2026 Global Nightjar Network Virtual Conference



Code of Conduct

We are committed to maintaining a safe space for people of all backgrounds, especially marginalized groups, including Indigenous peoples, racial minorities, and members of the LGBTQ+ community. There is zero tolerance for bigotry or hate. Racist, sexist, and/or culturally insensitive comments will result in being removed from the meeting immediately and permanently.

If you have concerns regarding the safety of this space at any time, please directly contact one of the steering committee members in the chat or Discord via direct message.

Depending on the preference of the speaker, questions may be asked/answered in the chat and/or spoken verbally. We will do our best to provide a written transcription of spoken questions and answers in the chat.

For native English speakers: please remember that this is an international conference, and English is not the primary spoken language for many of our presenters and attendees. It is therefore encouraged that you please speak slowly and clearly and enunciate as best you can.

Please be patient with the conference organizers as we do our best to make things run smoothly and strive for inclusivity. We are open to feedback and will provide a survey at the end of the conference where attendees can make suggestions for improvement at future meetings.

Let’s all have fun and learn about nightjars!

Plenary Speakers

3 November

Dr. Kristina Cockle

Exploring sex-specific roles and traits in the Sickle-winged Nightjar of South America



Dr. Kristina Cockle is a research scientist at the Instituto de Biología Subtropical-CONICET and a member of Proyecto Atajacaminos, a self-organized group of park rangers, academics, and naturalists that studies nightjars in the grasslands of northeastern Argentina. Their current research involves avian life history, biocultural conservation, and epistemic justice in ecology.

4 November

Dr. J. Roberto Sosa López

Nightjar vocal detection across an elevational gradient: links with climate and insects

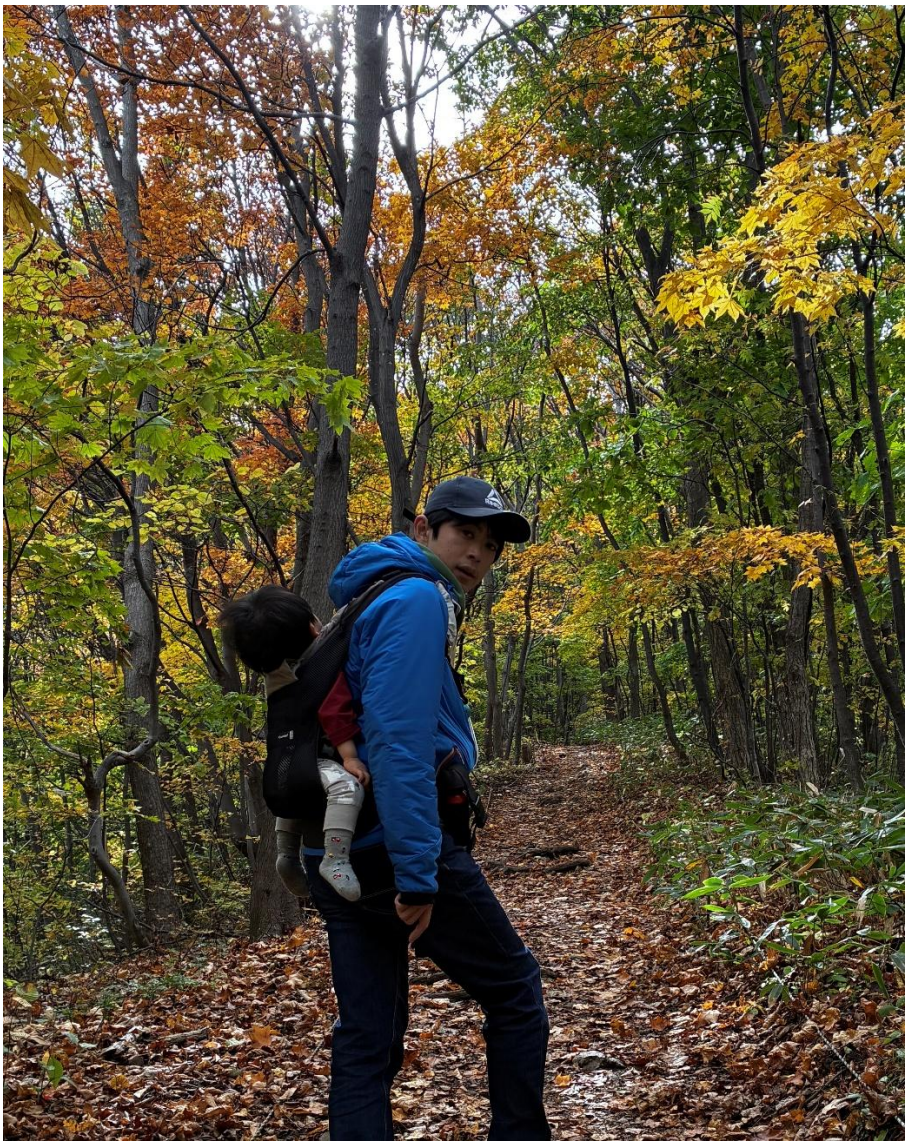


Dr. Roberto Sosa is a full Professor and Head of the Laboratory of Bioacoustics and Behavioral Ecology at the Interdisciplinary Research Center for Regional Integral Development (CIIDIR), Oaxaca Unit, National Polytechnic Institute (IPN), Mexico. His research focuses on avian behavioral ecology, bioacoustics, and the evolution of animal communication, particularly the diversity, function, and evolution of vocal signals in Neotropical birds. He combines acoustic analyses, behavioral experiments, and ecological approaches to investigate vocal communication, species discrimination, and the evolution of acoustic signals. He is a Fellow of the American Ornithological Society, an Associate Editor of *Ornithology*, and a Review Editor for *Frontiers in Ethology*.

5 November

Kazuhiro Kawamura

Nightjar research in the Far East: difficulties, achievements, and ongoing studies



Kazuhiro Kawamura is a Japanese researcher at Hokkaido University, interested in natural and planted forest management for conserving biodiversity, especially birds. He started his research career by exploring the large-scale distribution of the Grey Nightjar and its drivers in Hokkaido, northern Japan in 2014. He has continued to survey the distribution of this species. This species has declined since the 1970s in Japan but has not been well studied. Kazuhiro Kawamura says that it is challenging but rewarding to examine this target species.

Schedule (All times are in UTC)

Day 1 – Tuesday, 3 November 2026

11:00 - 11:15	**Welcome and Intro**	
11:15	Martin Barka and Katarína Obertová	When rivals appear: exploring the role of plumage ornaments in responses to simulated territorial intrusions in male Eurasian Nightjars (*Caprimulgus europaeus*)
11:30	Jitse Creemers	The urban nightjar: patterns and drivers of foraging in anthropogenic landscapes
11:45	Natalie Ramos	Evaluating Automated Detection of Eastern Whip-poor-wills (*Antrostomus vociferus*) Across Managed Landscapes
12:00 - 12:15	**Break**	
12:15 - 13:15	Kristina Cockle	Exploring sex-specific roles and traits in the Sickle-winged Nightjar of South America
13:15	Katarína Obertová and Martin Barka	Tracking the night: home ranges and spatial use of the Eurasian Nightjar in Slovakia
13:30	Kunal Jagetiya	Everyone wants to be heard
13:35	Microgrant Results	
13:45 - 14:00	**Break/ Optional Discussion**	
14:00	Asch Nighthawk	From landscape to nest site: habitat selection in breeding Eastern Whip-poor-wills
14:15	Sindy Wei	Listening to the Nightjar: A Citizen Science Survey shifting Noise Complaints to Public Participation (Chongqing, China)
14:30 - 14:50	Steering Committee	Discussion about GNN organizations and search for new members
14:50 - 15:00	**Wrap Up**	

Day 2 – Wednesday, 4 November 2026

16:00 - 16:15	**Welcome and Intro**	
16:15	Jonathan Rogelio Chávez Sánchez and Paula L. Enríquez	Nightjars in Mexico: challenges and research gaps
16:30	Grant Witynski	Landscape drivers of the presence and abundance of Eastern Whip-poor-wills, their nocturnal insect prey, and non-target agrochemicals across five Midwestern states
16:45	Christoffer Johansson	Built for slow flight, migrating far: flight-performance trade-offs in the European nightjar
17:00 - 17:15	**Break**	
17:15	Holly Coates	Eastern Whip-poor-will (*Antrostomus vociferus*) activity and space use tracking reveals preferential use of open forests and conditional use of dense forests
17:30	Yen Yi Tan	Under the Cover of Darkness: Decoding Nightjar Life Histories through Museomics and Salvage Architecture
17:45	Jared Del Rosso	In the Absence of Whip-poor-wills: Writing about Species Decline
18:00 - 19:00	J. Roberto Sosa López	Nightjar vocal detection across an elevational gradient: links with climate and insects
19:00 - 19:15	**Break**	
19:15	Yadiel Veunes	Querequeté: Una historia que merece seguir volando
19:45 - 20:00	**Open Discussion and Wrap Up**	

Day 3 – Thursday, 5 November 2026

09:00 - 09:15	**Welcome and Intro**	
9:15	Liam Corcoran	Eastern Whip-poor-will (*Antrostomus vociferus*) nesting ecology: behavior of nesting adults and chick growth
9:30	Laura Oliveira Castro, Gustavo Barbosa, Thiago Costa	Musculature of the jaw apparatus in the Pauraque *Nyctidromus albicollis* (Caprimulgidae) and a comparative analysis to close related groups
9:45	Marta Martinez Bernardo	Digestive morphology across the lunar cycle in the red-necked nightjar
10:00 - 10:15	**Break**	
10:15 - 11:15	Kazuhiro Kawamura	Nightjar research in the Far East: difficulties, achievements, and ongoing studies
11:15	Photo Contest Results	
11:30	David Edlund	The non-breeding distribution and migration of Florida's invisible nightjar, the Eastern Whip-poor-will
11:45	Gustavo Barbosa, Laura Oliveira Castro, Thiago Costa	Cranial osteology of the enigmatic Malagasy Collared Nightjar *Gactornis enarratus* (Caprimulgidae)
12:00	Eric Anderson	Why are there Whip-poor-wills in our moss garden? Five years with *Antrostomus vociferus*
12:15 - 12:50	Discussion	Various Topics; TBD
12:50 - 13:00	**Wrap Up**	

Abstracts

(In order of the schedule)

When rivals appear: exploring the role of plumage ornaments in responses to simulated territorial intrusions in male Eurasian Nightjars (*Caprimulgus europaeus*)

Martin Barka, Katarína Obertová, Richard Schnürmacher, Alžbeta Darolová, Ján Krištofík, Lucia Rubáčová

Visual signals, such as plumage ornaments, play an important role in avian communication. In nocturnal species, they may represent one of the few available means of communication under low-light conditions. Male Eurasian Nightjars possess conspicuous white patches on their wings and tail, which are hypothesized to function in territorial interactions. In this study, we experimentally tested male responses (n = 60) to two different visual stimuli by presenting males with two silhouette types differing in the size of their white patches (large vs. small), accompanied by territorial vocalizations. During six-minute trials, we recorded behavioural responses (reaction intensity, approach distance, and latency) and acoustic responses (churring, bubbling, quaw-eeks, and wing-claps) to the stimuli. We also recorded female presence in the territory during the experiment, as well as the time elapsed since sunset (≤ 60 or > 60 min) and breeding stage (pre-breeding or breeding), to assess their potential effects on male responses. Neither acoustic nor behavioural responses of male nightjars differed significantly between the two stimulus types. In contrast, males responded more intensely to simulated territorial intrusion when a female was present in the territory. Furthermore, male behavioural and acoustic responses were strongest shortly after sunset. This pattern may reflect the species' crepuscular activity peak, followed by a decline in responsiveness as the night progressed. Male responses also differed between the pre-breeding and breeding stages, potentially indicating differences in male arousal across the breeding season. Overall, our results suggest that male territorial signaling and responses to simulated territorial intrusion vary with female presence, time of night, and breeding stage.

The urban nightjar: patterns and drivers of foraging in anthropogenic landscapes

Jitse Creemers

Urbanization is rapidly reshaping nocturnal environments, introducing both novel habitats and artificial light into landscapes used by wildlife. For visually hunting aerial insectivores, artificial illumination may alter the distribution and detectability of prey, potentially creating profitable foraging opportunities. Yet it remains unclear which individuals exploit urban environments and under which conditions. We investigated urban foraging in the European Nightjar (*Caprimulgus*

europaeus), a crepuscular insectivore whose foraging activity is strongly influenced by nocturnal light conditions. Using multi-year GPS tracking data from 196 nightjars breeding in Flanders, Belgium, between 2015 and 2024, we examined the occurrence and recurrence of urban foraging and quantified the landscape and nocturnal conditions associated with its use. Urban foraging was detected in 23% and urban use was strongly heterogeneous among individuals, with most birds rarely entering urban areas while a subset repeatedly exploited urban foraging hotspots. The probability of entering urban areas increased with artificial radiance, but recurrent use was more strongly associated with moderately urbanized and structurally open landscapes than with densely built environments. Fine-scale analyses further revealed repeated foraging near local artificial light sources, with patterns differing among lighting types. Urban foraging also varied with natural nocturnal conditions: moonlight increased urban entry, whereas cloud cover was associated with greater use of established foraging hotspots. Together, these results suggest that nightjars do not simply avoid or exploit cities, but selectively use parts of the urban landscape where artificial illumination and landscape structure may combine to create favourable foraging conditions.

Evaluating Automated Detection of Eastern Whip-poor-wills (*Antrostomus vociferus*) Across Managed Landscapes

Natalie Ramos

North America has experienced a significant decline in bird populations, with aerial insectivores being among the most severely affected. Notably, the Eastern Whip-poor-will (*Antrostomus vociferus*) has declined 67% since 1970, raising conservation concern. Factors contributing to this decline may include the mesophication of eastern forests and woodlands, reductions in food availability, and land use changes along migration routes and wintering grounds in Central America. We used autonomous recording units at 271 survey locations to monitor Eastern Whip-poor-wills across Missouri priority geographies in the summer of 2025. We re-surveyed points in multiple months, resulting in 437 total samples. We identified detections from recordings with the BirdNET classifier. Whip-poor-wills were primarily detected in forested sites at the local 500m scale and higher pasture/hay cover at the landscape scale (1-5km) compared to non-detection sites. Detection sites were also farther from roads and had lower road density, suggesting that these birds prefer forested areas with open edges and minimal anthropogenic disturbance. The BirdNET classifier performed well, achieving 89% overall accuracy, 91% sensitivity (recall), and 88% specificity, demonstrating strong agreement with manually verified detections. We hope to identify key habitats important to nightjars by providing an assessment of Eastern Whip-poor-will occupancy patterns across this landscape and its management practices.

Exploring sex-specific roles and traits in the Sickle-winged Nightjar of South America

Kristina Cockle, Nestor Fariña, Olga Villalba

Historically, many studies of birds focused on males in the Global North, assuming that their ecology could be extrapolated to most other birds, including females and birds in the South. In recent decades, challenges to that focus are revealing the lives of females as often quite different from those of males. We compare the lives of female and male Sickle-winged Nightjars (*Eleothreptus anomalus*), a globally vulnerable species endemic to South American grasslands. Adult males have a highly anomalous "sickle-shaped" black-and-white wing; females and juveniles have a typical nightjar wing shape and drab coloration. Using audio recordings, capture and banding on roads (spotlighting), morphometry, molecular sexing, and camera traps at nests in Corrientes (Argentina) from 2012 to 2026, we studied sex differences in vocalizations and mechanical sounds, body size, parental care, sources of mortality, recapture rates, and survival. We found that females were 30% larger than males, a reverse size dimorphism unprecedented in the literature on nightjars and potentially explained by limitations on male size related to his anomalous (sickle-shaped) wing. Size differences were apparent even in juveniles, which look superficially like females, allowing us to predict juvenile sex by morphometry with high accuracy. Females provided all parental care. They sometimes vocalized during incubation, perhaps to communicate with their unhatched offspring. Nestlings were unusually sedentary for nightjars and moved only within 1 m of the nest, exceptionally 7 m. Like several members of their *Hydropsalis* clade, females did not remove eggshells after hatching. They left nests unattended for long periods (hours); nest survival was only c. 1% and females were frequently taken from their nests by predators, suggesting an important source of sex-specific mortality. Although we captured 4.5 times more males than females, mark-recapture models indicated adult female survival was similar to that of males (c. 0.67) and to adult nightjars in Europe, whereas recapture probability was three times higher for males, presumably because they congregate on roads. Studies of more highly sexually dimorphic species are needed to shed light on mechanisms of sexual, social, and natural selection that shape nightjar life histories and behaviour.

Tracking the night: home ranges and spatial use of the Eurasian Nightjar in Slovakia

Katarína Obertová, Martin Barka, Alžbeta Darolová, Ján Krištofík, Ruben Evens, Lucia Rubáčová

Quantifying the space use and behaviour of individuals during the breeding season is essential for understanding the costs of living and foraging. Although the Eurasian Nightjar (*Caprimulgus europaeus*) has been relatively well studied in Western Europe, data on individuals' space use and habitat selection in declining Central European populations is still lacking. Yet, such information is pivotal in the development of effective conservation measures. The aim of the study was to investigate the home range size and spatial use of Eurasian Nightjars in Slovakia. During the breeding seasons of 2024 and 2025 we tracked 16 individuals (10 males, 6 females) using GPS-accelerometers (Pathtrack, Lotek) in pine forests located in the Záhorie Protected Landscape Area. We defined the range of their space use, pinpointed regions with the highest frequency of occurrence and evaluate variations in spatial use between males and females. Home ranges and core areas were estimated using Minimum Convex Polygon (MCP) and Kernel Density Estimation (KDE) methods. The mean home range size was 503.2 ha based on MCP and

116.6 ha employing KDE95. Males had larger home ranges using MCP (mean 571.3 ± 450.9, range 41.5–1596.3) than females (mean 389.8 ± 295.1, range 144.2–888), whereas females had larger home ranges based on KDE95 (mean 162 ± 94.3, range 52.5–328.9) than males (mean 89.3 ± 44.9, range 28.3–160.4). The mean core area (KDE50) was 12.4 ha and was larger in females (mean 15.1 ± 12, range 3–36.5). Maximum flight distances from the core area exceeded 4.5 km in both sexes, indicating feeding at greater distances. Our results provide the first insights into the spatial ecology of Eurasian Nightjars in Slovakia and enable comparison with other populations. They highlight the importance of considering both breeding and broader foraging areas in conservation and habitat management.

Everyone wants to be heard

Kunal Jagetiya, Viral Joshi, V.V. Robin

Nocturnal birds are among the least studied avian groups across all landscapes. Nightjars are one such group that are crepuscular, active mainly during twilight, and nocturnal. Interestingly, nightjars produce distinctive calls, which serve as the best way for species-specific identification. Hence, bioacoustics serves as the most reliable method to study nightjars. The biological significance of producing these distinctive calls is to communicate with both conspecifics and heterospecifics. These acoustic signals convey individual spatial information that helps attract mates and establish or defend territories, maintain contact with family members, signal danger, and aid foraging activities. However, when multiple species call simultaneously, there is a higher likelihood of heterospecific signals being masked by interference. The acoustic niche hypothesis (ANH), an extension of Hutchinson's niche theory for species coexistence, explains that species evolve non-overlapping acoustic characteristics. Genetically closely related sympatric bird species are known to display dramatic differences in signal parameters. In this study, we used the combination of Passive Acoustic Monitoring (PAM) and BirdNET, to identify nightjar species in the less-explored landscape of Eastern Ghats of India. We further showed that three nightjar species: Jerdon's Nightjar (*Caprimulgus atripennis*), Indian Nightjar (*Caprimulgus asiaticus*), and Savanna Nightjar (*Caprimulgus affinis*), existing in sympatry, display partitioning in the frequency axis. This enables the nightjar species to co-exist and be heard.

Microgrant Recipient

Himanshu Boricha

Nightjars (Family: Caprimulgidae) are predominantly nocturnal birds that remain relatively understudied due to their cryptic plumage and elusive behaviour. In India, information on their distribution, seasonal occurrence, and ecology is scattered across multiple biodiversity databases and independent observations.

This project, supported by the Global Nightjar Network (GNN) in collaboration with the Kshitij Foundation Manish Mehta Microgrant project, aims to develop a centralised, research-oriented database of nightjar records across India by integrating information from platforms such as eBird, iNaturalist, GBIF, and published scientific literature. The study involves data compilation,

standardisation, validation, and GIS-based spatial analysis to understand species distribution, seasonal variation, habitat associations, and geographical data gaps. Gujarat serves as a pilot landscape for assessing available records through field observations and non-invasive validation. The project also seeks to establish connections among researchers, birdwatchers, and citizen scientists to strengthen collaborative research and promote nocturnal bird conservation.

The initiative is expected to provide an accessible baseline resource for future ecological studies, identify priority areas for further investigation, and encourage greater participation in nightjar research across India. It also aims to establish a foundation for long-term monitoring, research collaborations, and conservation-oriented initiatives.

From landscape to nest site: habitat selection in breeding Eastern Whip-poor-wills

Asch Nighthawk, Kristen M. Malone, Jacob N. Straub, Matthew D. Palumbo

Antrostomus vociferus (Eastern Whip-poor-will; hereafter Whip-poor-will) is an IUCN Near Threatened species that has declined throughout its range. Breeding Whip-poor-will research historically focused on occupancy modeling at regional scales, leaving knowledge gaps across other scales of resource selection. Our research investigated Whip-poor-will home range, nest core range, and nest site selection within the alvar barren regions of Jefferson County, NY by monitoring individuals using telemetry during the 2023 and 2024 breeding seasons. We monitored 33 birds and located 38 nests. Whip-poor-will home ranges had greater forest edge density relative to what was available and had a non-linear relationship with proportions of upland forest, which peaked at 55.9%. At properties with more grassland/agriculture, Whip-poor-wills selected home ranges with greater proportions of shrubland, but this selection was absent at properties with ample shrubland. Within 95 m nest core ranges, Whip-poor-wills similarly selected for increased shrubland proportion, dense forest proportion, and forest edge density, but against increased grassland/agriculture proportion. At nest sites, Whip-poor-wills selected for increased leaf and needle cover, consistent with their camouflage, and for increased shrub and coniferous tree cover. These results indicate that forest and shrub structure are important to Whip-poor-will selection across all scales, while forest edge is most influential at home and core range scales. Conservation efforts prioritizing heterogeneous mosaics of upland forest and shrubland will be beneficial for breeding Whip-poor-will populations by supporting both nesting and broader home range use.

Listening to the Nightjar: A Citizen Science Survey shifting Noise Complaints to Public Participation (Chongqing, China)

Sindy Wei

This citizen science survey was initiated in response to noise disturbance caused by the nocturnal calls of the Grey Nightjar (Caprimulgus indicus). Through continuous surveys and data collection, we documented a shift in public attitudes from misunderstanding and complaints to understanding and stewardship. We also developed a nightjar class and shared it in schools, engaging teachers and children in conservation action. As a result, via public radio programs,

artistic projects, data analysis collaborations, etc., we have connected people from different areas as well as professional institutions together, who all care for nightjars and want to keep them around. Together, we protected nightjars through a successful breeding and chick-rearing season, demonstrating how nature education can take root in real-world practice. I hope to explore and discover together with nightjar enthusiasts worldwide from diverse perspectives, and to receive support from the Global Nightjar Network (GNN) in professional data analysis.

Nightjars in Mexico: challenges and research gaps

Jonathan Rogelio Chávez Sánchez, Paula L. Enríquez

Although nightjars are widely distributed throughout the world – apart from Antarctica and some oceanic islands – they have received very little scientific attention. These birds have several names in Spanish, including chotacabras, tapacaminos, atajacaminos, gallinas ciegas, and engañapastores. Of the total number of species worldwide, 14 occur in Mexico. Two are endemic (*Antrostomus salvini* and *Nyctiphrynus mcleodii*), five are migratory (*Chordeiles minor*, *Antrostomus maculicaudus*, *Phalaenoptilus nuttallii*, *A. carolinensis*, and *A. vociferus*), and two species have both resident and migratory populations (*A. badius* and *C. acutipennis*). In Mexico, most of these species (10) are found in the states of Chiapas and Veracruz, in the south and along the Gulf of Mexico coast. Twelve species have an international conservation status of Least Concern (LC), and two are considered Near Threatened (NT) by the IUCN. In Mexico, one species is listed as special protection. After reviewing the literature on Mexican Caprimulgidae over a 121-year period (1905 to 2026), we found only 17 publications. The most studied species is the Common Pauraque (*Nyctidromus albicollis*). Ten of the publications were scientific notes, five were scientific articles, and two were degree theses (one bachelor's and one master's). These studies have focused on taxonomic aspects and ecology, addressing habitat use, reproduction and migration. This review highlights the very limited ecological information available on these species in the country. We do not know the regional, state or local conservation status of any of these species, even though habitat transformation, wildfires, floods, agrochemicals and urban growth are recognized factors that may affect their populations. The lack of studies is mainly due to their nocturnal habits, elusive behaviour and cryptic camouflage. However, studying them will be essential to assess their current conservation status in the country.

Landscape drivers of the presence and abundance of Eastern Whip-poor-wills, their nocturnal insect prey, and non-target agrochemicals across five Midwestern states

Grant Witynski

Given dramatic declines in Eastern Whip-poor-will populations across their range since the 1980s, and concurrent declines in myriad insect taxa, ecological assessments of the drivers of abundance for both predator and prey are critical for future conservation efforts. However, research on whip-poor-will declines in the U.S. has overwhelmingly focused on relatively localized breeding areas scattered across their range. Additionally, studies documenting links between intensive agriculture and losses among insects and avian insectivores alike, as well as drift of common pesticides beyond their target locations and taxa, suggest that non-target

pesticide presence in whip-poor-will habitats might be a key unexamined contributor to their declines. To address these concerns at the regional scale, we conducted nocturnal point counts, bucket trap sampling of insects, and soil cores that were screened for agrochemicals at 120 sites distributed evenly across five Midwestern states: Illinois, Michigan, Missouri, Ohio, and Wisconsin. Half of the 24 survey blocks in each state were sampled in 2022, and half in 2023. Each site was visited twice, once early in the breeding season and once approximately one month later. Ten point counts were conducted at each visit to a block, with complementary insect trapping and soil sampling at five of those points. Landcover, weather, and light pollution data at multiple spatial scales around each point was integrated into models predicting the occurrence and/or abundance of pesticides, insects, and whip-poor-wills. We will present the most up-to-date results of these analyses and discuss their implications for conservation of whip-poor-wills and their insect prey across the region.

Built for slow flight, migrating far: flight-performance trade-offs in the European nightjar

Christoffer Johansson

European nightjars (*Caprimulgus europaeus*) face contrasting demands on flight performance. As aerial insectivores, they fly slowly and manoeuvre while foraging, and can even hover briefly, yet they are also long-distance migrants. Their unusually long wings with broad, slotted tips may therefore reflect a compromise between these contrasting ecological demands.

We investigated how European nightjars generate aerodynamic forces across flight speeds by flying trained birds in a wind tunnel at 2.6–11 m s^{-1}. Using high-speed three-dimensional kinematics and measurements of the airflow left behind the birds, we quantified force production, mechanical power and changes in wingbeat kinematics. At slow speeds, where supporting body weight is particularly challenging, lift production was relatively efficient. At cruising speeds, however, the broad, slotted wingtips generated an unusual pair of wingtip vortices, accompanied by decreasing efficiency of lift production with increasing speed. Thus, wing features advantageous for slow flight appear to incur an aerodynamic cost during faster flight. Nevertheless, cost of transport decreased with flight speed, while mechanical power reached a minimum near 9 m s^{-1}. Reduced lift efficiency at cruising speeds may also increase the benefits of behaviours that reduce lift generation costs during migration, such as flight close to water surfaces. We also found that nightjars generate forward thrust with the outer wing during the upstroke. They retract their wings relatively little during upstroke, retaining around 80% of their downstroke wingspan, suggesting that this unusual mechanism is linked to their long hand wings. Similar upstroke thrust occurs in bats and insects, which likewise have limited ability to retract their wings, suggesting a convergent solution to a general constraint of flapping flight. Our results reveal how nightjar morphology balances the conflicting demands of slow aerial foraging and long-distance movement. Given the extensive variation in wing shape among nightjars, comparative studies across the group could reveal how ecological specialization and sexual selection shapes flight performance.

Eastern Whip-poor-will (*Antrostomus vociferus*) activity and space use tracking reveals preferential use of open forests and conditional use of dense forests

Holly Coates

The steeply declining Eastern Whip-poor-will (*Antrostomus vociferus*) relies on structurally heterogeneous forests, but it remains unclear how the species partitions its time and activity among different structures. While open forests are generally understood to be their preferred forest structure and a target for management, the species' less common use of denser forests remains poorly understood, which complicates management action. To better understand how whip-poor-wills are using different forest structures, we VHF-tagged 47 whip-poor-wills and built automated telemetry towers to track them at seven Midwestern sites. We built the towers in locations where starkly different managed (open) and unmanaged (dense) forest structures occurred in close proximity, yielding 8.6 million raw receiver scans that we could associate with the nearby forest structures. We used these data to estimate activity and home ranges within each management type, and then evaluated their associations with canopy cover, time of day, prey abundance, moon phase, bird age, and season. We found that birds demonstrated higher activity in managed and low canopy cover forests and disproportionately selected those structures within their home ranges; these responses were particularly strong in older (after second year) birds. We also found that environmental factors that might increase foraging efficiency (increased moonlight or prey abundance) were associated with increased activity, but only within the unmanaged and high canopy cover forests that whip-poor-wills used less; this suggests that managed forests may provide more consistently favorable foraging conditions, while use of unmanaged forests may depend more strongly on environmental conditions. Lastly, while activity across all structures decreased from June to September, we found a surprising sharp late-season increase in their use of unmanaged structures; this is consistent with a possible pre-migratory sedentary molt period. Overall, management seeking to support whip-poor-will populations should maintain a mosaic of structures, but low-canopy-cover structures should be a priority.

Under the Cover of Darkness: Decoding Nightjar Life Histories through Museomics and Salvage Architecture

Yen Yi Tan

Nightjars (Caprimulgidae) remain among the most ecologically enigmatic avian lineages, with their cryptic coloration, nocturnal lifeways, and elusive behaviors creating significant gaps in baseline life-history data. Traditional field methods often struggle to resolve fine-scale demographic traits, leaving critical gaps in our understanding of molt strategies, age-class characteristics, and population connectivity along major flyways. This proposed study outlines a forthcoming research framework designed to overcome these limitations by leveraging a high-resolution, timestamped tissue and skin repository built through a nationwide urban specimen salvage network in Singapore. Operating from the Lee Kong Chian Natural History Museum, we will utilize salvaged specimen cohorts of three sympatric species: the resident Large-tailed Nightjar (*Caprimulgus macrurus*), the migratory Grey Nightjar (*C. jotaka*), and the highly-adaptable Savanna Nightjar (*C. affinis*) - to investigate phenotypic and biological phenomena

that can only be robustly deciphered with the bird-in-hand. By integrating detailed ecomorphometric profiling with plumage-based molt mapping, this project aims to establish baseline criteria for reliable sex and age-class identification. Crucially, these macro-phenotypic observations will be ground-truthed using definitive internal gonad analyses and high-throughput genomic protocols. Furthermore, we will leverage this localized material capital to evaluate the subspecific status and regional structuring of migratory *C. jotaka* cohorts navigating the Sundaland bottleneck. This upcoming initiative seeks to transition caprimulgid research toward structured, highly verifiable data architectures. As the regional curatorial node for Southeast Asia, our museum holds the critical mass of physical material and bioinformatic pipelines required to anchor large-scale comparative frameworks. We invite international partners within the Global Nightjar Network to collaborate on this new research avenue, bridging live biologging and tracking loops with permanent molecular and phenotypic validation to map the dark spaces of nightjar ecology.

In the Absence of Whip-poor-wills: Writing about Species Decline

Jared Del Rosso

Focusing on Eastern Whip-poor-wills (*Antrostomus vociferus*), this presentation addresses representations of declining and absent non-human animals. As scholars of extinction studies have noted, grief and eco-grief tend to be the dominant frames for representing declining and lost species. My presentation shows how this frame has appeared in everyday and poetic presentations of Whip-poor-wills and the landscapes they once resided in. I also show how a multi-species form of grief over the loss of Whip-poor-wills extends to senses of place and culture. For many people, Whip-poor-wills are symbolically meaningful non-human animals, triggering nostalgic feelings about family, places, and rural life. The absence of the song of Whip-poor-wills fundamentally changes people's relationships to place. The presentation will close by offering an alternative representation of the declining non-human species. Drawing on the epilogue of my book, I'll emphasize the non-human agency of Eastern Whip-poor-wills, as well the recognition of both presences and absences of non-human species on changing landscapes.

Nightjar vocal detection across an elevational gradient: links with climate and insects

J. Roberto Sosa López, Dayane Arlette Puente Puente, Michael P. Ward, Thomas J. Benson

Climate change and habitat degradation can alter insect availability and the ecological conditions associated with nocturnal bird behavior. We examined environmental correlates of vocal detection rate in two Neotropical nightjars, the Mexican Whip-poor-will (*Antrostomus arizonae*) and the Buff-collared Nightjar (*A. ridgwayi*), along an elevational gradient (1,700–3,000 m) in Oaxaca, Mexico. We combined passive acoustic monitoring and automated species identification using BirdNET with concurrent UV light-trap sampling to assess associations between vocal detection, environmental conditions, and insect captures. Vocal detection rates increased with

temperature and humidity in both species. Associations with moonlight, NDVI, and insect groups differed between species. Relative Coleoptera abundance was positively associated with vocal detection in both species, whereas relative Lepidoptera abundance was negatively associated with detection in Mexican Whip-poor-wills but not Buff-collared Nightjars. Insect captures also varied with humidity and NDVI. These findings highlight species-specific associations between nightjar vocal detection, environmental conditions, and light-trap-derived insect captures across an elevational gradient.

Querequeté: Una historia que merece seguir volando (Querequeté: A story that deserves to keep flying)

Yadiel Veunes

Translated from the original Spanish to English:

It all began with a photograph…

What seemed like a chance encounter with a bird ended up becoming a story that took me back to the landscapes of my childhood, my memories, and the pastures where I grew up.

QUEREQUETE is much more than an audiovisual documentary about the life of a bird. It is a story of encounters, discoveries, and the special connection we can develop with nature.

For months, I followed and documented extraordinary moments in the life of the Querequete (*Chordeiles gundlachii*): its courtship, breeding, the hatching of its chicks, and their first steps toward independence.

An experience that reminded me how fragile wildlife can be and how important it is to protect the places where these stories unfold.

Eastern Whip-poor-will (*Antrostomus vociferus*) nesting ecology: behavior of nesting adults and chick growth

Liam Corcoran, Megan Gray, Scott McWilliams

Eastern Whip-poor-will (*Antrostomus vociferus*) populations have declined precipitously since 1970, yet key aspects of their breeding biology remain understudied compared to other aerial insectivores. We used trail cameras to monitor 14 whip-poor-will nests during May–August 2023 in Rhode Island, USA. We estimated sex-specific incubation constancy (number of minutes per day on the nest) and observed behavioral interactions of adults with the nest, between paired males and females, between adults and chicks, and between adults and predators during the incubation and chick rearing stages. Additionally, we quantified chick growth trajectories (n = 12) for nine morphometric measurements, and growth rates for the four most informative measurements. Females spent 92 ± 2% of the 24 h period incubating, while males only assisted with incubation 4 ± 4% of the time. Paired males and females displayed a rarely documented

courtship-like behavior at the nest. We also observed incubating females singing the male song, an anti-predator defensive behavior, and a slug (Gastropoda) as a predator of an egg. We provide the first published estimates of chick growth for the species and generated predictions of chick size that estimated chick age to a range of 1–2 days based on four measures (mass, tarsus length, humerus length, and wing chord). Whip-poor-will growth rates were like those of similar sized nightjars (Fiery-necked Nightjar *Caprimulgus pectoralis* and Common Pauraque *Nyctidromus albicollis*) and other aerial insectivores (flycatchers, Tyrannidae; swallows, Hirundinidae). Our growth models provide a baseline for assessing the effects of habitat quality on whip-poor-will chick growth, and a valuable tool for estimating nesting phenology and enhancing survival analyses through precise age-specific survival estimates.

Musculature of the jaw apparatus in the Pauraque *Nyctidromus albicollis* (Caprimulgidae) and a comparative analysis to close related groups

Laura Oliveira Castro, Gustavo Barbosa, Thiago Costa

The Pauraque *Nyctidromus albicollis* has one of the widest distributions among Neotropical nightjars, inhabiting forested areas, open fields, and urban green spaces. Like other nightjars, it is primarily insectivorous, capturing small insects in flight using visual orientation and specialized adaptations of the jaw apparatus. Its lower jaw is highly elastic, with an intraramal joint that allows considerable lateral expansion. The eyes are also large and occupy a substantial portion of the orbit and skull, potentially constraining the musculature involved in cranial kinesis. Despite the remarkable cranial and mandibular modifications of caprimulgids, the cranial musculature of the Pauraque remains poorly studied. Here, we investigated the organization of the jaw musculature in this species and compared it with that of related taxa. We found that the size and orientation of the muscular systems are strongly influenced by the exceptionally developed eyes. The mandibular adductor system is highly simplified, comprising only a few muscles restricted to the caudal portion of the orbit. The protractor system also occupies a limited orbital area and inserts on the body of the quadrate, as the orbital process is absent in this group. The shape, size, and orientation of these muscles closely resemble those observed in potoos (Nyctibiidae), with which nightjars share several osteological features. These findings highlight the importance of further investigations into avian osteology and myology, particularly from a functional perspective and in poorly studied groups.

Digestive morphology across the lunar cycle in the red-necked nightjar

Marta Martinez Bernardo, Pedro Sáez-Gómez, Paula Hidalgo-Rodríguez, Selene Reverón Arteaga, Julio Rabadán-González, Carlos Molina, Carlos Camacho

Nightjars (Caprimulgidae) rely on the semi-darkness of twilight and moonlight to detect their insect prey. Consequently, the time available for foraging each night depends on latitude, season and, most notably, lunar phase. On full-moon nights, the foraging window extends throughout

the night, whereas on new-moon nights it is restricted to twilight. A high food-storage capacity could help overcome this temporal constraint by maximizing food intake during twilight. However, the costs associated with maintaining a large digestive organ might outweigh its benefits when time limitations are relaxed, such as on full-moon nights. Plasticity in the digestive system could represent an adaptive response to natural lightdark cycles, but this hypothesis remains unexplored. In this study, we tested for flexibility in the food-storage capacity of the digestive system (assessed through gizzard size) as a physiological adaptation to the lunar cycle in the red-necked nightjar (*Caprimulgus ruficollis*), a nocturnal insectivore that relies on ambient light to capture its prey. We also tested for sexual dimorphism in gizzard size, predicting larger gizzards in females due to the higher energy demands they experience during reproduction. During the 2024-2025 breeding seasons, we used a MyLab X1VET portable ultrasound scanner to measure the maximum diameter of the gizzard and the thickness of its wall in 75 adult individuals captured on nights around the full moon (>85% of the lunar disk illuminated) and new moon (<15%) in a population at Doñana (SW Spain) that has been monitored since 2009. Contrary to expectations, no changes in gizzard diameter or wall thickness consistent with digestive plasticity in response to the lunar cycle were observed after accounting for potential allometric effects of body size, indexed by keel length. However, we found significantly larger gizzards in females than in males. These results suggest that the degree of gizzard size flexibility, if any, may be insufficient to support a role in adjusting to the lunar cycle in this species, although the observed sexual dimorphism may reflect sex-related differences in its internal architecture and function.

Nightjar research in the Far East: difficulties, achievements, and ongoing studies

Kazuhiro Kawamura

My research career began in 2013 with the Grey Nightjar. My first study was on identifying the factors that determine the nightjar's large-scale distribution, but at the time, the knowledge on this species was extremely limited. Under these situations, I could not imagine becoming a specialist in nightjar research. I decided to continue my research on nightjars within the broader framework of "large-scale regional difference and seasonality in bird distribution" and "reconciling forestry with biodiversity conservation." From 2015 to the present, I have been monitoring nightjars at a large-scale field experiment site for retention forestry in tree plantations. Surveys to 2022 revealed that young forests formed by plantation harvesting increase the probability of nightjar occupancy. Since nightjars continue to occur even now, I hope to determine when they might disappear due to the development of dense understory vegetation and the growth of planted trees. Even as I continue my research while facing these challenges, several valuable insights into the ecology of the Grey Nightjar were provided by others. Over the past decade in Japan, ecological knowledge has been accumulated regarding their activities related to territorial calls, breeding ecology, nesting environments, and preferences for quarry sites, semi-natural grasslands, and landslide areas. These great works has been conducted by individuals who conduct research with great enthusiasm while holding other

jobs, as well as by a new generation of young researchers. In 2023, a session on nightjars was held at the annual conference of the Ornithological Society of Japan, where I presented some of the outstanding research findings produced by GNN members. We want share fascinating research from Japan with the world—and we are taking on new challenges. We are working to clarify migration routes and wintering grounds of the Grey Nightjars, as well as examining the effects of plantation and their harvestings on nightjar distribution across Japan. I've heard that others are also conducting interesting research using entirely different approaches. Even in the Far East, where there was previously scarce studies on nightjars, we've been able to advance our studies by encouraging each other who share an interest in nightjars in Japan, and through the GNN, we've connected with nightjar enthusiasts around the world. If we continue to work steadily, we can get wonderful results. Nightjars are truly interesting, and it would be wonderful if we could conserve them in a way that makes their presence—especially the nice Grey Nightjar calls!—feel close to people's lives. Within GNN, I feel that we have reliable colleagues who support that dream.

The non-breeding distribution and migration of Florida's invisible nightjar, the Eastern Whip-poor-will

David Edlund

Declining eastern whip-poor-will (*Antrostomus vociferus*) populations have prompted research into the underlying causes of this trend. While GPS tagging has revealed that whip-poor-wills overwinter in Mexico and Central America, research has largely been restricted to the breeding season. Consequently, little is known regarding their wintering ecology. Notably, Florida represents a historically documented overwintering area that has received little attention. To address this knowledge gap and contribute to a fuller understanding of the whip-poor-will's full annual cycle, I conducted surveys to determine their distribution and habitat use across Florida and used archival GPS tags to identify breeding locations. Point counts were conducted across a variety of habitats from Gainesville to Everglades National Park during the winters of 2025 and 2026. Contrary to their reputation as forest specialists, whip-poor-wills were detected across a variety of habitats, including hammock, scrub, mangrove, and urban areas, among others. Recovery of four GPS tags identified breeding locations in Virginia, North Carolina, and Alabama. Florida represents an important component of the whip-poor-will's full-annual cycle and merits further research.

Cranial osteology of the enigmatic Malagasy Collared Nightjar *Gactornis enarratus* (Caprimulgidae)

Gustavo Barbosa, Laura Oliveira Castro, Thiago Costa

The Collared Nightjar *Gactornis enarratus* is an enigmatic, Madagascar-endemic nightjar whose taxonomic history has undergone substantial changes in recent decades following the incorporation of genetic data. Molecular studies have revealed its position among the earliest-diverging lineages of Caprimulgidae, with no close relatives, supporting the recognition of the monotypic genus Gactornis. Despite these findings, morphological and behavioral studies of the species are virtually absent, and museum specimens are exceptionally scarce. Given its distinctive phylogenetic position and the paucity of available information, we investigated the osteology of the skull and mandible based on three skeleton specimens and compared them with those of other caprimulgid taxa. The cranial osteology of *G. enarratus* is broadly similar to that of other nightjars, showing greater resemblance to more derived lineages than to Lyncornis and Eurostopodus, which represent early-diverging lineages within the family. However, *G. enarratus* exhibits two highly distinctive features not known in other nightjars and, apparently, among other birds: (1) extremely reduced nasal bones, represented by thin bony structures positioned laterally to the nasal region; and (2) an exceptionally elongated vomer, whose rostral end extends beyond the maxillopalatine region and reaches the median point of the narial region. The functional implications of these unusual features remain under investigation. Our findings highlight the anatomical distinctiveness of *G. enarratus* and reinforce the need for further studies of this poorly known species, particularly those addressing the soft-tissue anatomy of the narial region.

Why are there Whip-poor-wills in our moss garden? Five years with *Antrostomus vociferus*

Eric Anderson

I will share the story of an Eastern Whip-poor-will habitat in Southern Vermont that I have been studying for five seasons. There is no history of the birds nesting in the area prior to late 2010s when birds in Windham County were reported by citizens and while extensive ARU devices in the valleys around the site failed to detect them, we believe the nesting birds were within a mile of most detectors, nestled into the hillside well above the riverbed. I present the story of what we believe led to the habitat forming, how many we think there are, what we learned about individual birds, why the neighbors dislike them, how they interact with resident coyotes and bears, and how they hunt from under our bedroom window. I will share our hope that the parameters learned from this work will lead to successful formation of other habitats in the Green Mountains of Vermont where similar conditions of land use, moth populations, predators and human use suggest a significant increase in population density is possible in the domain of the old hilltop farms of colonial Vermont.