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A new genus for *Thalurania ridgwayi* (Trochilidae)

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Summary.—Mexican Woodnymph *Thalurania ridgwayi* was long included in the genus *Thalurania*. A previously published molecular phylogenetic study found that this species is in fact sister to the genus *Eupherusa*. We discuss whether *ridgwayi* is better lumped with *Eupherusa* or placed in a different genus, and consider that the latter arrangement best reflects the multiple morphological differences between *ridgwayi* and *Eupherusa*. Consequently, we describe a new genus for *ridgwayi*.

Mexican Woodnymph *Thalurania ridgwayi* Nelson, 1900, was described as a species based on a single specimen collected in Jalisco, western Mexico. It was lumped with Fork-tailed Woodnymph *T. furcata* (J. F. Gmelin, 1788) and treated as a subspecies of the latter by Peters (1945) without any taxonomic discussion. Subsequently, it was regarded as a subspecies of Crowned Woodnymph *T. colombica* (Bourcier, 1843) (AOU 1983) until Escalante-Pliego & Peterson (1992) raised it to species level based on differences in plumage colour and pattern from Mesoamerican members of *T. colombica*.

Phylogenetic analysis of multilocus molecular data has placed *T. ridgwayi* as sister to the four species of *Eupherusa* Gould, 1857, and distant from other species of *Thalurania* Gould, 1848 (McGuire *et al*. 2014). This was surprising given the morphological similarities of *T. ridgwayi* to other *Thalurania* (del Hoyo *et al*. 1999), including the green throat and chest, dark belly and bright blue-violet crown. However, the phylogenetic evidence clearly demonstrates that *T. ridgwayi* cannot be maintained in *Thalurania* because this would result in a polyphyletic taxon.

There are two main ways to reconcile the close relationship of *T. ridgwayi* to *Eupherusa* with the requirement that all genera are monophyletic. First, *T. ridgwayi* might be transferred to *Eupherusa* (Stiles *et al*. 2017, Chesser *et al*. 2020). Stiles *et al*. (2017) argued that the blue crown of male *T. ridgwayi* is quite similar to that of Blue-capped Hummingbird *E. cyanophrys* Rowley & Orr, 1964. However, a blue crown does not clearly group *T. ridgwayi* with *Eupherusa* because three of the four species of *Eupherusa* lack a blue crown and several other species of emerald hummingbirds (Trochilini) also have a blue crown (e.g., Violet-capped Hummingbird *Goldmania violiceps*, Violet-capped Woodnymph *Thalurania glaucopis*, Blue-headed Sapphire *Chrysuronia grayi*, Andean Emerald *Uranomitra franciae*, Long-tailed Sabrewing *Pampa curvipennis excellens*). A blue crown has evidently evolved multiple times independently in emerald hummingbirds and carries little weight in grouping taxa into genera. Stiles *et al*. (2017: 406) also stated that 'the blackish underparts' of male *T. ridgwayi* are shared with male Black-bellied Hummingbird *E. nigriventris* Lawrence, 1868. We disagree that this is a shared character state because, unlike male *E. nigriventris*, male *T. ridgwayi* actually has most of the underparts dusky green, not black (Howell & Webb 1995), and only part of the belly is black (Escalante-Pliego & Peterson 1992). Stiles *et al*. (2017: 406) further stated that females of *T. ridgwayi* and *Eupherusa* share grey underparts and 'differ mainly in tail patterns'. However, grey underparts occur in the females of several other species of emerald hummingbirds (e.g., Golden-crowned Emerald *Cynanthus auriceps*, Napo Sabrewing *Campylopterus villaviscensio*, Antillean Crested Hummingbird *Orthorhyncus*

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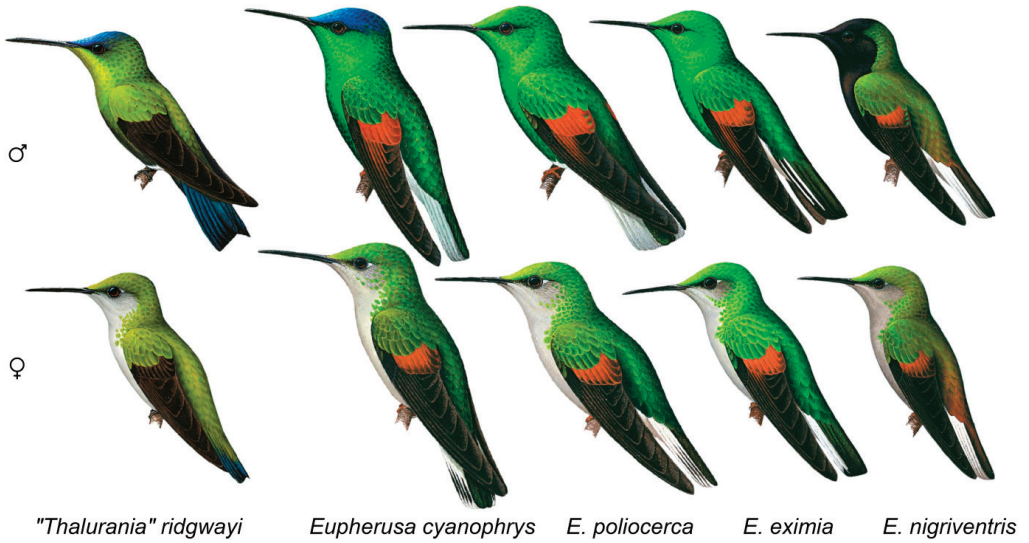

Figure 1. External morphology of males (upper row) and females (lower row) of '*Thalurania*' *ridgwayi* and the four species of *Eupherusa*, illustrating the forked blue tail, lack of a distinct red patch on the secondaries and tertials, and lack of white in the tail of the former. Illustrations by Norman Arlott (used with permission from *Birds of the world* / Cornell Lab of Ornithology).

cristatus, White-vented Plumeleteer *Chalybura buffonii*, Long-tailed Woodnymph *Thalurania watertonii*) and the presence of grey underparts is clearly also not a reliable way to define genera. Importantly, females of *T. ridgwayi* do not differ mainly in tail pattern from *Eupherusa* but also, clearly, by the absence of red on the secondaries and tertials (present in *Eupherusa*). Overall, the arguments listed to lump *T. ridgwayi* with *Eupherusa* are not compelling.

The second way to address the distant relationship of *T. ridgwayi* to the morphologically similar *Thalurania* and its close relationship to the morphologically different *Eupherusa* is to place *T. ridgwayi* in a monotypic genus. Whether or not to 'chop up' a dichotomous phylogeny into two genera has often depended on the extent of the morphological differences between groups. There are many examples of avian sister taxa that are recognised as different genera explicitly or implicitly based on morphology, including *Tetrao* / *Lyrurus* (Phasianidae), *Rostratula* / *Nycticryphes* (Rostratulidae), *Sterna* / *Thalasseus* (Sternidae), *Fulmarus* / *Macronectes* (Procellariidae), *Phyllaemulor* / *Nyctibius* (Nyctibiidae), *Eudyptes* / *Megadyptes* (Spheniscidae), *Drymornis* / *Drymotoxeres* (Dendrocolaptidae), *Parus* / *Pseudopodoces* (Paridae) and *Cardellina* / *Myioborus* (Parulidae). Sister genera in Trochilini also differ by multiple morphological character states, including *Abeillia* / *Klais*, *Anthocephala* / *Stephanoxis*, and *Leucippus* / *Phaeochroa*.

In this case, there are multiple prominent differences between *T. ridgwayi* and the four species of *Eupherusa* (Fig. 1). *T. ridgwayi* (i) lacks red on the wing (clearly present on the secondaries and tertials in both male and female *Eupherusa*), (ii) has a forked tail (square in *Eupherusa*), which is (iii) mainly blue (black in *Eupherusa*) and (iv) lacks white on the outer rectrices in males (present and extensive in *Eupherusa*).

We believe the differences between *T. ridgwayi* and the four species of *Eupherusa* are best reflected taxonomically by the recognition of two genera. *T. ridgwayi* shares no unique character state with the four species of *Eupherusa* and its inclusion in *Eupherusa* would make that genus unnecessarily heterogenous. *Eupherusa* would no longer be diagnosable by any single character, unlike the present classification in which *Eupherusa* can be distinguished from all other emeralds by the presence of red on the tertials. We feel that the multiple clear

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differences between *T. ridgwayi* and the four *Eupherusa* strongly outweigh the debatable similarities between *T. ridgwayi* and individual species of *Eupherusa*, and therefore separate genera are warranted. Thus, a separate genus name is required for *T. ridgwayi*. Because no such name is available, we propose:

Dicranurania, new genus

Type species.—*Thalurania ridgwayi* Nelson, 1900.

Diagnosis.—Small hummingbird (size 9–10 cm) most closely related to *Eupherusa*. Tail forked (square in *Eupherusa*). Tail blue (black in *Eupherusa*), lacking white on the outer tail feathers in males (present and extensive in *Eupherusa*). Secondaries and tertials lack red (present in *Eupherusa*).

Included taxa.—*D. ridgwayi* is the only member of the genus.

Etymology.—Derived from the Greek δικρανον (dicranon) meaning pitchfork, and ουρανιος (*ouranios)* meaning heavenly or sky blue, in reference to the forked blue tail. The ending of the new genus name forges a link with the genus *Thalurania*, in which it was previously included. The genus is feminine.

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