (Aves: Corvidae). Journal of Molecular Evolution 51:97-109.

Sutton, J. M. and P. W. Gilbert. 1942. The Brown Jay’s furcular pouch. Condor 44:160-165.

Name and affiliation of submitter: Carla Cicero, NACC

Date of proposal: 4 May 2009

Revise linear sequence of New World jay genera

Description of the problem:

Currently, the NACC sequence for New World Jay genera is:
Cyanocitta
Calocitta
Cyanocorax (including *Psilorhinus*)
Cyanolyca
Aphelocoma
Gymnorhinus

New information:

A recent study (Bonaccorso and Peterson 2007) examined phylogenetic relationships and historical biogeography of New World jays. Sampling included 2 individuals from each of the New World jay genera, additional sampling within *Cyanocorax* (*n* = 6 of 16 species), and 4 samples of other closely related corvid genera (*Dendrocitta, Pica, Perisoreus,* and *Corvus*). Analyses were based on 3 mtDNA (ND2, cyt b, control region) and 2 nuclear (AK5, βfib7) loci.

Maximum parsimony, maximum likelihood, and Bayesian analyses produced generally congruent topologies, with most conflict centered on the arrangement of *Aphelocoma, Cyanocitta,* and *Gymnorhinus* (ACG). Data from ND2, cyt-b, and βfib7 produced an ACG clade with variable degrees of support, while control region placed *Gymnorhinus* as sister to *Cyanocorax* + *Calocitta* + *Psilorhinus* (although this data set did not reject the ACG grouping). Variation existed on how these taxa were arranged: ND2, AK5, and control region supported *Aphelocoma* + *Cyanocitta*, cyt b supported *Aphelocoma* + *Gymnorhinus,* and βfib7 supported *Cyanocitta* + *Gymnorhinus.* A combined analysis gave the same toplogy as the ND2 gene, with relatively strong support (0.94 -1.00) for *Gymnorhinus* + (*Aphelocoma, Cyanocitta*). The sister grouping of *Aphelocoma* and *Cyanocitta* coincides with a novel morphological trait – *Cyanocitta* has a unique bar lateral to the sclerotic ring (Curtis and Miller 1938) that was present in >200 *Cyanocitta* and > 600 *Aphelocoma* dissected, but absent in all other New World jays (> 100) examined (Peterson unpublished). Thus, this trait serves as a synapomorphy that unites *Aphelocoma* and *Cyanocitta* to the exclusion of *Gymnorhinus*.

Other New World jay relationships were well-supported. Evidence points to a basal position for *Cyanolyca* plus a strongly supported clade consisting of *Cyanocorax* + (*Calocitta, Psilorhinus*), which in turn is sister to *Gymnorhinus* + (*Aphelocoma, Cyanocitta*). A separate proposal deals with the generic status of *Psilorhinus.*

Recommendation:

The phylogenetic data warrant a rearrangement of the linear sequence of New World jay genera. Two sequences are possible: both have the basal taxon first, but one (A) maintains the current arrangement as much as possible while the other (B) places taxa with a more NW distribution before those with a more southern distribution. A separate proposal pulls *Psilorhinus* out of *Cyanocorax* because genetic data provide strong support for its sister relationship to *Calocitta*.

Sequence A:
Cyanolyca
Calocitta
Psilorhinus (see separate proposal)
Cyanocorax
Gymnorhinus
Cyanocitta
Aphelocoma

Sequence B:
Cyanolyca
Gymnorhinus
Cyanocitta
Aphelocoma
Calocitta
Psilorhinus (see separate proposal)
Cyanocorax

Literature cited:

Bonaccorso, E. and A. T. Peterson. 2007. A multilocus phylogeny of New World jay genera. Molecular Phylogenetics and Evolution 42:467-476.

Curtis, E. L. and R. C. Miller. 1938. The sclerotic ring in North American birds. Auk 55:225-243.

Name and affiliation of submitter: Carla Cicero, NACC

Date of proposal: 4 May 2009

Change linear sequence of genera in the Cotingidae

Description of the problem:

This proposal is to change the linear sequence of the currently recognized genera in the Cotingidae to reflect recent phylogenetic data (Ohlson et al. 2007) and to transfer the genus *Lipaugus* from Incertae Sedis to Cotingidae.

Currently, the NACC sequence for Cotingidae is:

Cotinga
Carpodectes
Querula
Cephalopterus
Procnias

This sequence is based largely on historical momentum and is not consistent with previous phylogenetic data in Prum & Lanyon (1989), Prum (1990a, 2001), and Prum et al. (2000). It also does not include *Lipaugus*, currently considered Incertae Sedis.

New information:

Ohlson et al. (2007) sequenced DNA from members of all genera of Cotingidae except *Carpornis*; gene regions sampled included nuclear (myoglobin intron-2 and G3PDH intron-11) and mitochondrial DNA (Cyt-b). The aligned sequences totaled 2118 bp. Their tree had good Bayesian support at almost all nodes for terminal branches as well as at many interior nodes. Clades with strong (0.99 to 1.00) Bayesian support were (1) Cotingidae, but only if *Lipaugus* is included; (2) *Zaratornis*, *Phytotoma*, *Doliornis*, and *Ampelion*; (3) *Pipreola +Ampelioides*; (4) *Snowornis*, *Haematoderus*, *Querula*, *Pyroderus*, *Cephalopterus*, *Perissocephalus*, *Cotinga*, *Tijuca*, *Lipaugus*, *Porphyrolaema*, *Procnias*, *Carpodectes*, *Conioptilon*, and *Gymnoderus*; (5) everything in 4 except *Snowornis*, which is sister to this reduced clade; and (6) *Querula*, *Pyroderus*, *Cephalopterus*, and *Perissocephalus.*

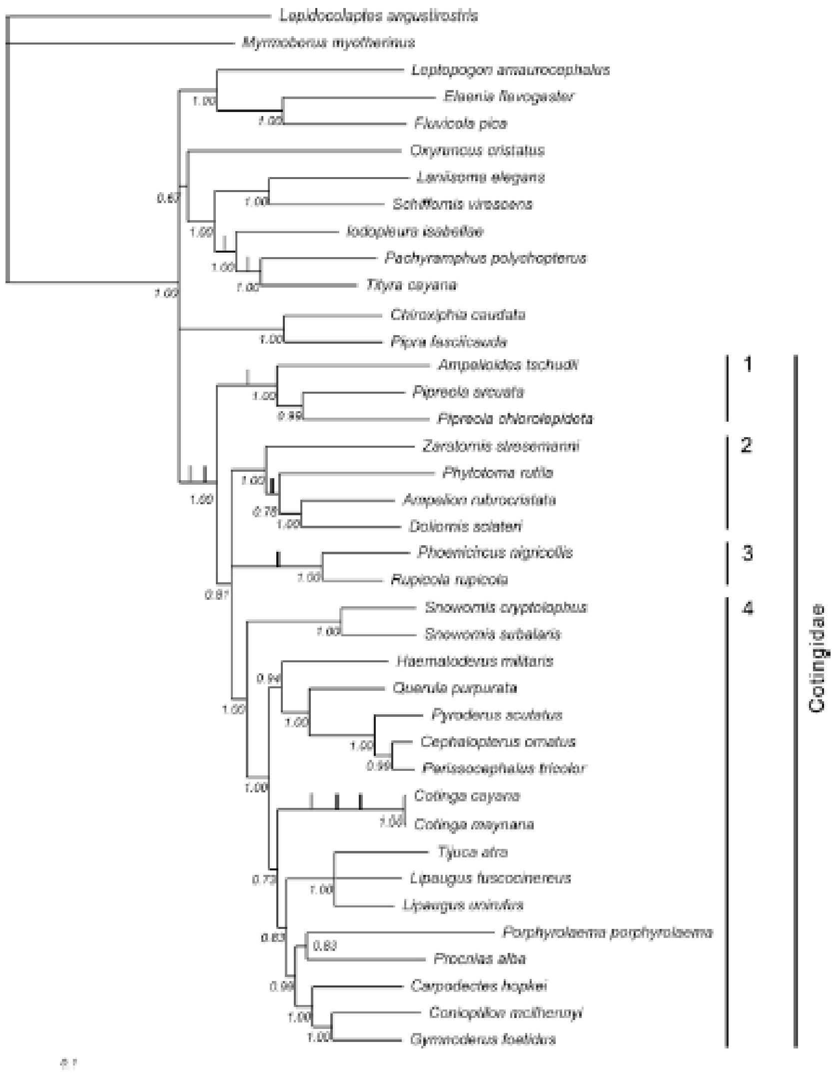

Fig. 2. 50% Majority rule consensus tree obtained from the Bayesian analysis of the combined data set. Numbers indicate posterior probability for each node. Numbered clades: (1) fruiteaters, (2) the *Ampelion* clade, (3) the *Rupicola* clade, and (4) the 'core cotingas'. Synapomorphic insertions and deletions are marked with black and grey bars, respectively.

Translating that to a linear sequence, using the usual conventions ("basal" taxa first; for sister taxa, NW-most taxon listed first; for polytomies, stay as close to traditional sequence as possible), the result is shown below, with well-supported groups color-coded, and indentations attempting to mark branching patterns within each group. Within each grouping of more than two taxa, some rotation is possible, and I have tried to stick to conventions above for determining which comes first:

Pipreola
Ampelioides
Zaratornis
    Phytotoma
        Doliornis

Ampelion
Phoenicircus
Rupicola
Snowornis
Haematoderus
Querula
Pyroderus
Cephalopterus
Perissocephalus
Cotinga
Lipaugus
Tijuca
Procnias
Porphyrolaema
Carpodectes
Xipholena
Gymnoderus
Conioptilon

Removing genera endemic to South America, the survivors are:

Querula
Cephalopterus
Cotinga
Lipaugus
Procnias
Carpodectes

Analysis and Recommendation:

Lipaugus is clearly a member of the Cotingidae and should be removed from Incertae Sedis.

Linear sequences intuitively frame the way researchers think about species and should reflect our best data on relationships. A number of slight permutations on this one are possible – if anyone sees improvements, these can be discussed and worked in. Regardless, the basic sequence above reflects our understanding of relationships within the family much better than the previous one, and so I recommend a YES on this. This is the sequence adopted by SACC (proposal 382); SACC members' comments are included below.

Literature Cited:

OHLSON, J. I., R. O. PRUM, AND P. G. P. ERICSON. 2007. A molecular phylogeny of the cotingas (Aves: Cotingidae). Molecular Phylogenetics and Evolution 42: 25-37.

PRUM, R.O. 1990. A test of the monophyly of the manakins (Pipridae) and of the cotingas (Cotingidae) based on morphology. Occ. Papers Museum of Zoology, Univ. of Michigan 723: 1-44.
PRUM, R. O. 2001. A new genus for the Andean green pihas. Ibis 143: 307-309.
PRUM, R. O., AND W. E. LANYON. 1989. Monophyly and phylogeny of the *Schiffornis* group (Tyrannoidea). Condor 91: 444-461.
PRUM, R.O., N. H. RICE, J. A. MOBLEY, AND W. W. DIMMICK. 2000. A preliminary phylogenetic hypothesis for the cotingas (Cotingidae) based on mitochondrial DNA . Auk 117: 236-241.

Name and affiliation of submitter: Van Remsen (in consultation with Jan Ohlson and Rick Prum, and input from Manuel Nores), NACC

Date of proposal: May 2009

SACC member comments:

Comments from Stiles: "YES. Again, this study, involving both mitochondrial and nuclear genes and with morphological input, clearly presents the best available information on relationships to date. Classifying this family by plumage data or displays is especially problematic because so many species form leks and thus are likely under strong sexual selection, which often produces striking and unpredictable divergences in such characters between related species."

Comments from Nores: "YES. El nuevo ordenamiento luce mejor, ya que está de acuerdo con la secuencia molecular de Ohlson y Prum."

Comments from Jaramillo: "YES – Another straightforward and well-grounded proposal. I agree with the suggestion to put *Carpornis* next to *Pipreola* and at the start of the sequence."

Comments from Zimmer: "YES. This arrangement is in keeping with the best and most recent available evidence. I would favor placing *Carpornis* at the beginning of the sequence to indicate *incertae sedis*, not to indicate any particular relationship with *Pipreola.* There are some obvious plumage similarities between *Pipreola* and *Carpornis*, but vocalizations couldn't be more different, with the two species of *Carpornis* having loud, arresting vocalizations that cover great distances (when *cucullatus* is breeding, its song is arguably the dominant voice of the forest, unless of course, *Procnias* is drowning it out.), whereas every *Pipreola* I've ever heard has an easily overlooked very thin, high-frequency, long whistle or trill and some equally thin staccato chatter. Morphologically, most *Pipreola* exhibit a greater degree of sexual dimorphism, and all species in the genus have a brightly colored orange/red bill. *Carpornis* shows less sexual dimorphism, and both sexes of both species have black bills. *Pipreola* is, I think without exception, an exclusively montane genus (with a few species found in the tropical zone of the foothills), and almost entirely Andean in distribution (except for *whitelyi* of the Guianan highlands). I tend to see them mostly in the company of mixed-species flocks of frugivores, and often in small groups consisting of several individuals of their own species. The two *Carpornis* on the other hand, are endemics of Brazil's Atlantic Forest, and although *cucullatus* is a foothill bird, *melanocephalus* ranges down to sea level. They are generally solitary birds (encountered as pairs or individuals, but not regularly in small groups), and are not generally found with mixed-species flocks."

Recognize *Trogon caligatus* as a separate species from *Trogon violaceus*

This would treat our existing species, *Trogon violaceus*, as two species, with the true *T. violaceus* thus becoming extralimital. Thus, our former "Violaceous Trogon, *T. violaceus*, would become Gartered Trogon, *T. caligatus*.

Description of the problem:

Ridgely and Greenfield (2001) split Middle American *caligatus* from South American *violaceus* based on qualitative descriptions of vocal differences. See SACC proposal #50 for why SACC did not consider this sufficient for a change in species limits, but you can hear the differences by following the hyperlinks above.

New information:

DaCosta & Klicka (2008) published a gene-based phylogeny of the genus that included samples of *caligatus* (N=9) from Mexico, Honduras, Costa Rica, and Panama, as well as, I think, W Ecuador (a sample from "eECU" is presumably a typo for "wECU"), nominate *violaceus* from the Guianan Shield (N=2), and Amazonian *ramonianus* (N=4) from Ecuador, Peru, Venezuela, and Bolivia. They sampled one complete mitochondrial gene, ND2 (1041 base pairs, of which 557 were phylogenetically informative).

They found that their three groups corresponded to three clades: (1) *caligatus* was basal to a group of taxa that included not only the other *violaceus* samples but also *T. curucui* and *T. surrucura*, with strong support (100% maximum likelihood bootstrap, 1.00 Bayesian support); (2) nominate *violaceus* and *T. curucui* are sisters, also with strong support (100% maximum likelihood bootstrap, 1.00 Bayesian support); and (3) Amazonian *ramonianus* is the sister to group 2 (83% maximum likelihood bootstrap, 0.86 Bayesian support).

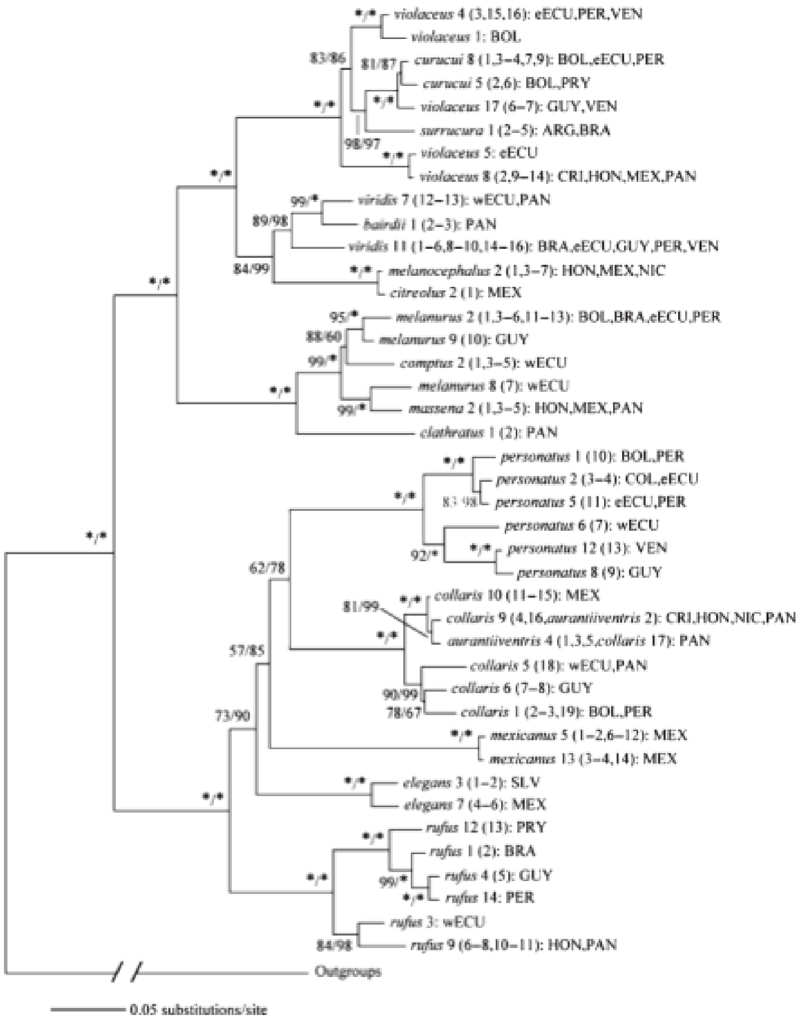

Fig. 1 Maximum likelihood phylogeny of the trimmed *Trogon* data set. The phylogeny is rooted with representatives of *Pharomachrus, Euptilotis, Priotelus, Apaloderma,* and *Harpactes* (not shown). Numbers following species names refer to sample numbers (Appendix). The first number is the sample used to construct the phylogeny, and the numbers in parentheses indicate other samples that fall within that lineage. Countries where samples were collected follow sample numbers. Numbers on nodes correspond to maximum likelihood bootstrap (left) and Bayesian posterior probability (right) percentages. Asterisks represent values of 100%.

A SACC proposal (378) on this passed, and members' comments are included below.

Analysis and Recommendation:

With genetic support from only a single, mitochondrial gene as the basis for the relationship, one could argue that the tree is only a gene tree, not a species tree, or that incomplete lineage-sorting confounds the result. However, with the qualitative vocal data, I think that published evidence is sufficient for a change in species limits, so I recommend a YES.

Literature Cited:

DaCOSTA, J. M., AND J. KLICKA. 2008. The Great American Interchange in birds: a phylogenetic perspective with the genus *Trogon*. Molecular Ecology 17: 1328-1343.

RIDGELY, R. S., AND P. J. GREENFIELD. 2001. The birds of Ecuador. Vol. I. Status, distribution, and taxonomy. Cornell University Press, Ithaca, New York.

Note on English names: Ridgely & Greenfield (2001) coined “Northern Violaceous Trogon” for *caligatus* and “Amazonian Violaceus Trogon” for *viridis*, and this was followed by Hilty (2003). However, Cory, Ridgway, and other authors of that era used “Gartered Trogon” for *caligatus*, leaving Violaceus for *violaceus*, and this was, most notably, followed by Gill & Wright (2006).

Name and affiliation of submitter: Van Remsen, NACC

Date of proposal: May 2009

This proposal passed SACC with the following comments:

Comments from Zimmer: “YES, on the basis of genetic and plumage data, combined with qualitative vocal data. However, I would go further and strongly suggest that *ramonianus*, together with *crissalis*, constitutes a species distinct from both nominate *violaceus* and the *caligatus* group of Central America and trans-Andean western South America. The DaCosta & Klicka paper presents genetic data backing such a treatment for *ramonianus*, which, in my experience, is the most vocally distinct taxon in the entire group. There is no published vocal analysis to prove this, but there are published qualitative descriptions, as well as published sample recordings of nominate *violaceus,* the *caligatus* group, and *ramonianus/crissalis*. Examples are also searchable online at the Macaulay Laboratory website (probably also at Xenocanto). For example, go to the Macaulay Library site, and do a search for *Trogon violaceus* recordings. Check out LNS recordings #38963 (Ted Parker recording from Pando, Bolivia) and #11364 (Curtis Marantz recording from Amazonas, Brazil), both of which are representative of *ramonianus.* You will see that the notes of the song have a diphthongal or nearly bisyllabic quality. This squares with the description of the song of “Amazonian Violaceous Trogon” in Ridgely & Greenfield’s *Birds of Ecuador*, which the authors describe as “a fast but relatively short series of clipped “cow” notes, the notes often becoming doubled (“cadow-cadow-cadow..”).” This is in marked contrast to not only the songs of trans-Andean *caligatus*, but also to Guianan/n Amazonia east of the rio Negro nominate *violaceus*, both of which sound much more like Blue-crowned Trogon (*T. curucui*) in having a longer, faster series of higher-pitched notes which are more reminiscent of the song of Ferruginous Pygmy-Owl (*Glaucidium brasilianum*). Again, compare the two LNS recordings of *ramonianus* noted above to any LNS recordings of nominate *violaceus* from the Guianan region, or to any recordings of the *caligatus* group from Central America or western South America. In my experiences, the differences noted (bisyllabic or diphthongal notes, fewer notes per song, slower pace and lower pitch for *ramonianus* versus single-syllable notes, many more notes per song delivered at faster pace and higher pitch for nominate *violaceus*) are absolutely consistent throughout their respective ranges. Songs of *crissalis*, although possibly not identical to those of *ramonianus*, are at least distinctly similar, and are noticeably different from those of nominate *violaceus*. I would argue that the available genetic, morphological and vocal evidence for splitting *ramonianus/crissalis* from nominate *violaceus* is at least as solid as the evidence for splitting the *caligatus* group from nominate, and that the vocal differences are much greater between *ramonianus/crissalis* and nominate, than between nominate and the *caligatus* group. (Caution: Do not be misled by some of the purported *violaceus* LNS recordings from Mato Grosso, Brazil, which sound like north bank (nominate) *violaceus*. I am certain that these represent misidentifications of the songs of *Trogon curucui*, an easy and natural error for observers familiar with the songs of *violaceus* from Central America or the Guianan region to make. In each such recording that was accompanied by a voice announcement, the recordist reported the recorded bird as unseen, but thought to be *violaceus*.)

"As regards English names, I think Van's suggestions of "Gartered Trogon" for the *caligatus* group and "Violaceous Trogon" for nominate, are excellent. HBW lists "Amazonian Trogon" as a name available for *ramonianus*, and I think that would be appropriate for the combined *ramonianus/crissalis*."
<u>Comments from Robbins</u>: "YES, as one can readily hear by making vocal comparisons between these taxa on the Macaulay LNS and Xenocanto America websites, coupled with the Klicka et al. genetic data makes this a straightforward decision.

"In addition to recognizing *caligatus* as a species, I fully support taking this a step further, as Kevin suggests, and recognizing *ramonianus/crissalis* as a species. Finally, I not only support Van's English name suggestions for *caligatus* and nominate *violaceus*, but Kevin's suggestion of Amazonian Trogon for *ramonianus/crissalis*.

<u>Comments from Stiles</u>: "YES. With genetic evidence in hand that corroborates the differences in morphology and vocalizations, the burden of proof now falls heavily upon the lumpers. Regarding Kevin's suggestion to split *ramonianus/crissalis*, he might well be right but I would prefer to see this as a separate proposal, where more detailed arguments can be brought to bear."

<u>Comments from Nores</u>: "YES**.** Los datos genéticos, morfológicos y de vocalizaciones muestran claramente que se trata de una especie diferente de *T. violaceus*. Lo que si, esto implica que las subespecies *sallaei* y *concinnus* de Mexico y Centro América pasan a ser subespecies de *T. caligatus.* Por las mismas razones, y por los datos aportados por Zimmer estoy de acuerdo en considerara *ramonianus-crissalis* como una especie diferente de *T. violaceus."*
<u>Comments from Cadena</u>: "YES. Kevin's point on *ramonianus* etc. is also well-taken (I assume this will become a separate proposal)."
<u>Comments from Stotz</u>: "YES. I am pretty convinced by Kevin's discussion of *violaceus* versus *ramonianus* along with the genetic work that these should be split, but I think we should have a separate proposal for it. I favor Van's English names."

<u>Comments from Jaramillo</u>: “YES – Song, morphology and genetics all line up to clarify the relationship here. I look forward to another proposal for *ramonianus*, as that does indeed sound different. Also Yes on Violaceous and Gartered trogons.”

Recognize *Trogon chionurus* as a separate species from *Trogon viridis*

This would treat our existing species, *Trogon viridis*, as two species, with the true *T. viridis* thus becoming extralimital. Our former White-tailed Trogon, *T. viridis*, would become *T. chionurus* but retain the English name White-tailed.

Description of the problem:

Ridgely & Greenfield (2001; Birds of Ecuador book) split trans-Andean *chionurus* from Amazonian *viridis* based largely on qualitative descriptions of vocal differences, but SACC did not regard these as adequately quantified or documented (in fact, published descriptions are contradictory). You can hear samples of both at Xeno-Canto – I am impressed with the differences in rhythm: *chionurus* and *viridis* (but I also hear lots of variability – browse *Trogon viridis*). SACC, however, accepted the split following publication of the new genetic data.

New information:

DaCosta & Klicka (2008) published a gene-based phylogeny of the genus that included samples of *bairdii* (2), *viridis* from Amazonia (12), and *chionurus* from W. Ecuador and Panama (2). They sampled 1 mitochondrial gene, ND2, and 1041 base pairs, of which 557 were phylogenetically informative. They found strong support (99% maximum likelihood bootstrap, 100% Bayesian support) for the sister relationship between *chionurus* and *bairdii*, as well as strong support for Amazonian *viridis* as the sister to these two. See the *T. caligatus* proposal for the tree.

Analysis and Recommendation:

With genetic support from only a single, mitochondrial gene as the basis for the relationship, one could argue that the tree is only a gene tree, not a species tree, or that the *bairdii-chionurus* relationship is due to incomplete lineage-sorting, or even that hybridization between *bairdii* and *chionurus* produces the result. Nonetheless, combined with the qualitative vocal data, I think that published evidence is sufficient for a change in species limits, so I recommend a YES.

Literature Cited:

DaCOSTA, J. M., AND J. KLICKA. 2008. The Great American Interchange in birds: a phylogenetic perspective with the genus *Trogon*. Molecular Ecology 17: 1328-1343.

Note on English names: Ridgely & Greenfield (2001) coined "Western White-tailed Trogon" for *chionurus* and "Amazonian White-tailed Trogon" for *viridis*, and this was followed by Hilty (2003) and Gill & Wright (2006). However, Cory (1919) restricted White-tailed to *chionurus* and called *viridis* “Green-backed.” These are actually very nice names. “Chionurus” means “snow-tailed”, and the larger amount of white in the tail of *chionurus* is one of the differences between the two taxa; and there is also the nice parallel between the English and scientific names. “Green-backed” also points to another major plumage difference between the two (blue back in *chionurus*) and is also reflected, somewhat, in the scientific name *viridis*. Also, those long compound names are fairly unpopular, despite their ability to imply relationships. And in this case, with *bairdii* likely the sister to *chionurus*, they are actually misleading as to relationships. Finally, “Western” and “Amazonian” are fairly insipid and not entirely accurate because a highly disjunct population of *viridis* is found in the Atlantic Forest region. SACC names are White-tailed and Green-backed; see SACC proposal for additional comments.

Name and affiliation of submitter: Van Remsen, NACC

Date of proposal: May 2009

Comments on SACC proposal from SACC members:

Comments from Zimmer: “YES. Vocal distinctions between these two have been noted for some time, and there are plenty of qualitative descriptions out there, as well as published and internet-searchable examples of recordings. These agree well with the DaCosta & Klicka genetic data, which places *chionurus* as closer to *bairdii*, a relationship that would have been predicted on vocal and morphological characters alone. I think Van’s suggestions regarding English names (“White-tailed” reserved for *chionurus*, and “Green-backed” for *viridis*) are excellent.”

Comments from Robbins: “YES, again web-based vocal data support the Klicka et al. genetic conclusions. I fully support Van’s English name suggestions.”

Comments from Stiles: “YES, for reasons stated by Van and Kevin. I also prefer the English names suggested by Van – I dislike three-word monsters, hyphenated or not, if simpler alternatives are available.”

Comments from Nores: “YES. Los datos morfológicos, genéticos y de vocalizaciones indican que *chionurus* es una especie diferente de *T. viridis*. Sin embargo, me parece poco probable que esté más cerca de *T. bairdii* que de *T. viridis*. Pienso que debe tratarse de un problema relacionado con haber usado un solo gen mitocondrial, como ha sido destacado por Van. Como en Xeno-Canto no hay vocalizaciones de *T. bairdii* no pude comparar con las otras especies.”

Comments from Stotz: “YES. I favor Van's English names.”

Comments from Jaramillo: “YES – Song, morphology and genetics all line up to clarify the relationship here. Kudos to Van for suggesting some simple names, rather than multi-word monsters, so yes Green-backed and White-tailed work well!”

Recognize *Trogon mesurus* as a separate species from *Trogon melanurus*

This would split an existing species, *Trogon melanurus*, into two species, only one of which occurs in our area. The new species would be known as *T. mesurus*, Ecuadorian Trogon, and would be entirely extralimital. Thus our classification would remain unchanged – only the distribution statement would be modified to reflect the extralimital split.

Description of the problem:

Ridgely & Greenfield (2001) split trans-Andean *mesurus* from cis-Andean *melanurus* based on qualitative vocal differences. See SACC proposal 51 for a summary of previous arguments pro and con for this split, which was at that time rejected. A one-sentence summary of the previous arguments might be although *mesurus* differs as much from *melanurus* as the latter does from *massena*, the vocal differences have not been adequately quantified or documented. *Mesurus* is illustrated in the Ridgely-Greenfield Ecuador book – you can see there that it is phenotypically more similar to *T. comptus* than to T*. melanurus*. SACC subsequently passed a proposal (380) to split them based on the new genetic data (below); SACC members' comments are included below.

New information:

DaCosta & Klicka (2008) published a gene-based phylogeny of the genus that included samples of cis-Andean *melanurus* (9) from Guyana, Bolivia, e Ecuador, and Peru, and trans-Andean *mesurus* (2) from w Ecuador. They sampled 1 mitochondrial gene, ND2, and 1041 base pairs, of which 557 were phylogenetically informative. They did not sample trans-Andean *macroura*, from W. Panama and n. Colombia, the taxon in AOUCL area; this subspecies presumably belongs with *T. melanurus*, not *mesurus*, due to plumage, bare part (iris), and vocal similarities.

They found that the two groups fell into three clades: (1) cis-Andean *melanurus* (with substandard support for a sister relationship to *T. comptus*), and (2) trans-Andean *mesurus* and *T. massena* (99% maximum likelihood bootstrap, 100% Bayesian support. See *T. caligatus* proposal for tree.

Analysis and Recommendation:

With genetic support from only a single, mitochondrial gene as the basis for the relationship, one could argue that the tree is only a gene tree, not a species tree, or that incomplete lineage-sorting confounds the result. However, with the qualitative vocal data, I think that published evidence is sufficient for a change in species limits, so I recommend a YES. The evidence so far indicates that *mesurus* is more closely related to our *T. massena* than to *T. melanurus*.

Literature Cited:

DaCOSTA, J. M., AND J. KLICKA. 2008. The Great American Interchange in birds: a phylogenetic perspective with the genus *Trogon*. Molecular Ecology 17: 1328-1343.

Note on English names: Ridgely & Greenfield (2001) coined "Ecuadorian Trogon" for *mesurus*, leaving Black-tailed for *melanurus*, and this was followed by Gill & Wright (2006) and SACC.

Name and affiliation of submitter: Van Remsen, NACC

Date of proposal: Aug 2009

Comments on SACC proposal from SACC members:

Comments from Zimmer: "YES, for reasons summarized by Van. I also agree that "Ecuadorian Trogon" and "Black-tailed Trogon" should be retained as English names."

Comments from Robbins: "YES, for recognizing *mesurus* as a species and using English names suggested by Ridgely and Greenfield."

Comments from Stiles: "YES, for the same reasons as in 380. Since previously noted morphological and vocal differences coincide with genetic differences of a magnitude consistent with species status, the burden of proof shifts to those who would maintain them in a single species. Once again, Van's English names seem OK with me."

Comments from Nores: "NO. Aunque por el análisis molecular parece claro que son dos especies diferentes, el hecho de que hay soporte genético para un solo gen mitocondrial puede estar indicando de que se trata de un árbol del gen y no de un árbol de las especies, como mencionado por Remsen. Además, las diferencias morfológicas son mínimas y el canto, de acuerdo a Ridgely y Greenfield, es similar siendo formado por cortas series, enves de una sola larga. A raiz de esto, quiero mencionar nuevamente algo que dije en la propuesta 49 y que ya casi me había olvidado: "Separar especies por suaves diferencias en el canto no me parece bien, como ya lo expresé en el caso de *Rhynchotus rufescens maculicollis*. Recientemente estuve en el noreste de Brasil y me llamó la atención lo diferente que son los cantos de algunas subespecies de allí con respecto a las poblaciones del sur de Sudamérica. Por ejemplo, *Thraupis sayaca* tiene un canto mucho mas potente y mas variado que las razas del sur, y *Turdus rufiventris* emite un llamado permanente que nunca se lo escuché a la subespecie de esta latitud. Otro ejemplo del sur es *Vanellus chilensis*, del cual la raza del sur de Argentina y Chile emiten un canto bastante diferente (parece un loro) que la raza que habita el norte y centro de Argentina. Tanto es así que muchas personas (no ornitólogas) me preguntan que a que se debe que las aves del sur cantan tan distinto Esto no significa para mi que haya que elevar las subespecies a especies."

Comments from Stotz: "YES. I think the interposition of *massena* in the tree between the cis and trans Andean populations along with the morphological differences and vocal differences argue for this change. I also favor the Ecuadorian Trogon as a name for this taxon."

Comments from Jaramillo: "YES – Song, morphology and genetics all line up to clarify the relationship here. Yes to English names, Ecuadorian and Black-tailed.

Recognize a New Species of Red Crossbill, *Loxia sinesciurus* Benkman (South Hills Crossbill)

Split a population of *Loxia curvirostra* from southern Idaho into a new species. Add a new species to the Checklist, ***Loxia sinesciurus* Benkman 2009** (South Hills Crossbill).

Description of the problem:

The Crossbills (*Loxia*) are a taxonomic nightmare. Particularly within the Red Crossbill complex (*L. curvirostra*) there is a lot of variation in bill size as well as call notes. There are at least 8 different call note types. There is evidence that birds tend to mate with an other individual with a similar call note. Bill size is highly correlated with the size of the conifer cone eaten. Vocalizations in oscines are readily learned and thus give little historical information about relationships, and bill size (and other size metrics) seem to evolve rapidly in response to local selective pressures.

New information:

Benkman et al. (*The Condor* 111:169-176) published information on a population of “Red Crossbills” from south-central Idaho. These birds are apparently resident in the South Hills and Albion Mountains, where they feed nearly exclusively on the cones of lodgepole pines (*Pinus contorta latifolia*). In these mountains there are no red squirrels (*Tamiasciurus hudsonicus*) which are important predators on conifer cones, and this population of crossbills probably dates back to the Pleistocene. In the absence of squirrels, cones accumulate on the pines, and serotinous lodgepole cones can hold seeds for decades until cones are heated by fire. Thus there is an abundant and predictable source of food for crossbills. Squirrels exert strong selection against serotiny. The South Hills Crossbills have become well adapted to foraging on the serotinous cones – deep bills – and, because of the abundance of cones, densities of crossbills are high there. Because crossbills are the main selective agent there, selection causing lodgepole pines to evolve seed defenses against crossbills, in the form of larger, thicker-scaled cones, have evolved, selecting in turn crossbills with larger bills.

Although wandering flocks of other Red Crossbills pass through the area, the data suggest that South Hills Crossbills breed virtually only with other South Hill birds. Also, unlike other populations of red crossbills, they seem to have a fairly regular breeding season. South Hills Crossbills have a distinctive song type (for what that’s worth), and the South Hills population seems to be reproductively isolated from other Red Crossbills. Morphometrically, they are like other Red Crossbills, but average larger. Hybridization with birds of other call types is rare (annual range 0-0.02) and inasmuch as the South Hills birds are resident it is likely that gene flow among populations is low, reinforced by a strong preference for crossbills to mate with others of their call type. Although amplified fragment length polymorphisms (AFLPs) have not revealed any fixed differences between these and other red crossbills, there are “significant levels of genetic differentiation based on inferred variation in allele frequency and Fst estimates.” “Genetic divergence between South Hills Crossbills and crossbills of call types 2 and 5 is especially evident in about 5% of 235 AFLP loci.”

Recommendation:

The Red Crossbills are a complicated mess. I suspect that there are several species there, by any criterion. This study is probably as rigorous as any we will receive, and I think that they have made a good case for a new species. I would go with this. Name would be South Hills Crossbill, *Loxia sinesciuris* Benkman, 2009.

Literature Cited:

Benkman, C. W., Smith, J. W., Keenan, P. C., Parchman, T. L, and Santisteban, L. 2009. A New Species of the Red Crossbill (Fringillidae: *Loxia*) from Idaho. *Condor* 111:169-176.

Name and affiliation of submitter: James D. Rising, NACC

Date of proposal: 2 Jun 2009

Split *Pipilo* into two genera

Split *Pipilo* into different genera, *Pyrgisoma* and *Pipilo*, the "brown" towhees (including *Melozone kieneri*) and the rufous-sided towhees (including *Pipilo chlorurus* and *P. ocai*), and change the linear sequence of closely related taxa.

Description of the problem:

Researchers have long questioned the monophyly of sparrow genus *Pipilo* (e.g. Ridgway 1901, Davis, 1951).

New information:

DaCosta et al. (2009) looked at relationships among several sparrow taxa using sequence data from the mitochondrial genes cytochrome-*b* and ND2. All species of *Aimophila* and *Pipilo* were included, along with 33 species representing 17 additional emberizid genera. Maximum likelihood and Bayesian analyses indicated that *Pipilo* is polyphyletic, consisting of two clades that are not each other's closest relatives: (1) the "rufous-sided towhees" (*P. chlorurus, P. ocai, P. maculatus* and *P. erythrophthalmus*), which form a clade sister to *Atlapetes* (100% bootstrap; >0.95 posterior probability); and (2) the "brown towhees" (*P. aberti, P. crissalis, P. albicollis,* and *P. fuscus*), which form a clade sister to *Melozone kieneri* (88%; >0.95). The placement of the other species of *Melozone*, *M. biarcuatum* and *M. leucotis*, was not well resolved, although there was strong support (92%; >0.95) for a clade consisting of the brown towhees, all species of *Melozone*, and three species of *Aimophila* (*notosticta, ruficeps*, and *rufescens*). Clades 1 and 2 above formed a strongly supported monophyletic group (99%; >0.95).

The type species of *Pipilo* is *erythrophthalmus*, so the name *Pipilo* stays with the rufous-sided clade. DaCosta et al. (2009) proposed merging *M. kieneri* with the brown towhees and resurrecting the genus name *Pyrgisoma* for the resulting clade (type species *Pyrgisoma kieneri* Bonaparte, 1851). Other possible taxonomic options include restricting the new genus to the brown towhees, which would apparently require a new name, or merging the brown towhees, all species of *Melozone*, and three species of *Aimophila* (as above) into a single genus.

We propose the following changes:

11a. Split *Pipilo* into two genera, one for the "rufous-sided towhees", the other for the "brown towhees";
11b. Merge *Melozone kieneri* with the "brown towhees", resurrecting the genus name *Pyrgisoma* for this clade; and
11c. Reposition *Atlapetes* adjacent to *Pipilo* and reposition *Melozone biarcuatum*, *M. leucotis*, *Aimophila notosticta, A. ruficeps*, and *A. rufescens* near *Pyrgisoma.*

If these proposals are adopted, the sequence of the larger clade would be:

Atlapetes albinucha
A. pileatus
Pipilo ocai
P. chlorurus
P. maculatus
P. erythrophthalmus
Aimophila rufescens
A. ruficeps
A. notosticta
Melozone leucotis
M. biarcuatum
Pyrgisoma kieneri
P. fuscus
P. albicollis
P. crissalis
P. aberti

These taxa would follow *Arremonops conirostris* in the current sequence.

Recommendation:

This is the first molecular study that included material from all species of *Pipilo*. The evidence for splitting the genus (Proposal 11a) is straight-forward and supports what more traditional methods have long suggested. We recommend acceptance of this split. Merging *M. kieneri* with the "brown towhees" (Proposal 11b) is probably the best option at the moment, given the uncertainty in many parts of the tree and the lack of a name for these former *Pipilo* species if not merged with *M. kieneri*. Repositioning closely related taxa also seems to be the current best option, given the comprehensive sampling for *Pipilo*, *Melozone*, and *Aimophila* (see Proposal 2009-A-12 below).

Literature Cited:

DaCosta, J. M., Spellman, G. M. Escalante, P., and Klicka, J. 2009. A Molecular systematic revision of two historically problematic songbird clades: *Aimophila* and *Pipilo*. *J. Avian Biol.* 40:206-216.

Davis, J. 1951. Distribution and variation of the brown towhees. *Univ. California Publs. Zool.* 52:1-120.

Ridgway, R. 1901. The Birds of North and Middle America. *Bull. US Nat'l. Mus., Washington.*

Name and affiliation of submitter: James D. Rising and R. Terry Chesser, NACC

Date of proposal: 3 Jun 2009

Split *Aimophila* into three genera

Split *Aimophila* into three genera, moving eight species to *Peucaea* and merging *A. quinquestriata* into *Amphispiza.*

Description of the problem:

Researchers have long questioned the monophyly of sparrow genus *Aimophila* (e.g. Ridgway 1901, Storer 1955, Wolf 1977).

New information:

DaCosta et al. (2009) looked at relationships among several sparrow taxa using sequence data from the mitochondrial genes cytochrome-*b* and ND2. All species of *Aimophila* and *Pipilo* were included, along with 33 species representing 17 additional emberizid genera. Maximum likelihood and Bayesian analyses indicated that *Aimophila* is polyphyletic, consisting of as many as five lineages: (1) *A. notosticta, A. ruficeps,* and *A. rufescens*, which are related to *Melozone* and *Pipilo sensu stricto*; (2) *A. aestivalis, A. cassini, A. botteri, A. humeralis, A. mysticalis,* and *A. ruficauda*; (3) *A. carpalis* and *A. sumichrasti*; (4) *A. stolzmanni* and *A. strigiceps*, neither of which occurs in our area; and (5) *A. quinquestriata*, which is sister to *Amphispiza bilineata* (*Amphispiza belli* was not sampled). Lineages 2, 3, and 4 form a clade that also includes species of *Arremonops* and *Ammodramus*.

This arrangement is generally consistent with previous work (e.g., Ridgway 1901, Storer 1955, Wolf 1977), and splits up this “obviously polytypic” genus.

The type species of *Aimophila* is *rufescens*, so the name *Aimophila* stays with lineage 1 above. Some analyses of DaCosta et al. (2009) placed lineages 2 and 3 above as sisters, and the authors suggested that they remain congeneric pending further data. They indicated that the genus name *Peucaea*, erected by Audubon (1839) to include *Fringilla bachmanii* (*A. aestivalis*) and *F. lincolnii* (*Melospiza lincolnii*), has priority for this clade. DaCosta et al. proposed that *Aimophila quinquestriata* be merged into *Amphispiza*.

We propose the following changes (see Proposal 11c regarding the repositioning of *Aimophila notosticta, A. ruficeps*, and *A. rufescens*):

12a. Resurrect genus *Peucaea* for *Aimophila aestivalis, cassini, botteri, humeralis, mysticalis, ruficauda*, *carpalis* and *sumichrasti*; and
12b. Merge *Aimophila quinquestriata* into *Amphispiza.*

If these proposals are adopted, *Amphispiza quinquestriata* will be moved to a position preceding *A. bilineata*, and the other former *Aimophila* species will follow *Pipilo aberti (Pyrgisoma aberti* if Proposal 11b is adopted*)*, in the following order:

Peucaea sumichrasti
P. carpalis
P. ruficauda
P. humeralis
P. mystacalis
P. botteri
P. cassini
P. aestivalis

Recommendation:

This is the first molecular work that has included material from all putative species of *Aimophila*. The results are fairly straight-forward and support what more traditional methods have long suggested. We recommend acceptance of these changes.

Literature Cited:

DaCosta, J. M., Spellman, G. M. Escalante, P., and Klicka, J. 2009. A Molecular systematic revision of two historically problematic songbird clades: *Aimophila* and *Pipilo*. *J. Avian Biol.* 40:206-216.

Ridgway, R. 1901. The Birds of North and Middle America. *Bull. US Nat'l. Mus., Washington.*

Storer, R. W. 1959. A preliminary study of the sparrows of the genus *Aimophila. Condor* 61:152-153.

Wolf, L. L. 1977. Species relationships in the avian Genus *Aimophila. Ornithol. Monogr. No. 23, American Ornithologists' Union,* Allen Press, Lawrence, KS.

Name and affiliation of submitter: James D. Rising and R. Terry Chesser, NACC

Date of proposal: 3 Jun 2009

Change spelling of *Acanthidops bairdii* to *Acanthidops bairdi*

Normand David has pointed out that we list a species *Acanthidops bairdii*, although the original spelling (Ridgway 1882).was *bairdi.* Apparently the ii spelling was first done by error by Paynter in Peters 1970, vol. 13, p. 111, but it has been followed (=copied) by almost everyone since—AOU 1983, 1998, Sibley and Monroe 1990, Stiles and Skutch 1989, Dickinson 2003, Gill and Wright 2006, etc. The only places I have found with the correct *bairdi* spelling are Wetmore 1984 and Ridgely 1976 (presumably also his second edition), but I have not looked at all possible places it might have occurred.

We should make the correction in the next Supplement, but because this is an "incorrect subsequent spelling" in the sense of the Code (ICZN 1999) there is a possible problem with the concept of "prevailing usage" that we must avoid. I believe that this clearly falls under Article 33.4 of the Code (rather than 33.3.1) and we should indicate that specifically.

In correcting the spelling, I suggest that we do the following:

p. 597. Change the spelling *Acanthidops bairdii* to *Acanthidops bairdi*, in the citation for the genus, the heading for the species, and the citation for the species. Add the following to the end of the account:

Notes.—The spelling of the specific name as *bairdii* was an incorrect subsequent spelling (ICZN 1999, Article 33.4) by Paynter (1970) that has been followed by most subsequent authors.

Name and affiliation of submitter: Richard C. Banks, NACC

Date of proposal: 3 Jun 2009

Change spelling of *Vireo swainsonii* to *Vireo swainsoni*

When Baird (1858) named *Vireo swainsonii*, he also used the spelling *swainsoni*. Ridgway (1904) used the double i spelling but his synonymy shows much use of both endings. The spelling terminating with a single i was used in the third (1910) and fourth (1931) editions of the Check-list even though the citation for the name had a double i termination. (The name was not in the first or second editions.) Hellmayr (1935) used the spelling with the double i termination and has been followed by subsequent Check-lists (1957, 1983, 1998) and by Blake (in Peters 14, 1968).

The use of two spellings in an original description is not permitted and calls for action of a first reviser to select the proper or correct original spelling (Article 24 of the Code 1999). Under a new article 24.2.4, Baird (1866) may be considered the first reviser when he used the spelling *swainsoni* (David et al. 2009:8). Action of a first reviser may not be reversed, so the spelling *swainsoni* is proper and must be used in the future.
I propose the following entry in the next Supplement:

p. 436. Throughout the account for *Vireo gilvus*, change the spelling of *swainsonii* to *swainsoni*. This follows the finding of David et al. (2009) that the latter is the correct spelling under the Article 24.2.4 of the Code (ICZN 1999).

DAVID, N., E. C. DICKINSON, and S. GREGORY. 2009. Contributions to a list of first reviser actions in ornithology. Zootaxa 2085:1-24.

Note to Committee: David et al. (2009) present several first reviser actions relative to names in the current Check-list, but this is the only one that results in a spelling other than the one we use.

Name and affiliation of submitter: Richard C. Banks, NACC

Date of proposal: 17 Jun 2009

Change English group name of the Cardinalidae to "Cardinals and Allies"

In the 7th edition of the Check-list (AOU 1998), the English group name used for the family Cardinalidae was "Cardinals, Saltators, and Allies". However, the saltators were removed from this family in the 50th Supplement (Chesser et al. 2009). Therefore, a modified English group name is needed for the family.

I suggest that we adopt "Cardinals and Allies" as the English designation for the Cardinalidae. The family now contains species with a broad range of English group names: the 50th Supplement added 10 species of tanager, three species of ant-tanager, two species of chat, and one species of seedeater to the previously included species (Northern Cardinal, Pyrrhuloxia, nine species of grosbeak, seven species of bunting, and Dickcissel). Given this variability, a simple English group name based on the type genus would probably be the best option. The English name "Cardinals and Allies" was used for a prior incarnation of this group (under the subfamily name Richmondeninae) in the 5th edition of the Check-list (AOU 1957).

An alternative name would be "Cardinals, Grosbeaks, and Allies". This name was used in the 6th edition (AOU 1983), when grosbeaks constituted a much larger percentage of cardinalid species (nearly 50%) than they currently do, but was dropped in favor of "Cardinals, Saltators, and Allies" for the 7th edition. Nine species of cardinalid grosbeaks occur in the area covered by the NACC, but five species of non-cardinalid grosbeaks are also found in our area (or were, in the case of *Chloridops kona*), meaning that use of "grosbeak" in the English family name would potentially create confusion rather than clarity.

Name and affiliation of submitter: R. Terry Chesser, NACC

Date of proposal: 13 Jul 2009