

## N&MA Classification Committee: Proposals 2009-E

### Addenda to Proposal Set 2009-A

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**Elevate *Troglodytes troglodytes pacificus* and *Troglodytes troglodytes hiemalis* to species status, and adopt the English names Western Winter-Wren and Eastern Winter-Wren**

The original proposal (2009-A-3) recommended that we elevate *Troglodytes troglodytes pacificus* to species status while retaining *Troglodytes troglodytes hiemalis* as a subspecies of *Troglodytes troglodytes*. The elevation of *pacificus* to species status received unanimous approval, but two committee members questioned the continued inclusion of *hiemalis* in *T. troglodytes*. Indeed, the original proposal and the paper on which it was principally based (Toews and Irwin 2008) were primarily concerned with demonstrating that *pacificus* and *hiemalis* are specifically distinct, and provided no explicit rationale for choosing to split *pacificus* from *T. troglodytes* rather than splitting *hiemalis* or both *pacificus* and *hiemalis*. Presumably this decision was based on the molecular work of Drovetski et al. (2004), who concluded that the western Nearctic clade of *Troglodytes troglodytes* is sister to all other forms of this species. However, this sister relationship is a weakly supported result (bootstrap value 47%) that in many cases would have been collapsed to a polytomy consisting of three groups (western Nearctic, eastern Nearctic, and Eurasian populations of *T. troglodytes*) whose interrelationships are unresolved.

The decision may also have been based on the vocal analysis of Kroodsma and Momose (1991), who considered songs of Japanese birds to be more similar to those of eastern Nearctic birds than to those of western Nearctic birds. However, call notes of European birds analyzed to date, which may well be under more stringent genetic control than songs, are quite unlike anything given by either *hiemalis* or *pacificus* (L. Bevier, pers. comm.; recordings available on request), and Kroodsma (pers. comm.) recently indicated that he would prefer treating *hiemalis* and *pacificus* as species distinct from the Eurasian forms.

Given this information, there are four options available:

- (1) elevate *pacificus* to species status while retaining *hiemalis* as a subspecies of *Troglodytes troglodytes*, as approved in 2009-A-3;
- (2) elevate *hiemalis* to species status while retaining *pacificus* as a subspecies of *Troglodytes troglodytes*;
- (3) retain both *hiemalis* and *pacificus* as a subspecies of *Troglodytes troglodytes*, the status quo prior to the vote on 2009-A-3;
- (4) elevate both *hiemalis* and *pacificus* to species status, distinct from Eurasian *Troglodytes troglodytes*.

**Recommendation:** It seems clear that *hiemalis* and *pacificus* are specifically distinct, so option 3 is not tenable. There is also no support for option 2 (recognizing only *hiemalis* as a species), and only slightly more support for option 1 (recognizing *pacificus* as a species without recognizing *hiemalis*). We

recommend that the committee adopt option 4 and elevate both *hiemalis* and *pacificus* to species status. Both groups form distinct clades in mtDNA analysis, clearly differentiated from Eurasian populations of *T. troglodytes*, and vocal data, although unpublished, also supports their differentiation. This is not a perfect solution, given the lack of published data, but we believe it provides the best solution based on current information. The new species *T. hiemalis* would include the subspecies *hiemalis* and *pullus*, and *T. pacificus* would include the subspecies *pacificus*, *salebrosus*, *helleri*, and the various southwestern Alaskan (incl. Aleutian and Pribilof Islands) forms.

The issue of English names was also raised in the votes on 2009-A-3. The proposal suggested Pacific Wren as the English name for *T. pacificus*. However, some committee members preferred to retain “Winter” in the English name, and suggested Western Winter-Wren for *T. pacificus*, a name already in popular usage. “Pacific”, it was noted, is generally used for marine or Pacific Island species, and Toews and Irwin (2008) noted that other forms of *T. troglodytes* occur along the Pacific coast of Asia. If this proposal is approved, we recommend that the English names Eastern Winter-Wren and Western Winter-Wren be adopted for *T. hiemalis* and *T. pacificus*, respectively.

**Name and affiliation of submitter:** R. Terry Chesser, Jon Dunn, Van Remsen, NACC

**Date of proposal:** 10 Mar 2010

**Transfer the brown towhees to *Kieneria* or to *Melozone***

The original proposal (2009-A-11b) recommended that the brown towhees be transferred, along with *Melozone kieneri*, to the genus *Pyrgisoma*. This proposal was based on a mitochondrial genetic study (DaCosta et al. 2009) that showed that *Pipilo* consists of two unrelated groups, one consisting of the “rufous-sided towhees” (*chlorurus*, *ocai*, *maculatus*, and *erythrophthalmus*), the other of the “brown towhees” (*aberti*, *crissalis*, *albicollis*, and *fuscus*). The type species of *Pipilo* is *erythrophthalmus*, so the name *Pipilo* stayed 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 included 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.

This proposal did not pass and received two main criticisms. First, it was noted that the type species of *Pyrgisoma* is the species currently known as *Melozone biarcuatum*, and that the name *Pyrgisoma* is not available for a clade that does not include *biarcuatum*. (However, the genus name *Kieneria* Coues, the type species of which is *kieneri*, would be available for a genus consisting of *M. kieneri* plus the brown towhees.)

Second, it was noted that the placement of the other *Melozone* species (*leucotis* and *biarcuatum*) in the mitochondrial tree was uncertain (they occupy an unresolved position in the same clade with the brown towhees, *M. kieneri*, and three species of *Aimophila*), and that they might actually be members of the *kieneri*-brown towhee clade. This led some members to vote (reluctantly) for merging the brown towhees and all *Melozone* species into *Aimophila*. One committee member voted to keep the status quo regarding *Melozone* and *Aimophila* sensu stricto, and therefore to leave the brown towhees orphaned without a genus.

Carla, on the basis of unpublished nuclear and mitochondrial data (three nuclear and four mitochondrial genes), suggested that we consider another option: merging the brown towhees into *Melozone*. Her analyses concur with those of DaCosta et al (2009) in placing the brown towhees as sister to *M. kieneri* (Bayesian support = 1.00). However, her results also indicate that *M. biarcuatum* and *M. leucotis* (the other two species of *Melozone*) are sister taxa (Bayesian support = 0.98) and that this clade is sister to the brown towhee plus *kieneri* clade, although support for this is not strong (0.83). Thus, she found the brown towhees plus all *Melozone* species to form a monophyletic group which itself is sister to a clade of 3 *Aimophila* species. This result is also consistent with the

tree of DaCosta et al. (2009), but only if branches that are not well supported are collapsed.

Given this information, and assuming that every species should be placed in a genus, three options are available:

- (1) transfer the brown towhees to the genus *Kieneria*, which would then consist of the five species *kieneri*, *aberti*, *crissalis*, *albicollis*, and *fuscus*;
- (2) transfer the brown towhees to the genus *Melozone*, which in addition to the species listed above would include *M. biarcuatum* and *M. leucotis*;
- (3) transfer the brown towhees and all *Melozone* species to the genus *Aimophila*, which in addition to the species listed above would include *A. rufescens*, *A. ruficeps*, and *A. notosticta*.

**Recommendation:** Options 1-3 are consistent both with the mitochondrial data of DaCosta et al. (2009) and with a combined nuclear and mitochondrial tree (Cicero, unpubl. data). Option 2 is probably the most conservative in that it avoids breaking up the phenotypically similar *Melozone* species. However, the group created under Option 1 (*Kieneria*) receives considerably stronger support in the two molecular studies than does the group created under Option 2 (88 bootstrap and 1.00 Bayesian vs. <50 bootstrap and 0.83 Bayesian, respectively). Options 1 and 2 both avoid creating the excessively heterogeneous group that would result from merging the brown towhees and all *Melozone* species with *Aimophila*. I recommend that the committee choose between Option 1 and Option 2. Because a new genus is needed for the brown towhees, a simple majority for either option will be sufficient for passage. Neither solution is perfect but they appear to be the best options at the moment. This issue could be revisited if a new genus is described for the brown towhees.

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

**Date of proposal:** 10 Mar 2010

**Return *Aimophila quinquestriata* to *Amphispiza* or  
transfer it to *Amphispizopsis***

The original proposal (2009-A-12b) recommended that *Aimophila quinquestriata* be merged into *Amphispiza*. Although favored by a slight majority of the committee, this proposal did not receive the 2/3 vote required for passage (the vote was 6-5 in favor). Several members who voted to reject the proposal suggested that this species would be best placed in its own monospecific genus. The genus *Amphispizopsis* was described by Wolters (1980) for the species *quinquestriata*, *humeralis*, and *mystacalis*, and *quinquestriata* was designated the type species. This genus name is available for *quinquestriata*.

The original proposal was based on the mitochondrial phylogeny of DaCosta et al. (2009). In this study, *Aimophila* was found to be paraphyletic, necessitating new names for the species *aestivalis*, *cassini*, *botterii*, *humeralis*, *mystacalis*, *ruficauda*, *carpalis* and *sumichrasti* (*Peucaea* is available for this group) and *quinquestriata*. The latter species was sister to *Amphispiza bilineata* and DaCosta et al. proposed merging *quinquestriata* into *Amphispiza*. The committee identified several problems with this proposal, chief among them being the numerous phenotypic differences between *quinquestriata* and *Amphispiza* and the fact that only one of the two species of *Amphispiza* was included in the study.

An unpublished nuclear plus mitochondrial dataset (Cicero, unpubl. data) likewise indicates a sister relationship between *quinquestriata* and *A. bilineata* (Bayesian support = 0.95), but with a long branch to *quinquestriata* equivalent in length to branches separating emberizid genera. This study also shows that *Amphispiza belli* (not included in the DaCosta et al. 2009 study) belongs to a different clade comprised of several other emberizid genera (Bayesian support = 1.0), and is unrelated to *bilineata* (or to *quinquestriata*).

Given that *quinquestriata* must be removed from *Aimophila*, the available options are:

- (1) return *quinquestriata* to the genus *Amphispiza*, which would (at least temporarily) consist of the three species *quinquestriata*, *bilineata*, and *belli*;
- (2) place *quinquestriata* in the monospecific genus *Amphispizopsis* Wolters 1980.

**Recommendation:** There are reasonable arguments on both sides of this issue. Mitochondrial and nuclear data indicate that *quinquestriata* is sister to *Amphispiza bilineata* and therefore might be merged into this genus, but these two species are genetically distinctive (at the level of other related genera) and phenotypic characters do not support the merger. However, genetic data indicate that *Amphispiza belli*, the other species currently placed in *Amphispiza*, is unrelated to *bilineata*; thus, placing *quinquestriata* in *Amphispizopsis* will likely

result in two monospecific genera, *Amphispiza* and *Amphispizopsis*. Because *quinquestriata* must be removed from *Aimophila*, a simple majority on Option 1 or Option 2 will be sufficient for passage.

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

**Date of proposal:** 10 Mar 2010