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The coming (taxonomic) storm: Understanding Nebraska's Marsh-Wrens, a likely future split

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Nebraska is the crossroads of the plains, a melting pot for plants, animals, and human cultures. This is especially true for birds—approximately a dozen species complexes overlap or meet in Nebraska, with varying amounts of hybridization observed. We are still learning about these complexes, with new species in this region being recognized as recently as 2025. One such group that is currently being studied is the Marsh Wren *Cistothorus palustris* complex, where Nebraska forms the contact zone between the western *plesius* group and the eastern *palustris* group. As more data accumulates, the Marsh Wren is looking increasingly like the next "Warbling Vireo" in Nebraska. This talk will cover why many researchers think Western and Eastern Marsh-Wren should be considered separate taxa, and how to separate these birds within Nebraska.

Ecological niche dynamics of secondary contact in White-breasted Nuthatches (*Sitta carolinensis*) across the Pine Ridge of Nebraska

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Populations' interactions in contact zones are important for understanding divergence dynamics of closely related taxa. Such interactions may vary from inter-population divergence being reinforced to secondary contact resulting in the creation of a hybrid swarm. The ecology of each lineage, and different factors like behavior and ecological niches, may impact the outcome of such contact. However, there is little current research on how habitat choice at local scales might reflect distinct populations, particularly in cryptic species. To study how niche dynamics affect diversification, we studied the White-breasted Nuthatch (*Sitta carolinensis*) complex in western Nebraska. Two members of this complex are undergoing secondary contact in this region, namely the Rocky Mountain (*S. c. nelsoni*/*tenuissima*) and Eastern (*S. c. carolinensis*) populations, with each taxon largely replacing the other across a purportedly narrow contact zone. Using vocal and

morphological traits, we identified 96 nuthatches to population and used their locations to extract climate and habitat data. Climatic variables were found to have a negligible impact on limiting distributions, but coniferous forest cover proved to be significant. An additional 17 nuthatches were defined as 'Intermediate,' and four possible mixed pairs were found, potentially indicative of interbreeding. Moreover, one bird gave calls of both Eastern and Rocky Mountain populations. More work – particularly genetic analyses – is needed to understand the degree of intergradation in the region, as well as to understand the nature of vocalizations in this system.

Nebraska's "newest" identification challenge: The Warbling-Vireo complex

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Recent research has shown that the Warbling Vireo *Vireo gilvus* complex actually consists of two species-level taxa that roughly split the continent between east and west – the aptly named Western Warbling Vireo *V. swainsoni* and Eastern Warbling-Vireo *V. gilvus*. While this shakeup is the first to affect Nebraska, it is far from the first taxonomic shakeup in the warbling-vireo group and it may not be the last. This talk will cover a brief history of our understanding of the "Warbling Vireo" as its classification has shifted from a polytypic taxon breeding from Alaska to Bolivia to three separate species found across the Americas before focusing on the regional consequences of these taxonomic studies on Nebraska birds. Furthermore, this talk will cover the identification and distribution of these vireos in Nebraska before ending with some notes on the outstanding mysteries that still persist within North American vireos.