



INTERNATIONAL
ORNITHOLOGISTS
UNION

THE
FLUTTER

www.internationalornithology.org

I N S I D E

Back from the brink!

The future of avian migration,
The hunt for the missing,
Evolution, Behaviour
and MORE!



THE OFFICIAL NEWSLETTER OF THE
INTERNATIONAL ORNITHOLOGISTS' UNION

VOLUME 5 • ISSUE 2 APRIL 2023



IN THIS ISSUE

The President's message	1	
The Immediate Past President's message	3	
Editor's note	4	
Member Spotlights	6	
<i>Dr. Murugan Shanthakumar - The Birdman of the Mangroves</i>	6	
Pioneers of Ornithology	7	
<i>Breaking Barriers for Birds in Africa and beyond - Friday4Birds, L'heure de l'Ornithologie africaine</i>	7	
IOU News Flash	9	
<i>Progress update: Working Group on Birds as Peacemakers (WGBP)</i>	9	
Have Your Say: Opinions, Letters and Articles	10	
<i>Power lines and their deadly impact on Kenya's birds</i>	10	
<i>Torpor: A Hummingbird's Secret Weapon</i>	12	
Editor's Picks	13	
<i>Kleptoparasitism as an Adaptive Strategy in Himalayan Vultures</i>	13	
<i>The mystery of bird vagrancy solved: It's all in the magnetism</i>	14	
<i>The Poop Scoop: Uncovering Antarctic Emperor Penguins with Satellite Images</i>	15	
Beak to Beak: The Hottest News on Birds	17	
<i>The Kakapo's Fecal Fiasco</i>	17	
<i>How Arctic geese adapt to climate change by finding a new route</i>	18	
<i>Beware of the birds- Two new bird species in New Guinea have a poisonous secret!</i>	19	
<i>Back from the brink - Dusky Tetraka on the radar in Madagascar</i>	21	
Conservation matters: Every Feather Counts!	22	
<i>Birds need more bugs- The case for conserving forests in coffee plantations</i>	22	
<i>Australia's vanishing raptor</i>	23	
New Tools for a New Era: Conservation and Research	24	
<i>The Future of Bird Migration Research: Introducing BirdFlow</i>	24	
Don't Miss Out!	26	
<i>Films and books</i>	26	
<i>Conferences, courses, workshops, grants, fellowships, internships, and positions</i>	27	
Contact us	32	

PRESIDENT'S MESSAGE



Post-Darwinian phylogenomics: The new frontier of evolutionary biology

Modern *de novo* genome sequencing techniques have improved Darwinian phylogeny into the new generation under the new research paradigm.

The study of phylogeny aims to trace the evolutionary history and relationships among different groups of organisms. The concept of phylogeny was developed by Darwin and his followers, who explored the diversity and common ancestry of life through various stages (e.g., Darwinian, Neo-Darwinian, and Non-Darwinian). The emergence of Sanger's sequencing technique in 1977 by Frederick Sanger revolutionized the field of phylogeny and speciation (see for example, https://en.wikipedia.org/wiki/Frederick_Sanger). In 1985, Kary Banks Mullis invented the Polymerase Chain Reaction (PCR) technique, which changed the research methods in biological science, including phylogeny, taxonomy, evolution, and more, leading to the next-PCR generation stage (see for example, https://en.wikipedia.org/wiki/Kary_Mullis). After Sanger's sequencing technique was followed by the next-generation genomic sequencing technique (*de novo*), the genomic-based phylogenetic study formed phylogenomics at the species level and population genomics at the population level. This pushed phylogeny to enter a new stage, the 'Post-Darwinian' stage, with a new research paradigm.

Early phylogenetic reconstructions representing the species trees were mostly based on limited gene fragments. However, the phylogenetic tree constructed based on limited DNA markers may only represent the gene trees rather than the true species tree due to gene duplication, incomplete lineage sorting and/or introgressive hybridization, and so on (Rheindt and Edwards 2011).

The next generation genomic sequencing techniques have enabled the detection of gene flow among lineages across the tree of life. Gene flow can happen between lineages at different stages of speciation, such as between closely related sister lineages that diverged recently, between distantly related lineages, or between ancestral lineages (Zhang *et al.*, 2021). It can also happen between living and unsampled lineages, which are called "ghost introgression". These unsampled lineages may be extinct. For instance, Zhang *et al.*, (2019) discovered the "ghost introgression" of a living species from an unknown extinct relative by comparing the mito-nuclear discordance and topological conflicts in a group of *Phylloscopus* species. Hybridization between living and extinct lineages is a common phenomenon. The first evidence of gene flow between modern humans and extinct Neanderthals/Denisovans was found about a decade ago (Reich *et al.*, 2010), thanks to the advances in ancient DNA sequencing technology. However, ghost introgression can also bias the results of introgression tests (Tricou *et al.*, 2022) and species tree or divergence time estimates (Pang and Zhang 2022) of the living taxa. The frequency of introgression from extinct lineages is largely unknown at present (Aguillon *et al.*, 2022), and it may be one of the most intriguing topics in the near future.



“ The
Post-Darwinian stage
will be full of new
options and contexts
under the genomic
era with big data
analysis, followed by
new generations.

”

Nevertheless, the occurrences of ghost introgression may have been greatly underestimated considering the widespread nature of both extinction and genetic introgression across the tree of life.

According to theory, in a three-species system without gene flow, the gene tree that matches the true species tree will always have a frequency equal to or higher than the frequency of either of the two gene trees that conflict with the species tree. This prediction ensures that the gene tree matching the species tree will always be the majority in the absence of gene flow. However, when interspecific gene flow occurs, the gene tree matching the species tree may not be the most frequent one, as gene flow reflects reticulated evolution. Therefore, the “democratic majority tree” may sometimes represent the reticulated rather than the bifurcating tree (Mallet et al., 2016). Recent studies have shown that the species trees are not always represented by the most frequent gene trees on the genome due to the effects of gene flow (Small et al., 2020), emphasizing the need to incorporate gene flow into phylogenetic reconstruction, especially considering the widespread nature of interspecific hybridization. In this context, most studies have treated the phylogeny obtained from genome-wide data as the true species tree, but these studies deserve special attention. The importance of such studies has been highly recognized. For instance, Zhang’s et al., (2021. *Syst Biol.*) paper was ever selected in “an untapped research section containing articles hand-picked by Systematic Biology’s Editor-in-Chief as worthy of more attention from the community”. Therefore, the Post-Darwinian stage will be full of new options and contexts under the genomic era with big data analysis, followed by new generations.

As I wrap up this message, I would like to touch upon some more delightful matters. I would like to share with you my passion for ornithology and the IOU. As the president of this remarkable organization, I invite you to lend your support to the IOU’s various initiatives and activities that aim to promote the study and conservation of birds. You can do this by joining our committees and working groups, and by sharing the news and achievements of the IOU with your peers and networks. I also hope to foster strong friendships and collaborations with fellow ornithologists in the future. Stay tuned for the exciting updates and articles from the IOU in this issue of The Flutter.

Warm regards,

Prof. Lei Fumin
President,
International Ornithologists’ Union



Original Articles:

- Aguillon SM, Dodge TO, Preising GA, Schumer M. 2022. Introgression. *Curr. Biol.* 32: R865-R868.
- Mallet J., Besansky N., Hahn M.W. 2016. How reticulated are species? *Bioessays* 38:140-149.
- Ottenburghs J. 2020. Ghost introgression: spooky gene flow in the distant past. *Bioessays* 42: e2000012.
- Pang X.-X., Zhang D.-Y. 2022. Impact of ghost introgression on Coalescent-based species tree inference and estimation of divergence time. *Syst. Biol.* <https://doi.org/10.1093/sysbio/syac047>
- Reich D., Green R.E., Kircher M., Krause J., Patterson N., Durand E.Y., Viola B., Briggs A.W., Stenzel U., Johnson P.L., Maricic T., Good J.M., Marques-Bonet T., Alkan C., Fu Q., Mallick S., Li H., Meyer M., Eichler E.E., Stoneking M., Richards M., Talamo S., Shunkov M.V., Derevianko A.P., Hublin J.J., Kelso J., Slatkin M., Pääbo S. 2010. Genetic history of an archaic hominin group from Denisova Cave in Siberia. *Nature* 468:1053-1060.
- Rheindt F.E., Edwards S.V. 2011. Genetic introgression: an integral but neglected component of speciation in birds. *Auk* 128:620-632.
- Small S.T., Labbe F., Lobo N.F., Koekemoer L.L., Sikaala C.H., Neafsey D.E., Hahn M.W., Fontaine M.C., Besansky N.J. 2020. Radiation with reticulation marks the origin of a major malaria vector. *Proc Natl Acad Sci USA* 117:31583-31590.
- Tricou T., Tannier E., de Vienne D.M. 2022. Ghost lineages highly influence the interpretation of introgression tests. *Syst. Biol.* 71:1147-1158.
- Zhang D.Z., Rheindt F.E., She H.S., Cheng Y.L., Song G., Jia C.X., Qu Y.H., Alström P. and Lei F.M. 2021. Most genomic loci misrepresent the phylogeny of avian radiation because of ancient gene flow. *Syst. Biol.* 70(5):961-975.
- Zhang D., Tang L., Cheng Y., Hao Y., Xiong Y., Song G., Qu Y., Rheindt F.E., Alström P., Jia C., Lei F. 2019. “Ghost Introgression” as a cause of deep mitochondrial divergence in a bird species complex. *Mol. Biol. Evol.* 36:2375-2386.

PAST PRESIDENT'S MESSAGE



Dear IOU members and IOU Fellows, dear colleagues and students,

I would like to start this past-president's message by thanking all who have renewed their membership to the IOU. Special big thanks go to those who have renewed their membership as a supporter of the IOU. Your membership dues are thoughtfully managed to cover the financial obligations of the IOU and to advance the IOU's mission to support ornithology at the global level and in all its specialties (e.g., avian ecology, behavior, physiology, morphology, migration, development, evolution, etc.) directly or through its Working Groups (see <https://www.internationalornithology.org/working-groups>). The IOU is the only global ornithological organization that observes strict neutrality regarding political, ideological, nationality, and other personal attributes and, therefore, can serve as a "big ship" that makes space for every ornithologist at any level of expertise and in any place on earth. The IOU is proud of and feels responsible for following the motto "Birds Know No Borders". No-one knows better than ornithologists working on migratory birds that international collaboration is the bedrock of science.

In the second part of my message, it is my great pleasure to introduce the new editor of *The Flutter*, Dr. Vidya Padmakumar. A few months ago, the IOU sent out a call to invite applications for the position of editor of *The Flutter*, and the IOU Council selected Dr. Padmakumar for this position from among the applicants. Dr. Padmakumar was born in Thiruvananthapuram (see <https://en.wikipedia.org/wiki/Thiruvananthapuram>) and grew up in Bangalore, India. She has earned a master's degree in Zoology from Bangalore University and a Ph.D. in ecotoxicology from Mangalore University (India). From then on, she has taken up avifaunal studies as her personal choice and has independently conducted bird surveys and worked with various organizations to promote ornithology and conservation of bird diversity with a special focus on wetland ecosystems in India. She has presented numerous talks and published several articles on her research. She is currently a Senior Data Reviewer in Toxicology at the Charles River Laboratories in Montreal, Canada. Dr. Padmakumar has been associated with the IOU since 2021 and is excited to use her broad background in biology and ornithology, as well as her considerable linguistic capacity in several languages besides English and French, to lead *The Flutter* and ensure that its articles continue to serve as thought starters.

With best wishes and warm regards,

Dominique G. Homberger, Ph.D.
IOU Immediate Past President
International Ornithologists' Union



EDITOR'S NOTE

“ *Birds are essential components of biodiversity and ecosystem services.* ”

Greetings to all readers of The Flutter,

I'm delighted and honored to introduce myself as the new editor of this magazine, which serves as a valuable source of information and inspiration for ornithologists around the world.

I'm excited to take on this role and to continue the legacy of excellence that this magazine has established over the years. I would like to thank my predecessor, Prof. Dr. David Bird, and the immediate past President Prof. Dr. Dominique G. Homberger for their outstanding work and guidance during the transition period.

As an ornithologist, I have always been fascinated by the diversity and complexity of birds, their adaptations and evolution, their behavior and ecology, their conservation and management since my childhood in India, where I grew up watching and learning about the rich diversity of avian life.



When I was eight years old, I had witnessed a tragic and eye-opening experience with a sparrow in my garden. I had always enjoyed watching and feeding the sparrows that nested in my backyard, as they were lively, social and adaptable birds. One day, back in 1999, I found a dead sparrow on the ground near its nest. It was a female with a plain brown plumage and a streaked back. I was saddened by the sight of the lifeless bird, but also curious about what had caused its death. I picked it up gently and examined it closely. To my horror, I discovered that its neck was wrapped with a strand of my own hair, which had somehow landed on the nest. The hair had choked the sparrow to death as it tried to eat the seeds I had left on a tiny plate before I left for school in the morning. I was shocked and devastated by this discovery. I realized that I had unintentionally killed one of the birds that I loved and admired.

As years went by, I started to ponder over the death of the house sparrow by my hair as an example of how human-made materials and objects can harm and even kill birds. Many birds are exposed to various threats and hazards from human sources, such as plastic, fishing line, pesticides, windows, and cars resulting in the “Human-Bird conflict” which is a much broader aspect of bird conservation. These threats can cause injury, infection, poisoning, starvation, or collision to birds. They can also reduce the availability and quality of food and nesting resources for birds. These threats have negative consequences for bird survival, reproduction, and population dynamics.

Bird conservation is an important factor in ornithology. Birds are essential components of biodiversity and ecosystem services. They provide many benefits to humans and nature, such as pollination, seed dispersal, pest control, scavenging, nutrient cycling, recreation, education, culture, and aesthetics. Birds are also indicators of environmental health and change because they are sensitive to habitat quality and climate change. Human-bird conflicts can result in economic losses, human injuries or fatalities, bird injuries or fatalities, disease transmission, habitat degradation, or reduced biodiversity. Human-bird conflicts can undermine conservation efforts and create negative attitudes towards birds. Therefore, it is important to understand the causes and consequences of human-bird conflicts and to find effective solutions that balance the needs of both humans and birds.



Passer domesticus (House sparrow)
Photo credits: Shine P. Joseph, Scientist, USA

Thankfully, ornithologists and bird conservationists have been working tirelessly to reduce human bird conflict and protect both people and birds from harm.

However, there is still much more to be done to ensure a harmonious relationship between humans and birds by expanding the scope and scale of research and monitoring to cover more regions, species, and contexts of the human bird conflict.

My goal as the editor is to make The Flutter an engaging and interactive magazine for our readers. I hope you will enjoy reading this issue of The Flutter and learn something new about our feathered friends. Thank you for your support and involvement in the IOU. We value your feedback, ideas, and suggestions on our work. If you have any comments or questions, please feel free to email us at flutter@internationalornithology.org. We look forward to hearing from you!

Vidya Padmakumar

Editor, The IOU Flutter

flutter@internationalornithology.org



MEMBER SPOTLIGHT



DR. MURUGAN SHANTHAKUMAR

The Birdman of the Mangroves

As an ornithologist and professional biologist, Murugan holds a Master's degree in Zoology (2010) obtained from Bangalore University, India, and a Diploma in Ornithology. He earned his Doctorate from Bangalore University (2012 to 2018) focusing on mangrove ecology. He is currently a faculty in Zoology at Bangalore University, where he teaches courses on animal diversity, ecology, and evolution.

Murugan's scientific interests encompass wetland and estuarine habitat studies, biodiversity, avifauna, herpetofauna, arachnids, and phytoplankton diversity. He has authored and co-authored several scientific publications and presented at both national and international conferences. He is a member of the Royal Society of Biology in London, the International Ornithologists' Union, and numerous other societies dedicated to ornithology and conservation. Additionally, he serves as a peer reviewer for international journals with an emphasis on ecology and ornithology. He has mentored numerous masters' students and PhD candidates in ornithology, herpetology, and biodiversity studies <https://muruganshankumar.wixsite.com/muruganshankumar>.



Black-headed ibis (*Threskiornis melanocephalus*)
Photo credits: Dr. Vidya Padmakumar, Canada



Between 2011 and 2014, he collaborated with the Karnataka Biodiversity Board <http://www.esgindia.org/karnataka-biodiversity-board/index.html> to enlighten different stakeholder groups and organizations about the Biological Diversity Acts and Regulations [Biological-Diversity-Act-Rules-Book-complete-version-2016-17.pdf](https://www.karnataka.gov.in) (karnataka.gov.in). He has devoted the last 12 years of his academic career advocating for ornithological research and techniques to preserve avifaunal diversity in the mangroves, one of the world's most fragile and susceptible ecosystems. In India, mangroves have in fact started to deteriorate because of encroachment for agriculture, aquaculture, urban development, tourism or industrial activities. Each type of encroachment has different impacts on the ecosystem and the local communities. Mangroves are found along the coastlines of India, especially in the states of West Bengal, Gujarat, Andhra Pradesh, Tamil Nadu and Odisha. They are home to a rich diversity of plants and animals, and provide many benefits such as carbon storage, coastal protection, fisheries production and livelihood support. However, mangroves are under threat from various human activities and natural disasters. According to a report by Wetlands International, India has lost about 40% of its mangrove cover between 1987 and 2019 <https://www.wetlands.org/publications/mangrove-restoration-potential/>. This is a serious issue that needs urgent attention and action. Mangrove destruction has resulted in a loss of habitats, particularly for migratory birds and birds that breed in the wetlands. In India's estuarine ecosystems, habitat protection has emerged as an important concern. Murugan conducted numerous bird surveys in still unexplored habitats of the western coastal areas of India including Mumbai, the Kerala Coast, and the Karnataka coast. Murugan and his peer Dr. Vidya Padmakumar have been mentoring a group of aspiring ornithologists who support programs for bird research and protection. They have collaborated on several projects related to the diversity, ecology, behavior, and conservation of birds in different habitats, such as wetlands, estuaries, forests and urban areas.

He has carried out excellent education campaigns among tribes and locals near sacred forests about the value of birds to the ecosystem as well as strategies to protect their habitats. In areas susceptible to degradation, these initiatives have been extremely important.

PIONEERS OF ORNITHOLOGY



Breaking Barriers for Birds in Africa and beyond:

“ *Friday4Birds, L'heure de l'Ornithologie africaine is uniting researchers, practitioners, and policy makers at a continental scale.* ”

Africa holds over 2,470 bird species, among which more than 55% are endemic to the continent, and it undoubtedly holds many more species and ecological populations not yet described to science. Africa is the main non-breeding ground for migratory species that breed in the northern hemisphere. A network of 7% (covering two million km²) of the continent is currently identified as Important Bird and Biodiversity Areas (IBAs) https://en.wikipedia.org/wiki/Important_Bird_Area . Yet, effective

conservation efforts require global collaborations, connecting communities with interests in species, habitats, and their interactions. "Friday4Birds, L'heure de l'ornithologie africaine", a weekly bi-lingual webinar series hosted by the Swiss Ornithological Institute with valuable support from its migration unit and moderated by PD Dr. Elizabeth Yohannes, was launched for this purpose. Friday4Birds brings together researchers, environmentalists, practitioners, and policy makers, and promotes capacity strengthening and collaborations between regions. Friday4Birds plays a crucial role in uniting the communities in Africa, the global south, and beyond. It serves as an awareness tool towards the African Eurasian Migratory Land Birds Action Plan (AEMLAP) that is embedded in the Convention on Migratory Species (CMS) and as a platform for the African Bird Atlas Project (ABAP). Through a network of more than 200 experts and stakeholders, a wealth of "hidden" social capital is made visible and available towards coordinated efforts.



The saying, "Birds Know No Boundaries," is evident during the online meetings, where geographic and political boundaries become fluid. Friday4Birds breaks language and cultural barriers on a weekly basis. By joining Friday4Birds, L'heure de l'ornithologie africaine, participants can contribute as presenters or audience to a global effort towards mutual learning and the conservation of endangered species and vital habitats.



Booted eagle (*Hieraetus pennatus*)
Photo credits: Ugo Mellone

“ *Briser les barrières pour les oiseaux en Afrique et au-delà : Friday for Birds, l’heure d’Ornithologie réunit des chercheurs à l’échelle mondiale.* ”

L’Afrique abrite plus de 2470 espèces d’oiseaux, dont plus de 55% sont endémiques au continent, et détient sans aucun doute beaucoup plus d’espèces non encore décrites par les études au cours des 50 dernières années. L’Afrique est un lieu d’hivernage pour de multiples espèces migratrices de l’hémisphère nord. Un réseau de 7% (couvrant près de deux millions de km²) du continent est identifié comme Zones importantes pour la conservation des oiseaux et la biodiversité. Des efforts de conservation efficaces nécessitent cependant une collaboration et un réseautage à l’échelle mondiale, ce qui a conduit à la création de la série de webinaires hebdomadaire « Friday for Birds, l’heure d’Ornithologie ». C’est une initiative de l’Unité Migration de l’Institut ornithologique Suisse, et joue un rôle crucial dans l’unification de la communauté ornithologique d’Afrique, des pays du Sud et au-delà. En réunissant des chercheurs, des conservateurs, des activistes et des décideurs politiques du monde entier, la série favorise le renforcement des capacités et la collaboration entre les régions. C’est un outil efficace de sensibilisation au Plan d’action pour la conservation des oiseaux terrestres migrateurs d’Afrique-Eurasie (AEMLAP). Grâce à un réseau de plus de 200 experts et parties prenantes, une richesse de capital social « caché » est rendue visible et disponible pour des efforts coordonnés. Comme le dit l’adage : « Les oiseaux ne connaissent pas de frontières », et cela est évident lors des réunions en ligne, où les frontières géographiques deviennent fluides et où les barrières linguistiques et culturelles sont brisées chaque semaine. En rejoignant la série, les participants contribuent en tant que présentateurs ou auditoires à un effort mondial d’apprentissage mutuel et de conservation des habitats vitaux.

White-necked rockfowl (Picathartes gymnocephalus) an intra-African migrant that inhabits the higher altitude forested areas in West Africa. Its head is nearly featherless, with bright yellow expose skin.

Photo credits: Alain Jacot



More information: <https://www.youtube.com/@fridayforbirdsvogelwarte7740>

To subscribe to the bi-lingual webinar, please contact

PD. Elizabeth Yohannes - Elizabeth.yohannes@vogelwarte.ch or
Prof. Dr. Hilaire Y. Beibro beibro.yaokokore@univ-fhb.edu.ci



Members from the African Bird Atlas Project (ABAP) in Sempach, April 2022, from twelve countries in Africa and Europe. Photo credits: Reto Spaar

IOU NEWS FLASH



Progress update...

Working Group on Birds as Peacemakers (WGBP)



Circus aeruginosus - Western marsh harrier
Photo Credits: Guilad Friedemann

Watch Raptors Live!

The online nestcam project, a collaboration between BirdLife Israel, the Hoopoe Foundation, and Israel Nature and Parks Authority has entered its seventh year of operation. The project involves installing cameras at undisclosed sites to document the breeding activity of six raptor species

in Israel throughout the day and night. The project provides viewers with captivating stories from the wilderness of Israel and educates them about these birds and their conservation.

The project also utilizes the camera data to assess and mitigate the threats to raptors and their habitats and to take action when hazards occur. More information about the nestcam project can be found here:

<https://www.birds.org.il/en/cameras>

The Race to Rescue!

Champions of the Flyway is a bird conservation project that raises money and awareness to stop illegal killing of migratory birds. It is run by BirdLife Israel and BirdLife International. In 2023, it focused on saving the Red-breasted Goose, a rare and declining species, from hunting in Kazakhstan and Bulgaria. The project included patrolling, enforcement, and tracking of the geese. It also had a 24-hour bird race in Eilat, Israel, on March 27th, where 150 birders from over 30 countries competed to see the most bird species. The winners were The Wrens, a family team from Jerusalem, who saw 181 birds. But the real winners were the Red-breasted Geese, who got \$40,000 to help them survive. You can learn more about Champions of the Flyway here: www.champions-of-the-flyway.com



OPINIONS • LETTERS • ARTICLES



Power lines and their deadly impact on Kenya's birds

Webinar by John Musina, National Museums of Kenya

https://www.youtube.com/watch?v=cEfxa-aS__4



Power lines are silent, but major killers of birds in Kenya, especially of large raptors like vultures and eagles, which are already declining due to habitat loss, poisoning, and human-wildlife conflict. Musina shares his insights and experiences on how power lines affect birds. "I have been ringing birds for over 20 years and I have witnessed the decline of many bird species due to power line impacts," Musina says.

According to a study by Thomsett et al. (2022), which estimated the population trends of three raptor species over 40 years, the population of augur buzzards (*Buteo augur*), one of the most common birds of prey in Kenya, has dropped by 91% due to electrocution, among other factors. Other species, such as hooded vultures (*Necrosyrtes monachus*) and long-crested eagles (*Lophaetus occipitalis*), have also suffered significant declines. The main causes of mortality are electrocution, habitat loss, and poisoning.

Power lines affect birds in several ways, such as collisions, electrocutions, nesting problems, and habitat loss. Birds can collide with power lines and suffer fatal injuries, especially if they fly fast or have poor eyesight. This is more common in areas where power lines cross natural habitats or migration routes. Birds can also get electrocuted by touching two wires or a wire and a grounded object at the same time. This can happen to large birds with long wingspans or when birds feed or mate with each other on different wires. Electrocution can cause burns, internal bleeding, organ damage, or death. Some birds may use power lines or utility poles as nesting sites, which can expose them to electrocution or fire hazards. Some birds may also damage the insulation or the wood of the poles by pecking or pulling out fibers for their nests. Some birds may avoid areas where power lines occur, reducing their available habitat and food sources. Power lines may also fragment habitats and create barriers for dispersal or migration, and they can have negative impacts on bird populations and biodiversity, especially endangered or threatened species.



A secretary bird is seen at the Nairobi National park in Nairobi, Kenya July 16, 2021.
REUTERS/Thomas Mukoya/File Photo

Some measures that can be taken to protect birds from power lines are marking, insulating, spacing, and routing. Power lines can be marked with devices that make them more visible to birds, such as reflectors, flags, balls, or spirals. These devices can reduce the risk of collision by alerting birds to the presence of the wires. Power lines can be insulated or covered with materials that prevent electrical contact between birds and wires. This can reduce the risk of electrocution by preventing current from flowing through the bird's body. Power lines can be spaced far enough apart that birds cannot touch two wires at once with their wings or bodies. This can reduce the risk of electrocution by eliminating the possibility of creating a circuit. Power lines can be routed away from areas that are important for bird conservation, such as wetlands, forests, or migration corridors. This can reduce the risk of collision and habitat loss by minimizing the disturbance to natural ecosystems. Musina mentions some of the partners that are involved in the conservation efforts, such as [Kenya Wildlife Service](https://www.kws.go.ke/), [Kenya Power and Lighting Company](https://www.kplc.co.ke/), [BirdLife International](https://www.birdlife.org/kenya/) and [Nature Kenya](https://naturekenya.org/). Public awareness, stakeholder engagement, and policy intervention are needed to protect Kenya's raptors from power line impacts. "We need to work together to save our birds and our environment," says Musina.

The webinar https://www.youtube.com/watch?v=cEfxa-aS__4 serves as a thought starter for more research and concern among ornithologists by raising awareness of the issue of power lines and birds, and by providing some facts and solutions that can be further explored which include the extent and impact of bird mortality and injury caused by power lines in different regions and countries; the effectiveness and cost of different methods of marking, insulating, spacing, and routing power lines for bird protection; the best practices and guidelines for designing and installing power lines that minimize the risks to birds and other wildlife; the ecological and economic benefits of conserving bird populations and habitats that are affected by power lines; the public perception and awareness of the problem of power lines and birds, and the potential ways to increase education and engagement on this topic.

Dr. Murugan Shanthakumar

Ornithologist

India

mu3986@gmail.com



Original Paper:

Ogada, D., Virani, M. Z., Thiollay, J. M., Kendall, C. J., Thomsett, S., Odino, M., & Shaw, P. (2022). Evidence of widespread declines in Kenya's raptor populations over a 40-year period. *Biological Conservation*, 266, 109361. <https://www.sciencedirect.com/science/article/abs/pii/S0006320721004134>

Further reading:

Chebet, C. 2022. Scientists uncover widespread declines of raptors in Kenya. *Mongabay* (internet blog). <https://news.mongabay.com/2022/05/scientists-uncover-widespread-declines-of-raptors-in-kenya/>



Torpor: A Hummingbird's Secret Weapon

Sword-billed hummingbird (*Ensifera ensifera*)
Photo Credits: Sam Coppard

Hummingbirds are among the most fascinating and beautiful birds in the world. They can fly at speeds of up to 50 miles per hour, hover in mid-air, and even fly backwards. They also have a very high metabolism, which means they need to consume a lot of nectar and insects to fuel their flight. But what happens when food is scarce or when temperatures drop at night? How do these tiny birds survive the cold and save energy?

The answer is torpor, a hibernation-like state that hummingbirds can enter when they need to conserve energy. Torpor is not the same as sleep; it is a much deeper and more drastic form of inactivity that involves lowering the body temperature and metabolism significantly. In torpor, a hummingbird can reduce its body temperature by as much as 50 degrees Fahrenheit, and its heart rate by as much as 95 percent. This allows the bird to use much less energy than it would in normal sleep, and to survive surprisingly low temperatures.

Torpor is not a simple on-off switch; it is a spectrum of different levels of body heat regulation that hummingbirds can exert depending on their physical condition and environmental factors. Scientists have found that there are at least three levels of torpor: shallow, deep, and transitional. Shallow torpor involves a moderate drop in body temperature and metabolism, while deep torpor involves a more extreme drop that can approach freezing. Transitional torpor is the stage between normal sleep and torpor, or between different levels of torpor.

Hummingbirds can use torpor in different ways depending on their size, species, and location. Smaller hummingbirds tend to use deep torpor more often than larger ones, because they have a higher surface-to-volume ratio and lose heat faster. Some species, such as the Anna's hummingbird (*Calypte anna*) and the broad-tailed hummingbird (*Selasphorus platycercus*), can use torpor even when temperatures drop below freezing. Hummingbirds usually enter torpor at night, but sometimes they can also use it during the day if food is scarce or if they are injured.

Torpor is a remarkable adaptation that helps hummingbirds survive in harsh conditions and save energy for their demanding lifestyle. However, it also comes with some costs and risks. Torpor can impair the immune system and make the bird more vulnerable to disease and predation. It can also interfere with sleep and its restorative functions. Therefore, hummingbirds need to balance the benefits of torpor with its potential drawbacks.

In conclusion, torpor is a hummingbird's secret weapon that allows them to cope with cold temperatures and food shortages. It is a complex and flexible phenomenon that varies among different hummingbird species and situations. Torpor reveals how amazing and resilient these birds are, and how much we still must learn about them.

Vidya Padmakumar
Editor, The IOU Flutter

flutter@internationalornithology.org

Original Article:

Shankar, A., Cisneros, I. N., Thompson, S., Graham, C. H., & Powers, D. R. (2022). A heterothermic spectrum in hummingbirds. *Journal of Experimental Biology*, 225(2), jeb243208. Doi:10.1242/jeb.243208.

<https://journals.biologists.com/jeb/article/225/2/jeb243208/274119/A-heterothermic-spectrum-in-hummingbirds>

EDITOR'S PICKS



Kleptoparasitism as an Adaptive Strategy in Himalayan Vultures

The Himalayan vulture (*Gyps himalayensis*) is one of the largest and most powerful birds of prey in the world. It lives mainly in the high-altitude regions of the Himalayas and the Tibetan Plateau, where food can be scarce and unpredictable. How does this majestic bird survive in such a harsh environment? One of its strategies is kleptoparasitism, which means stealing food from other animals.

Kleptoparasitism is a form of feeding in which one animal deliberately takes food from another. It can be a more efficient way of obtaining energy than hunting or scavenging, especially when food is limited or when other birds to be robbed are abundant. Kleptoparasitism can also reduce the risk of injury or disease that may come with direct feeding.



Himalayan Griffon (*Gyps himalayensis* – Adult)
© Alex Bayly eBird 537281603
Macaulay Library ML 135915001

However, kleptoparasitism also involves costs, such as time and energy spent on chasing, fighting, or waiting for opportunities to steal. Therefore, kleptoparasitism is only an adaptive strategy when the benefits outweigh the costs.

The Himalayan vulture is a specialist kleptoparasite that targets other scavengers, such as crows, eagles, ravens, and other vultures. It uses its superior size, strength, and flight skills to intimidate or attack its competitors and take over their food sources. It can also cooperate with other Himalayan vultures to increase its chances of success. They prefer to steal large carcasses, such as those of yaks, sheep, or deer, which can provide enough food for several days. It can also store food in its crop, a pouch-like organ in its throat, and digest it later.

According to a recent study by Wani and Mushtaq (2023), the Himalayan vulture shows differential kleptoparasitic interactions with conspecifics and heterospecifics during various stages of breeding. The study found that the Himalayan vulture was more likely to steal from conspecifics during the pre-laying stage than during the incubation or chick-rearing stages. This may be because conspecifics are more likely to have similar food preferences and locations during this stage. The study also found that the Himalayan vulture was more likely to steal from heterospecifics during the incubation stage than during the pre-laying or chick-rearing stages. This may be because heterospecifics are more likely to have different food preferences and locations during this stage.

The kleptoparasitic behavior of the species is influenced by several factors, such as food availability, seasonality, competition, and sociality. For example, when food is abundant, they may not need to steal as much and may even tolerate other scavengers at the same carcass. When food is scarce, however, they may become more aggressive and opportunistic in stealing from others. They may also adjust its kleptoparasitic tactics depending on the type and size of the prey, the number and identity of the competitors, and the presence and behavior of its conspecifics.

Kleptoparasitism is not only a way of feeding for the Himalayan vulture, but also a way of life. It reflects the adaptation of this remarkable bird to its challenging environment. By stealing food from others, the species ensures its survival and reproduction in one of the most inhospitable places on Earth.

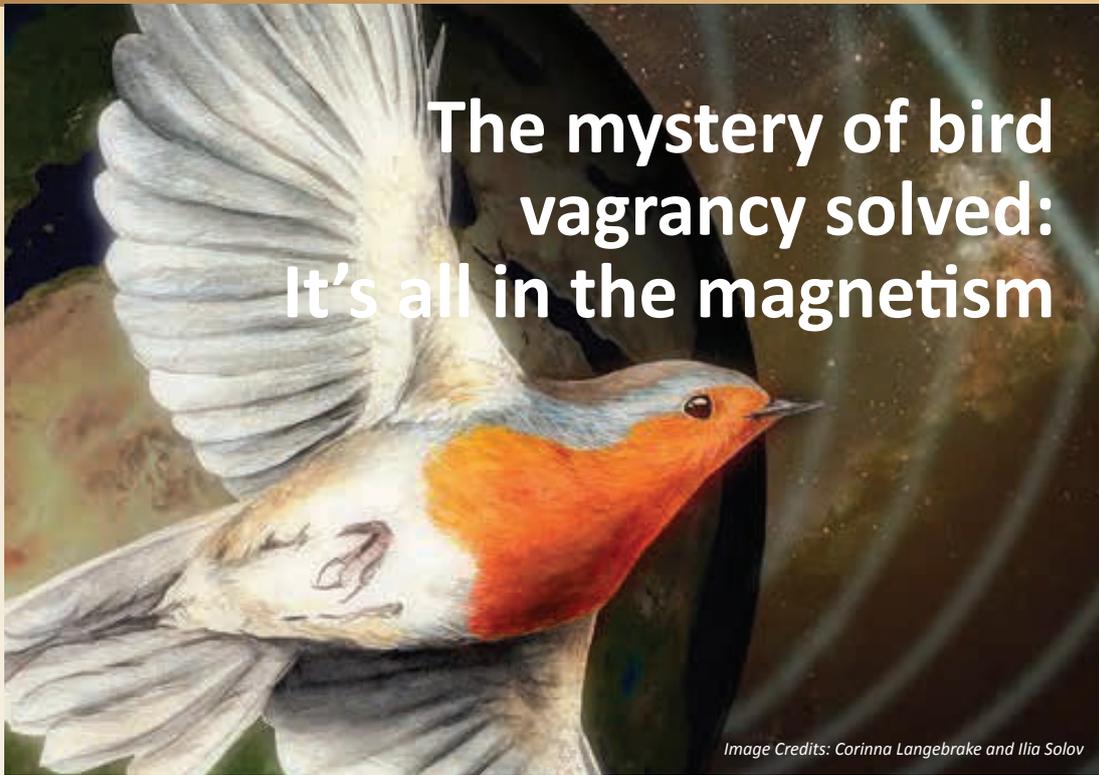
Vidya Padmakumar

Editor, The IOU Flutter

flutter@internationalornithology.org

Original Article:

Wani, H. M. (2023). Differential kleptoparasitic interactions of Himalayan Vulture *Gyps himalayensis* with conspecifics and heterospecifics during various stages of breeding. *Journal of Threatened Taxa*, 15(2), 22606-22610. <https://threatenedtaxa.org/JoTT/article/view/8172/9072>



The mystery of bird vagrancy solved: It's all in the magnetism

Image Credits: Corinna Langebrake and Ilia Solov

Imagine being able to see magnetic fields with your eyes! That's what birds can do, and it helps them navigate during their long journeys across the globe. A new study by UCLA ecologists shows that birds can stray from their normal migration routes when Earth's magnetic field is disturbed, regardless of the weather conditions.

For years, scientists have marveled at how birds can sense magnetic fields with their eyes. Birds have special cells called magneto receptors that act like tiny compasses in their vision. These cells allow birds to see geomagnetic fields as patterns of light or color. However, when the magnetic field is distorted by solar activity or other factors, birds may lose their sense of direction and end up in unfamiliar territory. This phenomenon is called vagrancy. The researchers investigated the effect of geomagnetic disturbances on bird vagrancy. They examined data from 2.2 million birds that were tracked by a United States Geological Survey program from 1960 to 2019. Records of geomagnetic disturbances and solar activity demonstrated that birds were more susceptible to stray far from their normal course when there were geomagnetic disturbances, especially during fall migration.

The study also establishes that geomagnetic disturbances influence the navigation of both old and young birds, indicating that birds depend similarly on geomagnetism no matter their level of migration experience. It is anticipated that the most vagrancy would be associated with geomagnetic disturbances related to increased solar activity. However, other sources of geomagnetic disturbances, such as those caused by the Earth's core or crust movements, also have an impact on bird vagrancy.

The study could have implications for bird conservation and adaptation in a changing world. Bird vagrancy due to geomagnetic disturbances is a multifaceted phenomenon that involves both pros and cons for migratory birds. They may encounter new allies, partners and friends that enrich their social and genetic networks. They may also learn to cope with various environmental conditions and challenges in habitats that are diverse and dynamic. Moreover, vagrancy may increase the genetic variation and resilience of bird populations by facilitating their evolution and expansion. But vagrancy also exposes birds to many dangers and challenges in regions that are unfamiliar and unsuitable for them. They may face new enemies, diseases and rivals that threaten their survival. They may also have difficulty finding enough food and safe places to nest in habitats that are not fit for their species.

Vidya Padmakumar

Editor, The IOU Flutter

flutter@internationalornithology.org

Original article:

Tonelli, B., Youngflesh, C. & Tingley, M.W. Geomagnetic disturbances and avian vagrancy. Sci Rep 13, 1234 (2023).
<https://doi.org/10.1038/s41598-023-12345-6>

Popular Article:

ScienceDaily. When migrating birds go astray, disturbances in magnetic field may be partly to blame.
<https://www.sciencedaily.com/releases/2023/01/230113145327.htm>

The Poop Scoop: Uncovering Antarctic Emperor Penguins with Satellite Images



Emperor penguins are the only penguins that breed during the harsh Antarctic winter, on sea ice that can be hundreds of miles from land. They are also the tallest and heaviest of all penguin species, reaching up to four feet in height and weighing up to 90 pounds. Their distinctive black-and-white plumage and yellow ear patches make them one of the most iconic and recognizable animals in the world. But despite their fame and popularity, emperor penguins are also one of the most difficult animals to study. They live in remote and inhospitable areas of Antarctica, where temperatures can drop below -40 degrees Fahrenheit, and winds can reach 100 miles per hour. They often blend in with the snowy landscape, making them hard to spot and count.

That's why scientists have turned to satellite images to find clues that indicate their presence: poop stains. Penguin poop, or guano, is rich in nutrients obtained from fish and krill diet and has a dark color that contrasts with the white ice. The dark color helps them melt the snow on their breeding surface by absorbing more heat from the sun. The dark coats of the penguins, on the other hand, blend in with the ocean when seen from above, which helps them avoid predators. By analyzing satellite images of Antarctica's coastline, scientists can identify patches of guano that reveal the location and size of emperor penguin colonies. Using this method, a team of researchers from the British Antarctic Survey (BAS) has recently discovered a new colony of emperor penguins at Verleger Point, West Antarctica.

The colony, which comprises around 500 birds, was announced on January 20, 2023, to mark Penguin Awareness Day. The discovery was made by geospatial scientist Dr. Peter Fretwell, who was studying sea ice loss when he noticed a brown stain on satellite imagery from the Copernicus Sentinel-2 mission. He then confirmed his suspicion by using high-resolution images from the Maxar WorldView-3 satellite, which showed hundreds of penguins huddled together on the ice. While this is encouraging news, this population is modest and located in an area that has been severely impacted by historic sea ice loss, comparable to several previously discovered sites.

“ *The total number of identified emperor penguin sites around Antarctica has increased to* ”

66

With this new find, the total number of identified emperor penguin sites around Antarctica has increased to 66. Many of these colonies have been discovered using satellite images of guano, which shows how powerful this technique is for studying these elusive animals. Satellite imagery is an invaluable tool for studying emperor penguins, as it allows us to cover large areas of remote and inaccessible terrain in a cost-effective and non-invasive way. It also helps us monitor changes in their habitat and population over time, which is essential for conservation planning. However, satellite images alone are not enough to fully understand the status and trends of emperor penguin populations. Scientists also need to conduct ground-based surveys and use other methods such as drones, cameras, and tags to collect more data on their behavior, health, and genetics.

Up to 80%

“ is the prediction some studies have made that the Emperor penguins could lose of their population by the coming decades due to climate change ”

Emperor penguins are currently classified as near threatened by the International Union for Conservation of Nature (IUCN), but some studies predict that they could lose up to 80% of their population by the coming decades due to climate change. Climate change affects emperor penguins in two ways: by melting the sea ice they depend on for breeding and feeding, and by altering the availability and distribution of their prey, such as krill and fish.

Emperor penguins are amazing animals that can survive in extreme conditions. But they are also very sensitive indicators of environmental change. Finding and protecting emperor penguin colonies is crucial for their survival, as they face the threats of climate change and sea ice loss. By using satellite images of poop stains, scientists can monitor their distribution and abundance and inform conservation efforts. But what else can we do to help these amazing animals? How can we reduce our impact on their habitat and food supply? What can we learn from their resilience and adaptation?

Vidya Padmakumar

Editor, The IOU Flutter

flutter@internationalornithology.org

Popular articles:

Emperor penguins: New colony found after satellite images spot their poo - BBC Newsround. (2023, January 20).

Retrieved from <https://www.bbc.co.uk/newsround/64343153>

Kuta, S. (2023, February 24). Scientists Discover an Emperor Penguin Colony from Poop Stains in Satellite Images | Smart News | Smithsonian Magazine. Retrieved from <https://www.smithsonianmag.com/smart-news/scientists-discover-an-emperor-penguin-colony-from-poop-stains-in-satellite-images-180981696/>



BEAK TO BEAK: THE HOTTEST NEWS ON BIRDS



The Kakapo's Fecal Fiasco

*Only about
200 individuals
left in the wild*

© Nature Picture Library/imago images

The kakapo (*Strigops habroptilus*) is a unique and endangered bird that lives in New Zealand. It is the only flightless parrot in the world, and the heaviest. It has a distinctive green plumage, a large beak, and a nocturnal lifestyle. Unfortunately, it is also one of the most threatened species on the planet, with only about 200 individuals left in the wild. One of the reasons for the kakapo's decline is its poor breeding success. The birds only mate when certain trees produce a massive amount of fruits in a process called masting, which happens every two to five years. This limits their reproductive opportunities and makes them vulnerable to environmental changes.

But what if there were another factor affecting their fertility and survival? A recent study by a team of environmental scientists from the University of Auckland and Manaaki Whenua—Landcare Research suggests that the kakapo's diet has become much less diverse over time, and this could be harming their health and well-being. The researchers used an unusual method to investigate the kakapo's feeding habits: they collected and analyzed their feces (also known as scats or coprolites). They compared scats from different time periods, ranging from recent to hundreds of years old, and extracted DNA from them to identify what plants the birds had eaten. They found that the kakapo's diet has changed dramatically over the centuries. Today, the birds mainly feed on leaves from Rimu trees, but they used to eat a variety of plants, including beech seeds, mistletoe, and other fruits and flowers. The researchers suggest that this dietary shift is related to the loss and fragmentation of their habitat, caused by human activities, and introduced predators.

Why does this matter? According to the researchers, a more diverse diet could provide more nutrients and antioxidants for the kakapo, which could improve their immune system, reproductive performance, and lifespan. A more varied diet could also allow them to breed more often, as they could take advantage of different food sources that are available at different times.

The researchers propose some possible solutions to help the kakapo recover their dietary diversity. One is to restore and protect their natural habitat, especially the forests that contain beech trees and other plants that they used to eat. Another is to supplement their diet with artificial feeders that offer different types of foods. A third is to encourage them to explore new areas and habitats where they can find more food options.

Scat analysis can yield comprehensive and pertinent information about the ecology and evolution of endangered species. It also underscores the relevance of not only the volume, but also the variety of food necessary for wildlife. By scrutinizing and augmenting the kakapo's diet, we can enhance their likelihood of survival and recovery.

Vidya Padmakumar

Editor, The IOU Flutter

flutter@internationalornithology.org

Original article:

Boast, A. P., Perry, G. L. W., Wilmshurst, J. M., & Waters, J. M. (2023). Ancient and modern scats record broken ecological interactions and a decline in dietary breadth of the critically endangered kakapo parrot (*Strigops habroptilus*). *Frontiers in Ecology and Evolution*, 11, 1058130. <https://doi.org/10.3389/fevo.2023.1058130>

How Arctic geese adapt to climate change by finding a new route



Barnacle Goose (*Branta leucopsis*)

© Christoph Moning eBird S11916362 Macaulay Library ML 65135151

Climate change is a major challenge for many animals that breed in the Arctic, as it alters their habitats and food sources. But some of them can adapt quickly and find new ways to cope. One remarkable example is the pink-footed goose (*Anser brachyrhynchus*), a medium-sized goose with a dark head and neck, pink bill and legs, and a pinkish-grey body.

It is a migratory bird that travels between its breeding grounds in the Arctic and its wintering grounds in northwest Europe. It traditionally breeds on the Norwegian islands of Svalbard (or Spitsbergen), where it nests on cliffs, rocky outcrops, and riverbanks near vegetation. It then flies south to Denmark, where it spends the winter in estuaries, wet meadows, saltmarshes, and mudflats.

However, in the last 10 to 15 years, a population of these geese has changed their breeding grounds and migration routes dramatically. They have moved 1000 km east to the Russian islands of Novaya Zemlya, where they have found less competition and more space to breed. They have also changed their migration routes, accordingly, flying through Sweden and Finland instead of Norway.

What drove this remarkable shift? According to a study published in *Current Biology*, the main reason was increased competition with barnacle geese at feeding stops on their old route. Barnacle geese are another species of Arctic goose that have expanded their range and numbers due to climate change. They compete with pink-footed geese for food such as grain, winter cereals, potatoes, and grass. This competition reduced the body condition and reproductive success of pink-footed geese, making them look for alternative options.

How did they find Novaya Zemlya? The researchers, led by Jesper Madsen of Aarhus University in Denmark, have been tagging and tracking the Svalbard population of pink-footed geese for more than 35 years. They discovered that some of the tagged birds followed another species of goose, the Taiga bean goose that had a similar route to Novaya Zemlya. They then learned from each other and transmitted the new route to other pink-footed geese and even other bird species.

The study demonstrates that some Arctic animals can rapidly adjust to changing environmental conditions by forming new populations and behaviors. This suggests that they have some potential for resilience in a warming planet. It also shows that social learning and cultural transmission play an important role in animal adaptation. The pink-footed goose is not only an amazing example of adaptation, but also a beautiful and fascinating bird. It has a distinctive high-pitched honking call that can be heard from far away. It is highly social and forms large flocks that fly in V-shaped formations. It is monogamous and mates for life. It can live up to 20 years in the wild.

The pink-footed goose is one of the many wonders of nature that we can admire and learn from. It is also one of the many species that need our protection and conservation efforts. By reducing our greenhouse gas emissions and preserving their habitats, we can help them survive and thrive in a changing world.

Vidya Padmakumar

Editor, The IOU Flutter

flutter@internationalornithology.org

Original Article:

Madsen, J., Schreven, K. H. T., Jensen, G. H., Johnson, F. A., Nilsson, L., Nolet, B. A., & Pessa, J. (2023). Rapid formation of new migration route and breeding area by Arctic geese. *Current Biology*, 33(6), R213-R214.

<https://doi.org/10.1016/j.cub.2023.01.065>

Popular article:

Arctic geese rapidly find new migratory route to cope with climate change | Discover Wildlife. (2023).

<https://www.discoverwildlife.com/news/arctic-geese-rapidly-find-new-migratory-route-to-combat-threats-of-climate-change/>

Beware of the birds- Two new bird species in New Guinea have a poisonous secret!



Regent Whistler Pachycephala schlegelii MALE
© Bradley Hacker
eBird S3125422 Macaulay Library ML 106934601

New Guinea is a land of wonders, where nature has created some of the most diverse and exotic wildlife on Earth. But among the colorful birds and butterflies, there is also a hidden danger: some of the birds are poisonous.

Researchers from the University of Copenhagen have discovered two new species of birds that carry a deadly neurotoxin in their feathers, making them the first new poisonous bird species to be identified in over two decades.

The researchers, Knud Jønsson and Kasun Bodawatta, experts in the field of molecular ecology, which uses DNA to study the relationships and adaptations of living organisms, captured and studied some of the rarest and most elusive birds in the world. They used mist nets, traps, and cameras to catch and document the birds, and then took blood and feather samples for genetic and chemical analysis.

Two of the bird species that they captured had feathers that contained batrachotoxin, a powerful neurotoxin that can cause muscle spasms and cardiac arrest in animals that touch or ingest them. The two bird species are the regent whistler (*Pachycephala schlegelii*) and the rufous-naped bellbird (*Aleadryas rufinucha*).

The regent whistler is a small songbird that belongs to a family of birds with a wide distribution and easily recognizable song well-known from across the Indo-Pacific region. It has a black head, a yellow chest, and a green back. The rufous-naped bellbird is a medium-sized bird that belongs to a family of birds endemic to New Guinea. It has a brown head, a white chest, and a rufous nape. Both birds are found in the montane forests of New Guinea, where they feed on insects and fruits.

Batrachotoxin is the same type of toxin that is found in South and Central America's famous poison dart frogs, which use it as a defense against predators. The toxin is so potent that it can kill a human at the slightest touch. The researchers believe that the birds have acquired the toxin from their diet, which consists of insects that feed on toxic plants. The plants produce the toxin as a defense against herbivores, and the insects sequester the toxin in their bodies as a defense against predators. The birds then consume the insects and store the toxin in their skin and feathers as a defense against their own predators.

The birds have developed genetic changes that allow them to tolerate and store the toxin in their bodies without being harmed by it. The comparison of the DNA sequences of the poisonous birds with those of their non-poisonous relatives show several mutations that affect the sodium channels in their muscles. Sodium channels are proteins that regulate the flow of sodium ions across cell membranes, which are essential for muscle contraction and nerve signaling. Batrachotoxin works by forcing sodium channels to remain open, which disrupts the normal functioning of muscles and nerves, leading to violent convulsions and ultimately death. The mutations in the poisonous birds prevent batrachotoxin from binding to their sodium channels, making them immune to its effects.

The discovery of these two new poisonous bird species adds to the mystery and diversity of New Guinea's wildlife, which is still largely unexplored and unknown. The findings inspire more studies on the evolution and ecology of these fascinating birds, as well as raise awareness and conservation efforts for their threatened habitats. The discovery also seeks to arouse curiosity and appreciation for nature's wonders among ornithologists worldwide.

Vidya Padmakumar

Editor, The IOU Flutter

flutter@internationalornithology.org

Original Article:

Bodawatta, K. H., Hu, H., Schalk, F., Daniel, J. M., Maiah, G., Koane, B., & Jønsson, K. A. (2023). Multiple mutations in the Nav1. 4 sodium channels of New Guinean toxic birds provide auto-resistance to deadly batrachotoxin. *Molecular Ecology*. <https://doi.org/10.1111/mec.16878>, <https://onlinelibrary.wiley.com/doi/10.1111/mec.16878>



Rufous-naped Bellbird *Aleadryas rufinucha* ADULT
© Thierry NOGARO
eBird S67581432, Macaulay Library ML 22583261

Back from the brink - Dusky Tetraka on the radar in Madagascar

The Dusky Tetraka (*Xanthomixis tenebrosa*) is a small songbird that belongs to a family of warblers that are endemic to Madagascar, an island nation with rich biodiversity and many unique species. It has a distinctive yellow throat and a dark olive-green plumage that blends well with the forest vegetation. However, the Dusky Tetraka is also one of the most elusive and mysterious birds in the world. It was first described in 1993 by Frank Hawkins and Steven Goodman based on a single specimen collected in 1989 near Andapa town in the northeastern rainforest of Madagascar. Since then, it had not been seen or heard by any ornithologist for 24 years. Its habitat preferences, diet, breeding biology, and population status were unknown.



Photo by John C. Mittermeier

That changed in late 2022 and early 2023, when an expedition team led by The Peregrine Fund's Madagascar Program rediscovered the Dusky Tetraka in two different locations in the northeastern rainforest of Madagascar. The team was part of the Search for Lost Birds, a collaboration between American Bird Conservancy (ABC), BirdLife International, and Re:wild, that aims to find and protect some of the rarest and most wanted birds on the planet. The Dusky Tetraka was one of the top 10 most wanted species by the Search for Lost Birds, along with other birds, such as the Pink-headed Duck, the Ivory-billed Woodpecker, and the Himalayan Quail.

The first sighting of the Dusky Tetraka was on December 22, 2022, on the Masoala Peninsula, where another team from The Peregrine Fund caught and released a single bird in a mist net. The Masoala Peninsula is part of the largest protected area in Madagascar, covering more than 2,300 square kilometers of rainforest and marine habitats. It is home to many endemic species of plants and animals, including lemurs, chameleons, frogs, orchids, and palms.

The second sighting was in January 2023, near Andapa town, where the team had to drive for more than 40 hours and hike for half a day up steep mountains to reach the last known spot of the bird. There, they found three more Dusky Tetrakas along a rocky river in thick vegetation. However, they also discovered that much of the forest had been cleared and converted into vanilla plantations, even though the area is officially protected as part of the COMATSA Sud protected area. Vanilla is one of the most valuable crops in Madagascar, but its cultivation often involves deforestation and soil erosion.

The rediscovery of the Dusky Tetraka was a thrilling moment for the expedition team and the birding community. It also revealed new information about the habitat and behavior of this enigmatic species. The team observed that the Dusky Tetraka prefers lowland forests near water sources, where it forages on the ground and in the understory for insects and grubs. It also has a very high-pitched call that sounds like a "seet" or a "tsip", which may help it communicate with other members of its family or avoid predators.

The Dusky Tetraka is still a critically endangered species that faces many threats from habitat loss, deforestation, hunting, and climate change. Its population size and distribution are unknown, but likely very small and fragmented. The expedition team hopes that their findings will help raise awareness and support for the conservation of this remarkable bird and its forest home.

Vidya Padmakumar

Editor, The IOU Flutter

flutter@internationalornithology.org

Original Article:

Wilson, C. 2023. "Dusky tetraka found again after vanishing for decades." *New Scientist*, 257 (3429): 22.

Popular article:

Dusky tetraka: Songbird feared extinct spotted in Madagascar. (2023, March 7). BBC Newsround. Retrieved March 10, 2023, from <https://www.bbc.co.uk/newsround/64862550>

CONSERVATION MATTERS: EVERY FEATHER COUNTS!

Birds need more bugs- The case for conserving forests in coffee plantations



If you are a coffee lover, you may not realize how your favorite drink affects the lives of millions of birds in tropical regions. A new study by researchers at the University of Utah reveals that coffee plantations are limiting birds' diets by reducing their access to animal protein, which is essential for their growth, reproduction, and survival.

The study, published in *Frontiers of Ecology and Evolution*, used a combination of methods to track the movements and diets of four bird species: orange-billed nightingale-thrush (*Catharus aurantiirostris*), silver-throated tanager (*Tangara icterocephala*), white-throated thrush (*Turdus assimilis*) and ochre-bellied flycatcher (*Mionectes oleagineus*). These birds are frugivorous-insectivorous and eat both fruits and invertebrates, but the latter are especially important for their nutrition and growth.

Feathers from the birds were analyzed for their stable isotopes, which are chemical signatures that reflect what the birds ate over time. Some of the birds were fitted with radio transmitters and were followed with receivers to see where they foraged and how much they moved between habitats.

The results have shown that birds in coffee plantations have lower nitrogen isotope ratios than birds in forests, indicating that they ate fewer invertebrates. The difference was especially pronounced for young birds, which need more protein and nitrogen for their development. The researchers also found that birds in coffee plantations moved more frequently and over longer distances than birds in forests, suggesting that they had to search harder for food.



Silver-throated Tanager (*Tangara icterocephala*)
Photo Credit: Çağan H. Şekercioğlu

The findings reveal how habitat loss and degradation affect bird diets and survival. Human activities, such as deforestation, agriculture, and pesticide use, reduce the availability and diversity of food resources for birds. As birds look for food in new places, they may encounter unexpected challenges and opportunities. They may clash with other birds over scarce resources. They may discover new prey that are easier to catch. But these changes can also have harmful effects on the environment. They may disrupt the ecology and threaten the survival of other species. They may have to compete with other birds that have already established their territories and niches. They may find new prey that are vulnerable and abundant. This could alter the food web and the population dynamics of other species.

The study also highlights the importance of preserving forest fragments and corridors that connect them, as well as promoting shade-grown coffee plantations that provide a more diverse habitat and food resources for birds and other wildlife. These conservation measures can benefit both biodiversity and human well-being.

So next time you sip your coffee, think about how it impacts the birds that share our planet and how we can help them survive.

Vidya Padmakumar
Editor, The IOU Flutter

flutter@internationalornithology.org

Original article:

Şekercioğlu CH, Sanders B, Davidson R., Coffee plantations limit birds' diets: Habitat disruption and changes in diet threaten bird species' survival. *Frontiers in Ecology and Evolution*. 2023; 9:1086616.doi:10.3389/fevo.2023.1086616

Popular article:

University of Utah. Coffee plantations limit birds' diets [press release].

<https://www.sciencedaily.com/releases/2023/03/230320143743.htm> Published March 20, 2023.

Australia's vanishing raptor

Imagine a bird that is seven times rarer than the giant panda. That's the red goshawk, Australia's vanishing raptor! The red goshawk (*Erythrotriorchis radiatus*) is Australia's rarest bird of prey and one of the most threatened raptors in the world. It is a magnificent bird, with striking reddish-brown plumage, deeply fingered wing tips, heavy yellow legs, and over-sized talons. It is a top-predator that plays a vital role in maintaining the balance of the ecosystem. But this unique bird is disappearing. Disappearing from its historical range. Disappearing from its current habitat. Disappearing from our sight.



Red Goshawk (*Erythrotriorchis radiatus* ADULT)
© James (Jim) Holmes
eBird S37782759, Macaulay Library ML 62309921

A recent study by researchers from The University of Queensland has revealed that the red goshawk has lost a third of its historical range in the past four decades and is barely hanging on in another 30 per cent of regions it has previously been known to inhabit. The species is now considered extinct in New South Wales and the southern half of Queensland. There has been a noticeable decline in North Queensland too, leaving Cape York Peninsula as the last place in the state still known to support breeding populations. The Top End, Tiwi Islands and Kimberley are the red goshawk's last remaining stronghold, making northern Australia critical to its ongoing survival.

What is causing this decline? The study suggests that habitat loss and degradation are the main culprits. Land clearing, logging, fire regimes, invasive species, and climate change have all reduced and fragmented the red goshawk's preferred habitat of open woodland and forest with tall trees and dense understory. Other factors include direct mortality from shooting, poisoning, trapping and collision; competition and predation from other raptors; human disturbance and persecution; low reproductive rate and genetic diversity; and lack of knowledge and awareness in people.

The red goshawk is not only a beautiful and fascinating bird, but also an indicator of the health of our environment. As a top-predator, it depends on a diverse and abundant prey base and a complex and intact habitat. If the red goshawk is declining, it means that something is wrong with our ecosystem. Saving the red goshawk means saving many other species that share its habitat. It also means preserving our natural heritage and our cultural values.

The study calls for urgent action to protect the red goshawk and its habitat. It recommends that the national conservation status of the red goshawk be amended from Vulnerable to Endangered under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) to reflect its current situation and to afford it greater protection and priority. It recommends that the recovery plan for the red goshawk be updated to include new information on its distribution, abundance, threats, and management actions. It also suggests that effective monitoring programs be implemented to track the population trends and status of the red goshawk across its range. Furthermore, it urges for more research on the ecology, behavior, genetics, and threats of the red goshawk to inform conservation decisions. The red goshawk is an amazing bird that deserves our attention and respect. It is a privilege to see one in the wild, but sadly they are becoming harder to find.

The red goshawk is Australia's rarest bird of prey. But it doesn't have to be. Together, we can save this amazing bird and its habitat.

Vidya Padmakumar
Editor, The IOU Flutter

flutter@internationalornithology.org

Original Article:

MacColl, C., Watson, J., Garnett, S., & Fuller, R. (2023). Rapid and recent range collapse of Australia's Red Goshawk *Erythrotriorchis radiatus*. *Emu - Austral Ornithology*. <https://doi.org/10.1080/01584197.2023.2172735>

Popular Article:

University of Queensland. (2023). Australia's rarest bird of prey disappearing at alarming rate. *ScienceDaily*. <https://www.sciencedaily.com/releases/2023/02/230228075741.htm>

NEW TOOLS FOR A NEW ERA: CONSERVATION AND RESEARCH



The Future of Bird Migration Research: Introducing BirdFlow

Swainson's Hawk (Buteo swainsoni)
(photo by Paul Konrad)

Bird migration is one of the most fascinating phenomena in nature, but also one of the most challenging to study. How do birds know when and where to go? How do they navigate across vast distances and diverse landscapes? How do they cope with changing environmental conditions and human impacts? Bird migration is hard. It involves flying thousands of miles, dodging predators and storms, and finding food and shelter along the way. Not to mention the jet lag.

Luckily, there's a new way to track bird migration without breaking a sweat. It's called BirdFlow, and it's a computer model that uses artificial intelligence to predict where birds are going based on what people see and report online. BirdFlow is the brainchild of some smart folks from the University of Massachusetts, Amherst, and the Cornell Lab of Ornithology. They figured out how to combine two sources of data: eBird and satellite tracking.

eBird is a website where anyone can report what birds they see and where they see them. It has millions of records from birdwatchers all over the world. Satellite tracking is a method where scientists attach tiny devices to some birds that send signals to satellites in space. It gives precise information on the location and movement of those birds.

Swainson's Hawks were 1 of 11 species the researchers used to test BirdFlow. BirdFlow takes these two data sources and runs them through a machine-learning model, which is like a computer program that learns from data and makes predictions. The model learns how birds move from place to place and from week to week. It can then forecast the average travel routes for each species in the future.

The major factor about the model is that it can answer all kinds of questions about bird migration that we couldn't answer before. For example, when do birds start and end their migration? Where do they stop to rest and refuel? How do they respond to changes in weather and climate? How do they deal with human activities like lights and noise?

The model has been tested on some species that we know a lot about, like ospreys, barn swallows, and American robins. The results show that the model is quite good at capturing the patterns and variations in their movement. It can also account for differences in how individual birds migrate.

The BirdFlow model is not only fun to play with, but also useful for saving birds. It can help identify important places and pathways for migratory birds, monitor how they're doing and what threats they face, and raise awareness and appreciation for their amazing feats.

The BirdFlow project is still in progress, and the researchers want to make it better and bigger. They plan to train the model on more species and data sets in the future. They also hope to make the model available to everyone through interactive websites and apps.

Vidya Padmakumar

Editor, The IOU Flutter

flutter@internationalornithology.org

Original Article:

Van Doren, B. M., Sheldon, D. R., Dokter, A. M., Horton, K. G., Farnsworth, A., & La Sorte, F. A. (2023). BirdFlow: Learning seasonal bird movements from eBird data. *Methods in Ecology and Evolution*, 14(2), 287-298.
<https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/2041-210X.14052>

Popular article:

University of Massachusetts Amherst. (2023). To know where the birds are going, researchers turn to citizen science and machine learning. *ScienceDaily*. <https://www.sciencedaily.com/releases/2023/02/230201102837.htm>



DON'T MISS OUT!



Films / Videos

HEART OF MAUI

Directed and filmed by David Ehrenberg (2022)

Heart of Maui is a captivating and informative documentary that showcases the beauty and diversity of Hawai'i's forest birds, as well as the challenges and opportunities of conserving them. The 7.5-minute film follows two biologists who work in Haleakalā National Park, one of the last refuges for these birds, and reveals the threats they face from invasive mosquitoes and avian malaria. The film also highlights the innovative solutions and partnerships that are being developed to protect and restore these birds and their habitat. Heart of Maui is a must-watch for anyone who loves nature and wildlife, and who wants to learn more about the unique and endangered species of Hawai'i.

Watch online at:

<https://www.nps.gov/media/video/view.htm?id=1184F741-74F4-46CC-BA60-B6933A6A2641>



Books

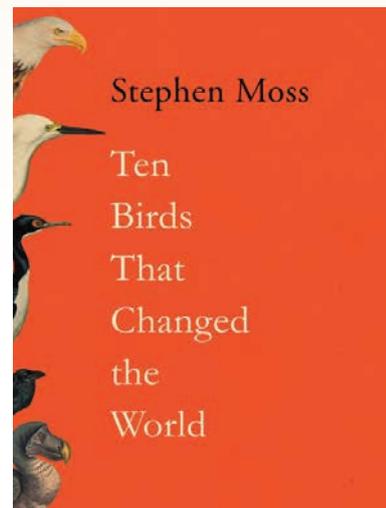
TEN BIRDS THAT CHANGED THE WORLD

By Stephen Moss (March 2023)

Do you love birds? Do you want to know how they have changed the world? Do you want to read a book that is full of amazing facts, stories and pictures of birds? If you answered yes to any of these questions, then you need to get your hands on Ten Birds That Changed the World by Stephen Moss. This book is a bird lover's dream come true. It takes you on a journey across the globe and through time, showing you how 10 different bird species have influenced human history, culture, science and ecology. You'll meet the dodo, the bird that was so tasty and easy to catch that humans ate it to extinction. You'll meet the raven, the bird that is smarter than some apes and has inspired countless myths and legends. You'll meet the bald eagle, the bird that became the symbol of America and the target of far-right extremists. And you'll meet seven other birds that have their own incredible stories and impacts on humanity. Along the way, you'll also learn about the threats that birds face from habitat loss, climate change, hunting and persecution, and what we can do to help them. This book is not only informative, but also entertaining and engaging. Moss is a naturalist and author who knows how to write with passion, humor and style. He mixes natural history, science and personal anecdotes to create a captivating narrative. He also includes beautiful photographs and drawings of the featured birds that will make you admire them even more. Ten Birds That Changed the World is a book that will make you laugh, cry, think and wonder. It is a book that will make you appreciate the diversity and wonder of birds and their remarkable relationship with us. It is a book that every bird lover should read.

Buy online at:

<https://www.goodreads.com/book/show/61286570-ten-birds-that-changed-the-world>



NOTICEBOARD



CONFERENCES

2023		
DATE	EVENT	FOR MORE INFORMATION
23-24 May, 2023	International Conference: Best practices for mitigating electrocution and collision risk in Cagliari, Sardinia, Italy	https://4vultures.org/blog/international-conference-mitigating-electrocution-collision-risk/
13-17 June, 2023	EcoSummit 2023 in Queensland, Australia	https://www.raptors.ru/events/2023/ecosummit/
19 - 23 July, 2023	Joint WFO-CFO Convention 2023 in Summit County, Colorado	https://cobirds.org/current-convention/
20 – 24 September, 2023	156th Annual Meeting of the German Ornithologists' Society in Augsburg, Germany	http://www.do-g.de/events/annual-convention-2023-augsburg/?L=1
21–22 September, 2023	III International ornithological conference “Birds and Agriculture: Current State, Problems, and Study Prospects” in Kislovodskiy National Park, Russia	https://www.raptors.ru/events/2023/birds-and-agriculture-conference/
25–28 September, 2023	Eagles of the Palearctic: Study and Conservation: Third International Scientific and Practical Conference in Almaty, Kazakhstan	https://www.raptors.ru/events/2023/birds-and-agriculture-conference/
25–28 September, 2023	Eagles of the Palearctic: Study and Conservation: Third International Scientific and Practical Conference in Almaty, Kazakhstan	https://www.raptors.ru/events/2023/eagles-of-the-palearctic/
29 September - 03 October, 2023	Annual Conference of the International Wader Study Group in Sylt, Germany	https://www.waderstudygroup.org/conferences/2023-sylt-germany/
9 - 12 October, 2023	47th Annual Meeting of the Waterbird Society in Florida, USA	https://waterbirds.org/annual-meeting/
17-21 October, 2023	International Bird Observatory Conference 2023 in Veracruz, Mexico	https://ibocmexico.org/
17-22 October, 2023	RRF 2023 Annual Conference in Albuquerque, USA	https://raptorresearchfoundation.org/current-conference/
23-26 October, 2023	16th North American Crane Workshop in Baraboo, Wisconsin, USA	https://www.nacwg.org/workshop16.html
5-9 November, 2023	The Wildlife Society's 30th Annual Conference in Louisville, Kentucky	https://wildlife.org/network/conferences-network/
14-17 November, 2023	European Vulture Conference in Cáceres, Spain	https://4vultures.org/event/european-vulture-conference-2023/

2023

DATE	EVENT	FOR MORE INFORMATION
21- 22 November, 2023	BOU autumn 2023 conference- Global flyways: Virtual	https://bou.org.uk/event/bousci23-global-flyways/
22-24 November, 2023	ASPB 2023 Annual Conference in Red Deer, Alberta	https://www.aspb.ab.ca/conference
28- 30 November, 2023	12th Australasian Ornithological Conference (AOC) in Brisbane 2023	https://birdlife.org.au/events/australasian-ornithological-conference-2023/

2024

07-08 January, 2024	International Conference on Biodiversity and Forest Habitat Management ICBFHM in Tokyo, Japan	https://conferenceindex.org/event/international-conference-on-biodiversity-and-forest-habitat-management-icbfhm-2024-january-tokyo-jp
05-09 February, 2024	9th North American Duck Symposium in Portland, OR	https://ducks9.org/
9 - 11 April, 2024	BOU 2024 annual conference in Jubilee Campus, Nottingham University	https://bou.org.uk/event/urban-birds-bou2024/
20 – 26 May, 2024	7th International Albatross and Petrel Conference in Ensenada, Baja California, Mexico	https://islas.org.mx/iapc7/
23-29 June, 2024	XXVI IUFRO World Congress 2024 in Stockholm, Sweden	https://www.iufro.org/events/congresses/2024/
11-12 November, 2024	International Conference on Wildlife Forensics and Conservation Studies in Phnom Penh, Cambodia	https://conferenceindex.org/event/international-conference-on-wildlife-forensics-and-conservation-studies-icwfcs-2024-november-phnom-penh-kh
12 - 13 November, 2024	BOU autumn 2024 conference – Avian conservation translocations Virtual (International)	https://bou.org.uk/event/avian-conservation-translocations-bousci24/
19 – 23, October, 2024	The Wildlife Society's 31st Annual Conference in Baltimore, Maryland	https://wildlife.org/network/conferences-network/

Be Sure to Register in Time



COURSES IN ORNITHOLOGY

Courses and workshops for PhD students, postdocs, professional researchers and those wishing to become ornithologists	
VENUE & COURSE / WORKSHOP DETAILS	FOR MORE INFORMATION
THE CORNELL LAB BIRD ACADEMY - If you want to learn more about the birds you hear or see around you, whether you are a beginner, a hobbyist, or an aspiring expert, Bird Academy can help.	https://academy.allaboutbirds.org/
FATBIRDER - a website that provides information and resources for birdwatchers, birders, and ornithologists.	https://fatbirder.com/ornithology-courses/
NPTEL – Basic course in ornithology - The course intends to introduce students to the scientific study of birds (ornithology).	https://onlinecourses.nptel.ac.in/noc22_ge10/preview
Online courses on BIRDSCANADA - a new platform for learning called OpenBirds	https://www.birdscanada.org/presenting-our-new-online-courses
Courses of ornithology by BRITISH TRUST FOR ORNITHOLOGY - a range of courses for different levels of interest and skill	https://www.bto.org/develop-your-skills/training-courses/about-our-courses
Online Birding Enthusiast Course by ECO TRAINING	https://www.ecotraining.co.za/programs-courses/online-birding-enthusiast-course/
Online Courses & Workshops - BIRDING WITH ALDO	https://www.birdingwithaldo.com/

WORKSHOPS

Courses and workshops for those wishing to become ornithologists	
VENUE & COURSE / WORKSHOP DETAILS	FOR MORE INFORMATION
Raptor Field Techniques Training Workshops in 2023	https://ornithologyexchange.org/forums/topic/52009-raptor-field-techniques-training-workshops-in-2023/
Ecuador Bird Monitoring & Banding Training Experience – August 2023	https://ornithologyexchange.org/forums/topic/52813-ecuador-bird-monitoring-banding-training-experience/
Beaverhill Bird Observatory's Geoff Holroyd Young Ornithologists' Workshop – July – August, 2023	http://beaverhillbirds.com/programs/young-ornithologist-workshop/
Advanced Field Ornithology: Identification and Surveys by Sound	https://cmiae.org/event/advanced-field-ornithology-identification-and-surveys-by-sound-2/
Geospatial Mapping in R	https://wos2023.org/symposiums-workshops-special-events/
Exploring Birds & Biodiversity with eBird Workshop	https://www.birds.cornell.edu/k12/ebird-explorers-workshop-sc/
Better Birding Skills Workshops	https://dfobirds.org/Projects/Workshops.aspx
Sound recording workshop	https://www.macaulaylibrary.org/resources/sound-recording-workshop/
The Frontiers in Ornithology Symposium	https://frontiersinornithology.com/

GRANTS, FELLOWSHIPS, INTERNSHIPS AND POSITIONS

The **James L. Baillie Memorial Fund for Bird Research and Preservation (the Baillie Fund)**, established and managed by Birds Canada, provides grants to projects that help to conserve wild birds. It is funded by the annual Great Canadian Birdathon and by private donations.

<https://www.birdscanada.org/about-us/funding-opportunities/baillie-fund>

The **Chimney Swift Chimney Restoration Fund (the Chimney Swift Fund)** provides financial support for the restoration of anthropogenic structures known to be important for Chimney Swifts. Established and managed by Birds Canada with support and guidance from diverse partners, it is funded by the Government of Canada through the federal department of Environment and Climate Change.

<https://www.birdscanada.org/csf>

The **Murre Conservation Fund** supports projects that support conservation and management of Murre populations and their habitat, as well as projects that introduce the people of Newfoundland and Labrador to the conservation, management, and sustainable harvest of Murre.

<https://www.birdscanada.org/about-us/funding-opportunities/murre-fund>

The **Ornithological Council Small Grants Program** supports student/early-career scientists from Latin America and the Caribbean conducting conservation-related research on either migratory or resident birds in those regions. It is managed by the American Ornithological Society.

<https://ornithologyexchange.org/funding/grants/>

The **Birdfair/RSPB Research Fund** for Endangered Birds supports researchers working in their own countries to undertake basic research on endangered bird species to generate the knowledge needed to design conservation actions. It is managed by the Royal Society for the Protection of Birds.

<https://www.rspb.org.uk/our-work/conservation/projects/birdfair-rspb-research-fund-for-endangered-birds>

The **Land Trust Bird Conservation Initiative** provides a directory of bird-focused funding opportunities for land trusts and other conservation organizations in North America.

<https://www.birds.cornell.edu/landtrust/bird-focused-funding-opportunities/>

The **WBBA Research Grant** offers up to two \$500-1,000 grants each year for individuals and/or organizations engaged in projects in the New World using marked birds. It is managed by the Western Bird Banding Association.

<https://www.westernbirdbanding.org/research-grants>

The **OBC Conservation Fund** supports conservation work in the Oriental region by funding projects which encourage an interest in wild birds and their conservation and support research and conservation of threatened birds. It is managed by the Oriental Bird Club and offers grants between £1,000 and £2,000.

<https://www.orientalbirdclub.org/applications>

The **Raptor Research Foundation Grants** support research on raptors, especially those that are threatened or endangered. They are managed by the Raptor Research Foundation and offer grants of up to \$2,000.

<https://raptorresearchfoundation.org/grants-awards/>

The **ABC Conservation Awards** support conservation and research projects on birds and their habitats in Africa. They are managed by the African Bird Club and offer grants of up to £1,500.

<https://www.africanbirdclub.org/conservation-programmes/>

The **ABC Expedition Award** supports expeditions to study poorly known bird species or areas in Africa. They are managed by the African Bird Club and offer grants of up to £2,000.

<https://www.africanbirdclub.org/conservation-programmes/>

The **AAV Wild Bird Health Research Fund** supports research on the health and diseases of wild birds. It is managed by the Association of Avian Veterinarians and offers grants of up to \$5,000.

<https://www.aav.org/page/wildcfp>

The **Mohamed bin Zayed Species Conservation Fund** supports conservation projects on threatened species, including birds. It is managed by the Mohamed bin Zayed Species Conservation Fund and offers grants of up to \$25,000.

<https://www.speciesconservation.org/case-studies-projects/bird>

The **ABSA Fund for Avian Research** supports research on any aspect of Australian birds. It is managed by the Australian Bird Study Association and offers grants of up to \$2,000.

<https://absa.asn.au/grants-2/fund-for-avian-research/>

The **Community Conservation Grants** support community and capacity building projects that align with and support the delivery of BirdLife Australia's Bird Conservation Strategy. They are managed by the BirdLife Australia and offer grants of up to \$20,000.

<https://birdlife.org.au/awards/community-conservation-grants/>

The **Wilson Ornithological Society Research Grants** support various aspects of avian biology and involve field work throughout North America and beyond. They are managed by the Wilson Ornithological Society and offer various types of grants.

<https://wilsonsociety.org/awards/research-grants/>

The **Ornithology Grants** support research in several aspects of ornithology, such as systematics, evolution, behavior, ecology, and conservation. They are managed by the American Museum of Natural History and offer grants of up to \$3,500.

<https://www.amnh.org/research/vertebrate-zoology/ornithology/grants>

The **OSME Conservation and Research Fund** supports conservation and research projects on birds and their habitats in the Middle East, Caucasus and Central Asia. It is managed by the Ornithological Society of the Middle East, the Caucasus and Central Asia (OSME) and offers grants of up to £2,000.

<https://osme.org/grants-programmes/>

The **China Bird Report Fund** supports the publication of annual reports on bird records in China. It is managed by the China Birdwatching Society and offers grants of up to \$1,000.

<http://www.chinabirdnet.org/ccfund.html>

EDITOR'S NOTE: This is a reasonably up-to-date database of recurring grants, awards, prizes, scholarships, fellowships, etc. in the field of ornithology. For more information, visit <https://ornithologyexchange.org/>

REACH OUT



I welcome your comments and suggestions on this newsletter, as well as any information you would like to see in the next issue of **The Flutter**.

You can contact me at the address below.

Vidya Padmakumar (She/Her) Ph.D., MRSB, P.Biol., C.Biol.,

Editor

The Flutter

vidyapkumar3@gmail.com

vidya.padmakumar@crl.com

flutter@internationalornithology.org

T : +1 (438) 951 - 9701

Desk : +1 (450) 973 - 2240 Ext 2086 (Mon - Fri | 8h - 16h EST)

<https://vidyapkumar3.wixsite.com/vidyapadmakumar>



**The next deadline for IOU members'
submissions for The Flutter is
15 June 2023**

