# KANSAS ORNITHOLOGICAL SOCIETY

## 75th Annual Meeting

**University of Kansas**
**Lawrence, Kansas**

**27 - 29 September 2024**

# Schedule of Events

**Friday, September 27**
7:00-9:00 p.m. Informal gathering at Dyche Hall (KU Natural History Museum, 1345 Jayhawk Blvd), University of Kansas Campus. An opportunity to visit with friends, view some of the displays and venture up to view specimens in the collections!

**Saturday, September 28**
8:00 a.m. - Registration in Jayhawk Welcome Center (JWC) 1266 Oread Ave.

9:00 a.m. - Welcome and morning paper session in JWC Room 202 (Location of all the day's meetings).

11:30 a.m. - KOS Business Meeting

11:45 a.m. – Lunch on your own. KOS Board Meeting 7th floor conference room in Dyche Hall. Stop at the Union and get a lunch to go.

1:30 – 2:30 p.m. – Birdwatchers Hour. An opportunity for you to show your bird photos from the past year. Please bring your photos on a flash drive.

2:30 - 4:30 p.m. – Afternoon paper session, JWC Room 202.

KOS Business Meeting will resume immediately following the last presented paper.

7:00 – 9:00 p.m. – Banquet, awards and speaker. We will be at the Twisted Vine Winery, 24305 Loring Road, Lawrence, KS 66044 (This location is just a few miles northeast of Lawrence.) The speaker will be Bob Gress and his program is titled "Chasing Warblers.".

**Sunday, September 29**
7:00 a.m. – Half day field trips around the Lawrence area. Meet in the Clinton Lake Corps of Engineers Headquarters Parking Lot.

12:30 p.m. – Compilation at Clinton Lake, shelter number 2, (located at: 38.940261, -95.340739.) This is on the northeast corner of Clinton Lake. Turn off East 900th Rd on to 1402 Rd N (like you were turning in to the entrance to the Corps of Engineers headquarters building) and just continue on towards the lake. **There is no box lunch option - bring your own lunch!**

**KOS Officer/Board Slate for 2024 – 2025**

President – Kurtis Meier
Vice President – Alice Boyle
Corresponding Secretary – Chuck Otte
Membership Secretary – Jeff Calhoun
Treasurer – Max Thompson
Business Manager – Malcolm Gold
Editor, *The Bulletin* – Eugene Young
Editor, The Horned Lark –

Board Member – Lucas DeCicco
Board Member – Kevin Groeneweg

**Positions not needing a vote**
Board Member – Joseph Miller
Board Member – Mark Nolen
Past President – Jenn Rader

# Presented Paper Abstracts

*Presenter denoted by **

**Genetic patterns and biogeography in *Dicaeum* flowerpeckers in the Solomon Islands**

*Ryan Andrews*, Devon DeRaad, Lucas DeCicco, and Robert Moyle; Biodiversity Institute and Department of Ecology and Evolutionary Biology, University of Kansas*

Determination of evolutionary relatedness among isolated bird populations in island systems is notoriously challenging due primarily to the lack of contact among populations such as occurs commonly in continental systems. Modern genomic approaches can be used to increase our understanding of phylogeography among allopatric populations across archipelagos. *Dicaeum* is a genus of small passerine birds in the family Dicaeidae, known as 'flowerpeckers' due to their nectarivory. Two allopatric species of *Dicaeum* flowerpeckers, *D. aeneum* and *D. tristrami*, occur in the Solomon Islands archipelago. *D. tristrami* is endemic to the isolated island of Makira and has previously proved difficult to place phylogenetically, while *D. aeneum* occurs more broadly across the rest of the archipelago in three described subspecies. Here, restriction enzyme associated DNA sequence (RADseq) data generated from specimen-vouchered tissue samples was used to assess the phylogeographic patterns of relatedness amongst *Dicaeum* flowerpecker populations across the Solomon Island archipelago. We used a combination of modern population genomic and phylogenomic approaches to investigate the evolutionary history of this group of *Dicaeum* flowerpeckers. Phylogenetic analyses provided backing for the three described subspecies of *D. aeneum* and clarified the placement of *D. tristrami* within the genus. These insights provide information about the biogeographic history of *Dicaeum* flowerpeckers in the Solomons and resolve *D. tristrami's* phylogenetic ambiguity.

**Seasonal use of abandoned mined lands by non-breeding birds: Preliminary findings**

*Heather K. Burrow* and Andrew D. George; Pittsburg State University*

During winter and migration, birds rely on habitat that provides high-energy food and protection from predators and adverse weather. Abandoned mined lands (AMLs) are disturbed ecosystems that often include a mosaic of successional habitats, some of which may support diverse bird communities. Our goal is to establish a long-term banding study to investigate bird use of AMLs during the non-breeding season. We established 4 study sites in 2023 in a formerly surface-mined landscape in Crawford County, in southeast Kansas. We used constant-effort mist-netting to survey birds each month, including biweekly during fall and spring migration. Thus far, we have captured 57 species on AMLs, including 12 residents and 45 migrants, of which 24 do not breed in the study region. Analysis of seasonal demographics and body condition is ongoing. Our project emphasizes the potential conservation value of AMLs for birds during the non-breeding portions of their full annual cycle.

**Genetic patterns in *Collocalia* Swiftlets of the Philippines**

*Abigail C. Perkins, Lucas H. DeCicco, A. Townsend Peterson, Robert G. Moyle; Biodiversity Institute and Department of Ecology and Evolutionary Biology, University of Kansas*

The swiftlet species complex *Collocalia esculenta* has a wide geographic distribution from southeastern Asia through Indonesia and into the Pacific Ocean, with two recognized endemic

species in the Philippines (*C. marginata* and *C. isonota*). These species have a long history of taxonomic instability due to their conserved phenotype and complex biogeographic pattern. Throughout the islands, the two species occur in either allopatry or sympatry with apparent elevational displacement and, due to the phenotypic similarities, these patterns are poorly understood. We will explore the genetic patterns of divergence within and between these two swiftlet species in the Philippines using reduced-representation genome-wide genetic data (RAD-seq). Our research uncovers genomic patterns of differentiation both among allopatric populations of each species and deeper differentiation between species. Key findings illuminate genetic differentiation, evolutionary history, and geographic divergence between *C. marginata* and *C. isonota.*

**Use of temperature data loggers in assessing nest survival for a grassland-nesting bird**

*Sarah Biesemier*[*1], William E. Jensen[1], Greg Houseman[2], and Evalynn Trumbo[2]; [1]Emporia State University, [2]Wichita State University*

Temperature data loggers have the potential to reduce observer visits to nests when determining nest survival, which might provide logistical advantages for collecting nest data, increase precision of nest survival estimates, and lessen observer effects on nest survival, especially for birds nesting in grasslands. During the 2024 nesting season we installed temperature data loggers in nests of Dickcissels (*Spiza americana*) to monitor and estimate survival of offspring in Conservation Reserve Program grasslands in central Kansas. Data loggers (Thermochron iButtons®) were glued to 15-cm long galvanized nails and coated in Plasti Dip® for waterproofing. Nest contents were temporarily removed and data-logger nails were inserted through nest material with the data logger sitting flush with the center of nest floors. Data loggers in nests were paired with a second data logger placed within 5 m of each nest to contrast internal nest temperature with ambient temperature for determining timing of nest completion. Data loggers were collected after nests had completed (fledge or fail) and the timing of nest completion was determined by graphically comparing temperature/time profiles between the nest and ambient data loggers. Only 3 of 128 deployed data loggers were lost (predators, etc.). Daily survival estimates of Dickcissel nests (0.938±0.010) were similar to previous estimates in the same study environment and region using twice-weekly nest checks. By using data loggers, ornithologists can make fewer and less intrusive visits to nests than conventional nest monitoring (e.g., twice weekly) allowing more time to find additional nests.

**Exploring geographic replacement between two populations of White-breasted Nuthatch (*Sitta carolinensis* complex)**

*Eugene A. Huryn*[*1], Jacob C. Cooper[1,2]; [1] Department of Biology, University of Nebraska at Kearney, 2401 11th Ave, Kearney, NE 68849 [2] Field Museum Negaunee Integrative Research Center, Division of Birds, 1400 S DuSable Lake Shore Drive, Chicago, IL 60605*

Population's ecological niches are generally conserved during diversification processes, with secondary contact being a primary driver of divergence. However, this divergence can operate on a local scale, with populations broadly overlapping in niche space at coarse scales and partitioning habitats at fine scales. This partitioning could be due to specific abiotic or biotic variables, creating clear trends across the landscape. Conversely, species may locally overlap, with replacement occurring at coarse scales and co-occurring locally, with partitions based more

on habitat or specific combinations of environmental conditions. To study these dynamics, we are focusing on the White-breasted Nuthatch (*Sitta carolinensis*) species complex in western Nebraska. Two members of this complex are undergoing secondary contact in this region, namely the western (*S. lagunae nelsoni*) and eastern (*S. carolinensis*), with each taxon largely replacing the other across a seemingly narrow contact zone. In this study, we aim to identify factors driving geographic replacement in these populations, be they abiotic or biotic. We will analyze climatic and habitat variables for each population to understand how *S. l. nelsoni* and *S. carolinensis* occupy niche space in sympatry and in allopatry. Different specific biotic and abiotic factors may be indicators of adaptive advantages in one of the populations for specific environmental conditions, whereas a combination of factors could be indicative of more complex niche partitioning in sympatry. Finding differences in niche preferences between *S. l. nelsoni* and *S. carolinensis* could add to the body of evidence supporting proposed taxonomic changes in this species complex from an ecological and behavioral perspective. Understanding these dynamics can also inform on the complex nature of secondary contact, and the ways in which distributions manifest in heterogeneous areas of local sympatry.

**A sticky situation: Identifying drivers of woody avoidance in Grasshopper Sparrows (*Ammodramus savannarum*)**

*Logan Anderson* and Alice Boyle; Division of Biology, Kansas State University*

Woody encroachment has been well-documented in grassland systems worldwide. In the Flint Hills of eastern Kansas, woody plant colonization of rangelands and prairies is a major factor in local grassland bird declines. These declines have been largely attributed to increased nest depredation rates and predator presence around woody plants. Yet, it remains unclear why woody plant avoidance occurs in the first place and whether it is driven directly by shrub avoidance or indirectly via frequent contact with woody-associated predators. To distinguish between shrub and predator avoidance, we tagged and monitored the movement of a common grassland songbird, the Grasshopper Sparrow (*Ammodramus savannarum*), by triangulating their locations using small arrays of radio receivers. We experimentally increased Eastern red cedar (*Juniperus virginianus*) cover and perceived predation risk by placing a model shrike (*Lanius spp*.) on the territories of tracked sparrows. Using automated radio telemetry, we plotted sparrow movements before and after introducing cedars and model shrikes and used autocorrelated kernel density estimation to estimate home range size and shape during each treatment. Preliminary results of one sparrow show no change in the sparrow's home range after cedar introduction, but a shift away from the area the shrike was located. The results of this project may lend insight into why woody aversion is occurring in areas with pioneering woody plants. This would inform land managers and researchers how small increases in woody plants may affect grassland bird abundance regardless of patch size.

**Empirical tests of the Hygric Niche model: Unveiling tropical avian responses to rainfall through bioacoustic analyses**

*Kristen S. Hobbs*, W. Alice Boyle; Division of Biology, Kansas State University*

Hygric niche theory predicts that in very wet areas, increased rainfall will constrain certain avian behaviors and result in elevated energetic costs for birds. Such responses are expected to be more pronounced when birds are exposed to cooler temperatures, such as those experienced at higher

elevations. In wet tropical forest spanning lowlands and premontane forest in Costa Rica, I tested behavioral predictions of the hygric niche model. Working in leks of white-collared manakins (Manacus candei), I evaluated how the rate of display behavior varied in the presence of different rates of rainfall. I predicted a reduction in display activity in response to increased rainfall. I also expected similar rainfall conditions at higher elevations (cooler temperatures) to elicit a steeper reduction in display behavior than at lower elevations. I deployed rain gauges and audio recorders at a total of 15 display courts and analyzed ~700 hours of bioacoustics data using Raven Pro, quantifying each court's display rates based on calibrated amplitude levels coming from site-specific behavioral observations. Rain inhibited display behavior, and display rates dropped off more steeply at high elevations than at low elevations when comparing the same rainfall rates. Like other aspects of climate, rainfall is critically important to birds – but in ways that are poorly understood relative to effects of temperature. Understanding the mechanistic relationship between environment and rainfall can elucidate climate's influence on demography, ultimately informing mechanistic species distribution models.

**What does grassland heterogeneity sound like? Or the efficacy of virtual fence technology for promoting grassland bird populations in privately owned landscapes**
*Theo Michaels*, Walter Dodds, and Alice Boyle; Division of Biology, Kansas State University*

Grassland birds have seen precipitous declines in recent decades. While many factors are at play, this is due in part to the loss of vegetation structural diversity, or grassland heterogeneity. This heterogeneity at relatively small scales is crucial to meet needs of grassland birds across all life stages. In privately-owned landscapes, such as tallgrass prairies, addressing this challenge relies on the cooperation of private landowners. We tested the efficacy of Virtual Fence (VF) technology as a tool for grassland bird conservation goals in tallgrass prairie located Flint Hills of Kansas. We excluded cattle from 11 4-ha patches, paired with 11 control areas, located in prime nesting locations for threatened species. During 2022, cattle wore collars but were allowed free movement. In 2023 and 2024, collars restricted access to treatment plots. Across all years, we surveyed vegetation characteristics, Greater Prairie-Chicken lek counts, and breeding bird diversity and abundance. Despite challenges with the VF collars, vegetation in treatment plots more closely resembled ideal conditions for prairie chickens and Henslow's Sparrows. Grassland bird richness and abundance were slower to respond to the treatment, but preliminary data indicate that abundances of a few species were altered by the experiment in beneficial and predicted ways. VF technology may be a promising management tool for grassland bird conservation, but imperfect exclusion and the high inter-annual variability in climate in this region mean that interventions must last for several years.

**Genetic assessment of breeding contact between two Fox Sparrow subspecies groups in south-central Alaska**
*Lucas H. DeCicco, Jack J. Withrow, Kevin W. Winker, and Robert G. Moyle; Biodiversity Institute and Department of Ecology and Evolutionary Biology, University of Kansas*

Fox Sparrows (*Passerella iliaca*) show a remarkable level of geographic variation which has been organized by taxonomists into four groups, each of which contain many described subspecies. These four subspecies groups have often been considered species, but interaction among subspecies groups on the breeding grounds is poorly understood. Here, using genome-

wide genetic data, we investigate a contact zone between the red-colored boreal forest iliaca group and the sooty-colored Pacific coast *unalaschcensis* group. This research is not based on transect-like sampling across a contact zone but rather comes from a single site where breeding contact between these groups occurs in south-central Alaska. Within lowland Boreal Forest in south-central Alaska we found a mix of nesting Fox Sparrows which phenotypically appeared to represent individuals of both the coastal and interior subspecies groups as well as some that appeared intermediate in plumage. The genomic data corroborated these phenotypic patterns and showed the presence of a highly variable genomic background within this population. These findings suggest that where these two subspecies groups come into breeding contact, some degree of assortative mating or selection against hybridization has maintained a heterogeneous population at this contact zone.

**Water wars for wild wetlands**
*Jackie Augustine*, Audubon of Kansas*

Cheyenne Bottoms Wildlife Area and Quivira National Wildlife Refuge are two marshes in west-central Kansas that are designated as wetlands of international importance. They abound with migrating ducks, shorebirds, and cranes during migration and host several endangered and threatened species including Whooping Cranes, Snowy Plovers, and Interior Least Terns. Audubon of Kansas Executive Director Jackie Augustine will discuss how Audubon of Kansas has worked and is working to ensure that these wetlands have the water they need to support wildlife.

**Woody plant encroachment, afforestation, and the future of Kansas grassland birds**
*A. Townsend Peterson, Biodiversity Institute, University of Kansas*

Most ecological studies are cast on rather short time scales, which limits their ability to consider ecological phenomena that occur slowly or episodically. Kansas, which bridges the transition between eastern hardwood forests and the Great Plains, appears to be still a land of broad open spaces, but those open spaces are filling with forest. This afforestation process, a joint consequence of fire suppression, urbanization, changing grazing practices, and other factors, is reorganizing Kansas avifaunas on very broad scales, but slowly enough that most ecological studies cannot capture those changes. In this talk, based on a combination of information from remote sensing, repeated biodiversity surveys, and rephotography, I review the dimensions of the changes that are occurring, and speculate on both the future of the grasslands of the state, and the future of the birds that inhabit those grasslands.

**Kansas Ornithological Society Bulletin: 75-yr History (1950-2024)**
*Eugene A. Young, Agriculture and Biological Sciences Department, Northern Oklahoma College*

The 75-yr History of the Bulletin is discussed as it relates to editors, types of publications, CBC issues, topics, authorship, and the future.

**2023-2024 KOS Board**

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***Thank you to Dr. Townsend Peterson, Dr. Lucas DeCicco, Dr. Robert Moyle and the University of Kansas for hosting the 75$^{th}$ Anniversary - 2024 KOS Fall Annual Meeting!***