

## #BOU18TC abstracts

Presenters are listed in alphabetic order based on their family name



20 November, 1840 UTC

**Tom Auer** @oconned5  
Cornell Lab of Ornithology, US

### eBird Status and Trends: modeling eBird Data for Conservation

Since 2002, eBird has evolved into the largest biodiversity monitoring system in existence, with a database containing over 500 million bird observations, providing an unparalleled source of fine-scale, year-round biodiversity data. Building on a decade of research at the interface of ecology and data science, we have developed an analytical workflow to produce estimates about a species in four categories: range, relative abundance, habitat association/avoidance, and trends. We have analyzed a strategically selected set of 100 North American species and published the results on eBird. This presentation will introduce the website and the four categories of visualizations and products available.

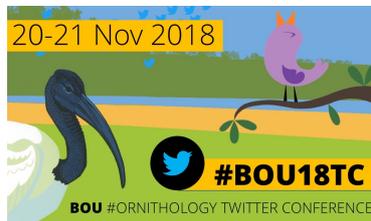


20 November, 1630 UTC

**Andrew Bladon** @Andrew\_Bladon  
University of Cambridge, UK

### Behavioural thermoregulation and climatic range restriction in the globally threatened Ethiopian Bush-crow *Zavattariornis stresemanni*

Climate may influence a species' distribution or abundance through numerous demographic and ecological processes, but many proximate drivers remain unknown. The Ethiopian Bush-crow is an Endangered corvid endemic to southern Ethiopia, yet its favoured habitats are widespread and it is behaviourally adaptable. Using environmental niche models and observations of thermally-mediated behaviour, we assessed whether the Bush-crow's distribution can be explained by its behavioural responses to higher temperatures. We compared the results with two ecologically similar sympatric species with larger ranges, the White-crowned and Superb Starlings. Our results suggest the Bush-crows' restricted range reflects an inability to cope with higher temperatures.



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21 November, 1210 UTC

**Jenni Border** @JenniBorder  
British Trust for Ornithology, UK

### Can climate matching predict the climatic suitability of the UK for non-native birds?

Non-native species are spreading at unprecedented rates. We assess climatic suitability throughout the UK based on the apparent match to the climate in species' native ranges and investigate potential climatic limitation within the non-native range. Climate matching suggests that 69 of 167 non-native bird species could currently find climatically suitable territory for establishment in the UK. However, observed occurrences of non-native species in the UK were not significantly correlated to climatic suitability. Improvements to climate matching techniques and ongoing surveillance are required to support effective management policies.

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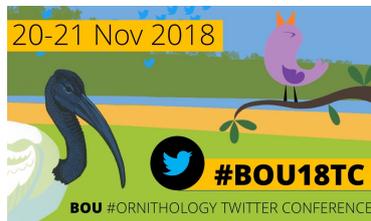
20 November, 1740 UTC

**Camilo Carneiro** @Camilo\_Carneiro  
University of Aveiro, Portugal & University of Iceland

### Does quality of wintering areas affect breeding phenology and investment of Icelandic Whimbrels?

Many waders breed at high latitudes where timing is crucial and winter in temperate and tropical coastal areas. At each wintering site, individuals face distinct trade-offs which can affect their state and potentially carry-over to subsequent stages of the annual cycle.

We measured the energetic balance of Whimbrels at three wintering sites, located in different climatic regions. In Iceland, laying date and egg volume were recorded. Using stable isotopes from feathers grown during winter and geolocator tracking, 207 breeding individuals were assigned a wintering region. Here, we investigate possible carry-over effects of wintering site on breeding phenology and investment.



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20 November, 2010 UTC

**Laure Cauchard** @CauchardLaure

Institute of Biological and Environmental Sciences, University of Aberdeen, UK

### **Cognitive senescence correlates to age-related decline in reproductive success in wild Great Tit *Parus major***

Behaviour is at the front of animal responses to environmental changes. Innovation, the ability to use novel or modified behaviours, can positively relate to reproductive success within species. Yet, whether this link is causal (i.e. higher cognitive capacities improves the finding of quality food, increasing condition) or a third variable is involved (i.e. a shift in the oxidative balance leads to a fast accumulation of oxidative damage in metabolically active tissues, thus to a decline in cognitive/physical performances) is currently unknown. We used wild great tits to test this hypothesis, which is a major gap in our understanding of the evolution of cognition.



KEYNOTE

20 November, 1200 UTC

**Anusuya Chinsamy-Turan** @palaeo\_prof

University of Cape Town, South Africa

### **Osteohistology and life history of the basal pygostylian, *Confuciusornis sanctus***

**Anusuya Chinsamy** <sup>(1)</sup>, **Jesús Marugán-Lobón** <sup>(2,3)</sup>, **Francisco J. Serrano** <sup>(3,4)</sup>, **Luis Chiappe** <sup>(3)</sup>.

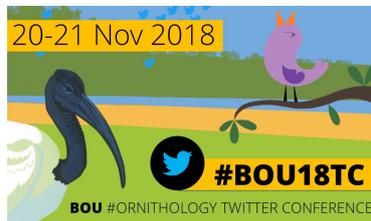
<sup>1</sup> University of Cape Town, Department of Biological Sciences, Private Bag X3, Rhodes Gift, 7700, South Africa.

<sup>2</sup> Universidad Autónoma de Madrid, Unidad de Paleontología, 28049 Cantoblanco (Madrid), Spain.

<sup>3</sup> Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA.

<sup>4</sup> Universidad de Málaga, Área de Paleontología, Málaga, 29071, Spain.

The biology and growth of early birds has largely been based on individual bones of particular species. This has been understandably so, since until recently fossils of Mesozoic bird species were rare and were generally not known from multiple individuals. However, this situation changed significantly with the discovery of the exceptional localities of the Jehol Group of Northeastern China. From these species-rich Early Cretaceous deposits thousands of *Confuciusornis sanctus* specimens preserving skeletal material and plumage were discovered. Remarkably, some of these



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individuals have distinctive ornamental rectrices, whilst others lack such ornamentation. Although the anatomy of *Confuciusornis* has been well studied, little is known about its life history. Since fossil bone microstructure is well recognized as enabling palaeobiological deductions, here we investigated the histology of 22 long bones sampled from 14 *Confuciusornis* specimens to deduce information about the life history of this basal pygostylian bird. Analysis of the bone histology of the various bones revealed differences in the histological structure of their bone walls. On the basis of the osteohistology, we separated the examined specimens into 5 histological age classes (HAC). We found that size and HAC were not strictly correlated, especially once the birds reached sexual maturity. These findings suggest that *Confuciusornis* had a high degree of developmental plasticity during ontogeny. Furthermore, the osteohistology shows that like several other basal birds (such as, *Jeholornis*, *Sapeornis*, and *enantiornithines*), *Confuciusornis* experienced rapid growth to sexual maturity, and thereafter took several years to reach skeletal maturity.

**Professor Anusuya Chinsamy-Turan** is a palaeobiologist based in the Department of Biological Sciences at the University of Cape Town in South Africa. She is a global expert on the microscopic structure of the bones of extinct and extant vertebrates. She has over 100 peer reviewed journal articles, and she has authored two academic books [*Microstructure of Dinosaur Bone* (Johns Hopkins University Press, USA, 2005) and *Forerunners of Mammals* (Indiana University Press, USA, 2012)], as well as, two popular level books, *Famous Dinosaurs of Africa* (RandomHouseStruik, SA, 2008) and *Fossils for Africa*(Cambridge University Press, 2014).



### KEYNOTE

20 November, 1600 UTC

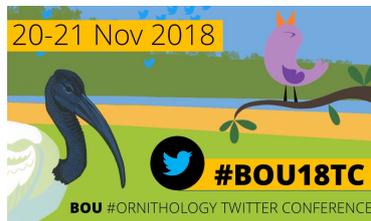
**Nicky Clayton** @nickyclayton22

University of Cambridge, UK

### Cognitive behaviour in crows

Nicky will discuss the social cognition of corvids, members of the crow family that includes ravens, jays and magpies. The focus will be on two aspects of their behaviour, one competitive and one cooperative; namely (1) their ability to hide food caches and rely on memory to recover their own caches and pilfer (steal) those of other birds they have seen cache and (2) their ability to share food with their mate during the breeding season. These birds are extremely intelligent with huge brains relative to body size~ on a par with those of chimpanzees and other non-human great apes. Given the complexity and flexibility of their decision making, when it comes to cognition, these birds are “feathered apes”.

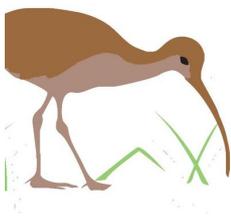
**Nicky Clayton** FRS is the Professor of Comparative Cognition in the Department of Psychology at the



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University of Cambridge, a Fellow of Clare College, Cambridge and a Fellow of the Royal Society. She is also Scientist in Residence at Rambert, and co-founder of a science-arts collaboration The Captured Thought. She has been passionate about birds all of her life. It is her love of birds that drew her to become both a scientist and a dancer.



### KEYNOTE

21 November, 1230 UTC

**Mary Colwell** @curlewcalls

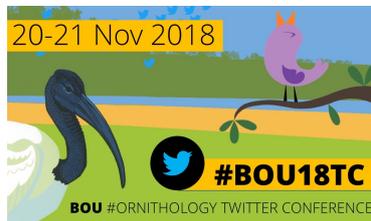
Freelance producer. Author of *Curlew Moon*, UK

### Communicating science: the plight of the Curlew

Sometimes, it helps to have something to hang your hat on, to coalesce around a cause that is wide ranging and urgent so that it brings many different people together. Curlew conservation does the job very well. Curlews are the UK's largest wading bird, they inhabit wetlands, moors, meadows and marsh and have utterly beautiful calls. In the breeding season the rising trill or bubbling call rings out over the landscape, heralding spring. In the winter the characteristic curlee fires through the air and is haunting and lonesome. Yet, despite being woven into our art, literature, poetry and music, it is disappearing from the land. A combination of intensification of farming, an increase in predator pressure and spread of forestry have acted against it breeding successfully. Over the last two years I have tried to find out how to bring them back, and in doing so held 4 national conferences in Ireland, S England, Wales and Scotland. These have attracted people from all sections of society, which has been both hopeful and inspiring. Conservation is not about nature; it is about getting people to work together. This presentation shows what has happened for curlews and how this might be good news for landscapes throughout Britain and Ireland.

**Mary Colwell** is a producer and writer. In 2016 she walked 500 miles across Ireland, Wales and England to find out what is happening to our largest wading bird, the Curlew. She is author of *Curlew Moon*, published by William Collins in April 2018. Mary was awarded the British Trust for Ornithology's Dilys Breese Medal in 2017.





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21 November, 1030 UTC

**Marcello D'Amico** @MaD\_OnTheRoad  
CIBIO-InBIO & CEABN-InBIO, Portugal

### Drivers of bird nesting on anthropogenic structures: a case study on storks and power lines

Power lines increase bird mortality through collision or electrocution, but electricity pylons are also used for nesting by some species. We describe an empirical modelling approach to predict the circumstances under which White Storks *Ciconia ciconia* use electricity pylons in Portugal. In a country-level census, we found 1348 nests in 668 of the 8680 very-high-tension pylons occurring in the stork distribution range. The main driver of pylon use was nearness to major feeding areas. Pylon type and age, and regional population density, had comparatively less importance. Our approach can be used both for species conservation and minimizing damage to infrastructures.



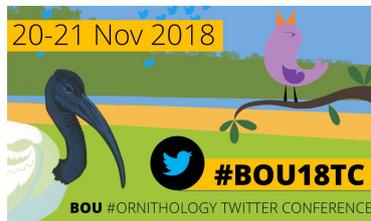
21 November, 1220 UTC

**Steve Dudley** @stevedudley\_  
BOU, UK

### #TheTweetingBird: its rise, relevance and impact in ornithology – revisited

Science communication is as fast moving as science itself, and in recent years social media have come to the fore as important tools used for communicating science at the peer-to-peer and wider interested public levels. Within ornithology, Twitter is clearly the dominant platform with thousands of active users reaching a daily audience of over 500,000 people.

The rapid growth of online tools to communicate science raises the important question of whether online attention is associated with citations in the scholarly literature. The Altmetric Attention Score (AAS) quantifies the attention received by a scientific publication on various online platforms including news media, blogs and social media. It has been advanced as a rapid way of gauging the impact of a piece of research, both in terms of potential future scholarly citations and wider online engagement. Here I highlight the increasing evidence that social media activity does contribute to citations in ornithology, and how your own social media activity can contribute to this.



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20 November, 1320 UTC

**Brandon P.M. Edwards** @bedwards144  
Canadian Wildlife Service, Canada

### **bbsBayes: An R Package for Hierarchical Bayesian Analysis of North American Breeding Bird Survey Data**

The North American Breeding Bird Survey (BBS) is a key program in assessing population status and trends for more than 400 North American bird species. The R package `bbsBayes` was developed as a wrapper for hierarchical Bayesian analysis of the BBS data. The goal of `bbsBayes` is to provide an easy-to-use package for anyone in the conservation community to generate estimates of population trajectories and trends for a customized selection of species and/or regions, and to provide a framework for researchers to customize the underlying status and trend model (e.g., adding covariates).

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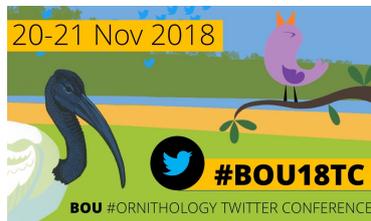
20 November, 1250 UTC

**Sophie C. Edwards** @scedwards19  
University of St Andrews, UK

### **Blue Tits change when they build their nest in response to temperature**

There is considerable variation in nests design, with and between species. Different populations, of the same species, use different amounts of material in their nest, and it is generally assumed that this is because individual birds respond to the local temperature during nest construction. To test this assumption, we investigated the response of Blue Tits (*Cyanistes caeruleus*) in St Andrews, UK, during the breeding seasons of 2016 and 2017 to ambient temperature. In the warmer year of 2017 birds built their nest and laid eggs earlier than they had in 2016. However, there was no difference in the materials used.

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20 November, 1500 UTC

**Kyle Elliott** @ArcticEcology

McGill University, US

### Top-down and bottom-up responses of Arctic seabirds to climate change

Whereas ectothermic animals, such as fish, can respond rapidly to climate change, endothermic animals, such as birds, typically respond much more slowly because their responses are controlled via hormonal and other cascades. Thus, the classic effect of climate change on seabirds is via mismatch between timing of peak energy availability and predator energy demand. Using data from two sub-Arctic seabird colonies (Coats Island, Canada, and Middleton Island, Alaska) I will argue that although such bottom up mechanisms are important in seabird populations, top-down effects from predation and parasitism are likely more important, at least in the short-term. Both bottom-up and top-down effects from climate change must be considered when modeling seabird population responses to climate change.



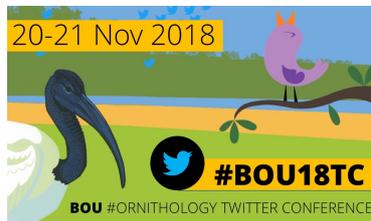
21 November, 1200 UTC

**Tom Finch** @oconned5

RSPB Centre for Conservation Science

### Comparing the potential effects of the land sparing-sharing continuum on UK breeding birds

Globally, the expansion and intensification of agriculture is a leading driver of biodiversity loss. Two contrasting solutions have been proposed, through which a regional food production target could be delivered. Land sparing involves maximising food production on farmland, thus potentially sparing large blocks of land for conservation. In contrast, land sharing involves wildlife-friendly farming over a larger area, with no land available to be spared for conservation. We present the first test of land sparing and land sharing in western Europe, and show that by freeing-up land for conservation, high-yield farming could maximise biodiversity outcomes even in long-converted landscapes.



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20 November, 1300 UTC

**Samantha Franks** @\_SamanthaFranks

British Trust for Ornithology, UK

### Consequences of changes in seasonal timing for productivity and population trends in songbirds

Differential responses of birds and their prey to changing spring timing are thought to be contributing to avian population declines. We use spatially extensive survey data of plants, invertebrates and birds to investigate whether asynchronous changes in egg-laying dates relative to spring onset are associated with reduced avian productivity and population change. Species which have advanced egg-laying the least are declining fastest. In warmer springs, birds breed late relative to spring onset and productivity is reduced. Although species whose productivity is reduced the most are declining fastest, the mechanism cannot be directly attributed to the effects of asynchrony on productivity.



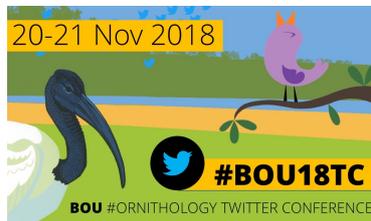
20 November, 2030 UTC

**Ben Freeman** @BenGFreeman1

University of British Columbia, Canada

### I am using playback experiments to define species limits and so should you

Is this one species or two?" is a basic question in understanding biodiversity. But answering this question for related populations that are geographically isolated is difficult. Would they interbreed (= same species) or not (= different species)? I show that playback experiments are a helpful tool to understand species limits between isolated populations. Specifically, populations that fail to recognize each other's songs should be considered different species, as I have demonstrated for many examples of Neotropical birds. Playback experiments are easier than ever to conduct, and, if you are studying species limits, you should consider doing them yourself.



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20 November, 1410 UTC

**Lucy Garrett** @garrettlucy1

University of Birmingham, UK

### Friends for benefits: the importance of sociality for seabird chick survival

Many seabird species exhibit high degrees of sociality, especially when breeding. Chick social group formation is thought to provide benefits such as predator avoidance and thermoregulation. Few studies have explored social group size or the number of 'friends' in relation to survivorship. We studied a large population of Sooty Terns on Ascension Island in the South Atlantic. We recorded social group size at different developmental stages together with the loyalty of these groups over time. Social group size had a positive effect on chick survival and friendships remained stable up to a critical age point.

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20 November, 1510 UTC

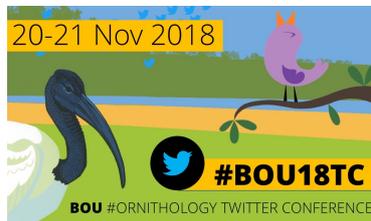
**Julia Gulka** @julia\_gulka

University of Manitoba, Canada

### Individual-level variation in the foraging ecology of a marine predator, the Common Murre

Individual variation provides insight into resource utilization in space and time. We used GPS tracking and stable isotope analysis to examine behavioral and dietary specialization in a breeding Common Murre (*Uria aalge*), over two years with varying prey availability. We found high within-individual variation in behavior, coupled with low spatial overlap, indicative of generalist behavior, while dietary niche breadth was narrower on the scale of weeks relative to days, suggesting a degree of dietary specialization. Our research suggests interplay between diet, behavior, and prey availability and provides insight into how individuals respond to environmental variation, a critical aspect of conservation.

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21 November, 0745 UTC

**Karen Hotopp** @KarenHotopp

University of Glasgow & RSPB Scotland, UK

### **Citizen science and house sparrows: Public engagement to increase use of mass participation tools**

Citizen science has become a common way of collecting large-scale data, with many projects now using electronic formats. Initially, the Glasgow House Sparrow Project worked with volunteers to conduct transect surveys, but we wanted to encourage higher participation from across Glasgow. Over the last year, the project had the opportunity to build two new engagement web-apps, each focused on a separate goal: one to teach about conservation measures including House Sparrow-friendly gardening and one to submit sparrow sightings. Here, I talk about our outreach campaign to encourage use of our new mass participation tools throughout greater Glasgow.



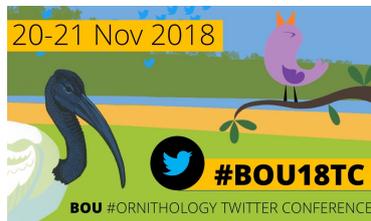
20 November, 1400 UTC

**Rich Howells** @howellsrj

Centre for Ecology & Hydrology, UK

### **Around the island: long-term trends in breeding distribution and consistency at a European Shag colony over two decades**

Colonial breeding is a widespread phenomenon, particularly in seabirds. Such colonies generally comprise multiple sub-colony aggregations, which vary geographically in key metrics, with linked reproductive consequences. However, there remains a very limited understanding of sub-colony temporal dynamics, and associated changes in colony structure. Utilising a dataset comprising 13,532 individual breeding events, from 2617 nest sites, we quantified long-term temporal variation in European shag *Phalacrocorax aristotelis* sub-colony structure over two decades. In the first analysis of its kind, we identify remarkable consistency in core breeding areas over the study, along with a dramatic shift in nest distribution around the island perimeter.



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20 November, 1830 UTC

**Jack Hruska** @picathartes25

Texas Tech University, US

### **A phylogenomic investigation of the relationships among herons (Aves: Ardeidae)**

While composition of Herons (Ardeidae) is now uncontroversial, several relationships within the family are still debated. Currently, five subfamilies, 18-19 genera, and 63-66 species are recognized. Previous studies were hampered by incomplete sampling or produced poorly supported phylogenies. The present study attempts to address these shortcomings and provide the first robust phylogenetic hypothesis for the family. We sequenced Ultraconserved Elements (UCEs) for 18 genera and 45 species, and produced preliminary phylogenetic hypotheses using maximum likelihood (ML) and coalescent methods. Our results support some previously suggested hypotheses, such as the inferred placement of *Agamia agami* as sister to the Bitterns (Botuariinae), Day Herons (Ardeinae) and Night-herons (Nycticoracinae).



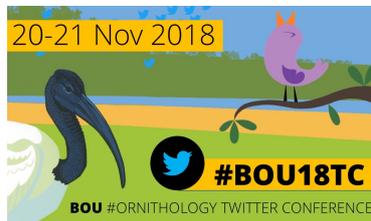
21 November, 0930 UTC

**Liz Humphreys** @KittiwakeGirl

British Trust for Ornithology, UK

### **Arctic Skuas - tracking the most rapidly declining seabird in the UK**

The UK Arctic Skua breeding population has shown a dramatic decline, notably on Shetland where losses of 86% have occurred over the last thirty years. GPS tags deployed on Fair Isle, where breeding success is very low, showed that Arctic Skuas were travelling up to 200km from the colony to search for food. Previously this species was characterised as a kleptoparasite, stealing from other seabirds returning to the colony and only foraging for themselves in inshore waters. We will contrast their foraging behaviour with tags deployed on Rousay, where breeding success is much higher and the population is relatively stable.



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20 November, 1440 UTC

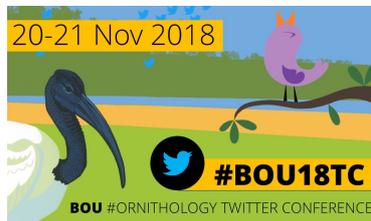
**Becky Ingham** @ hookpod

Hookpod, UK

### Trialling the Hookpod: a 'one-stop' mitigation solution for seabird bycatch in pelagic longline fisheries

Seabird bycatch in longline fisheries is one of the most pervasive sources of mortality. Uptake of mitigation has not been widespread. We present the results of 18 trials between 2011—2015 on-board pelagic longliners targeting tuna and swordfish using the Hookpod, encasing the point and barb of the hook, preventing seabirds becoming hooked during line-setting. We observed 59130 experimental branchlines over 129 sets and recorded a single mortality on the Hookpod branchlines compared to 24 on the control, a rate of 0.04 birds/1000 hooks and 0.8 birds/1000 hooks, respectively. No difference in catch rate of target species was detected. This demonstrates that Hookpods could help halt the decline of many seabird populations.

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### KEYNOTE

21 November, 0800 UTC

**Farah Ishtiaq** @India\_Alliance

WT/DBT India Alliance, India

### Why should we study malaria in birds?

Global climate change is shifting the range of hosts and parasites at varying spatial and temporal scales- exposing host populations to longer transmission period, and increasing the risk of disease transmission to individuals without adaptive immunity. Most ecological studies of host-pathogen system are focused on single pathogens infecting a single host species. There is a paucity of data on multiple host systems with multiple pathogens or of multiple species of pathogen that infect single hosts. In the context of malaria, birds provide an ideal model system from a "One Health" perspective, to understand pathogen ecology and disease dynamics and help better model the links between climate change and health. Climate change is exacerbating the threat posed by avian malaria (*Plasmodium* spp.) by extending the area of suitable habitat for malaria-transmitting mosquitoes [e.g. Hawaii] and causing declines in almost 7% of globally threatened bird species. Therefore, identifying mechanisms that can mediate the spread of the disease could be crucial for both human health as well as wildlife conservation.

The degree to which vertebrate and invertebrate hosts in Himalayan region and along an elevational gradient are exposed to avian blood parasites needs immediate attention. Here, I discuss the impact of climate-change on vector species which may undergo a geographic range shift and increasing the risk of exposure of naive avian hosts to novel parasites.

**Farah Ishtiaq** is a Wellcome Trust/DBT India Alliance Intermediate Fellow at the Centre for Ecological Sciences, Indian Institute of Science, Bangalore. Her research explores the ecology and evolution of vector-borne diseases — the role of migration, host immunity, vector genetics, and climate change on malaria transmission in high-altitude Himalayan birds.

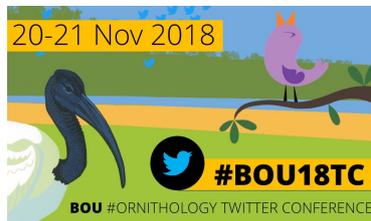


20 November, 1240 UTC

**Susanne Jähnig** @SusanneJaehnig

University of Turin, Italy

### Impacts of microclimate on the distribution of birds in an Alpine environment



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Species distribution models of mountain birds have usually used large scale temperature estimates. However, the topographic complexity of mountain areas could create microclimatic refuges which may influence species distributions. We found that models based on microclimatic data outperformed those using large-scale temperature data for grassland birds, but for ecotone species there was no difference. Contrary to previous findings, grassland birds were positively associated with warmer microclimates. These results suggest that microclimate plays an important role in the settlement decisions of grassland species, and that previous predictions about impacts of rising temperatures on Alpine birds may have to be re-assessed.



20 November, 1520 UTC

**Edward Jenkins** @pterodromas

University of Manitoba, Canada

### **The effect of superabundant prey on the dietary niche dynamics of three auks in Newfoundland**

Similar predators may respond differently to shifts in the availability of prey. An annual pulse of capelin (*Mallotus villosus*) on the Newfoundland coast allows for investigation into the influence of prey availability on the dietary niche of Atlantic puffins (*Fratercula arctica*), razorbills (*Alca torda*), and common guillemots (*Uria aalge*) using stable isotope analysis. While niche breadth contracted and trophic position increased for all species after capelin arrived, dietary proportions varied by species. Findings reiterate the importance of capelin for breeding seabirds and highlight potential changing species interactions and conservation concerns if capelin declines in the future.



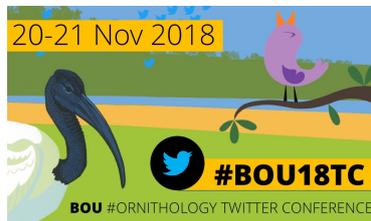
21 November, 0730 UTC

**Virat Jolli** @jollivirat

Biodiversity and Environmental Sustainability (BEST), India

### **Citizen Science: a tool for promoting conservation of Himalayan birds, India**

Citizen science project is initiated in Himalayas to generate baseline data for laying foundation for Himalayas bird monitoring program. Therefore, systematic bird count surveys are being carried out in Himalayan cities. The collected information will be used later to train youth in monitoring of birds of



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Himalayas, which can be used to assess the sustainability of Himalayan cities.

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### KEYNOTE

21 November, 0700 UTC

**Darryl Jones** @MagpiejonesD

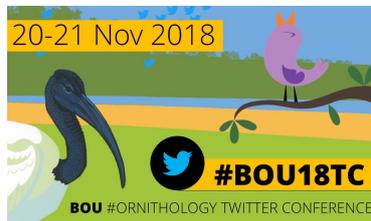
Griffith University, Australia

### Implications of anthropogenic foods in the urban environment

Every day throughout the western world, enormous amounts of food – mainly seeds – are intentionally placed out for local birds to consume. This is an extremely popular and enjoyable pastime, involving significant numbers of people over vast areas. The scale of the global bird feeding industry is astounding and continues to expand. While the human participants are particularly focused on their private gardens, all these supplementary foraging resources are having dramatic ecological and social consequences across vast landscapes. Despite the immense scale of this practice, until recently remarkably little research had actually been conducted in the suburban gardens where most of these activities occur. A new suite of clever studies and experiments is now being undertaken at the coal face: the feeders and bird tables of our towns and cities. This work is revealing many unexpected and sometimes alarming discoveries including the way that feeding is thoroughly reconstructing entire bird communities, providing terrifyingly effective conduits for disease to spread, and drastically altering patterns of migration. However, feeding also supports numerous declining species and improves survival over winter. But bird feeding is also affecting people as well, offering a profoundly important connection with nature with many positive implications for improved mental and physical wellbeing. There is a lot more to it than a handful of seed.

**Darryl Jones** is a professor of urban ecology at Griffith University in Australia. He has been investigating the many ways that people interact with nature – both positively and negatively – for over 30 years. This has involved studies of the impacts of urbanization on biodiversity as well as the reverse: the extremely successful invasion of urban areas by certain species. Most recently he has been interested in the many and complex dimensions of wild bird feeding which has been summarized in the book *The Birds At My Table* (Cornell, 2018).

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## #BOU18TC abstracts

Presenters are listed in alphabetic order based on their family name



21 November, 1130 UTC

**Lucy Magoolagan** @lucymagoolagan

Lancaster University, UK

### The effect of early life conditions on song traits in male Dippers (*Cinclus cinclus*)

The quality and quantity of song produced by adults may reflect the stress experienced during early life, known as the 'developmental stress hypothesis'. We tested this using song and life-history data from a population of wild dippers. Adult song complexity positively correlated with their body condition as nestlings. Nestling provisioning rate predicted song rate; males in poor condition or those raised in smaller broods which were fed more, sang at a higher rate in adulthood. These results support the developmental stress hypothesis and provide evidence from a wild bird of how the conditions experienced during early life impact adult song.



KEYNOTE

21 November, 0900 UTC

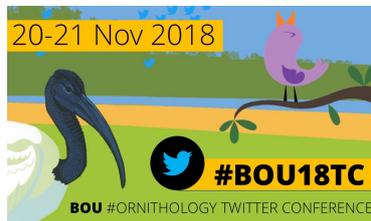
**Dominic McCafferty** @DomMcCafferty

University of Glasgow & IBIS, UK

### Thermal imaging in avian science

Recent advances in technology have now provided ornithologists the opportunity of using thermal imaging (infrared thermography) to study avian physiology, energetics, disease and welfare. Unlike conventional temperature sensors, which require physical contact, thermal imaging allows assessment of body surface temperature non-invasively, without the need to catch and handle birds. More than 30 species of birds, ranging in size from passerines to ratites, have been studied with this technology since it was first used in the 1960s. The aim of this presentation is firstly to outline several of our recent studies examining the ways in which surface temperature measurements can be used to model metabolic heat loss in free ranging birds and secondly, how thermal imaging can be used to detect peripheral hypothermia, as an indicator of acute stress responses in wild and captive birds. We will also discuss practical requirements of thermal cameras, the strengths and limitations of this technique, along with opportunities for new applications of this technology for future avian research.

**Dominic McCafferty** is a Senior Lecturer at the Institute of Biodiversity Animal Health & Comparative Medicine, University of Glasgow. His research investigates cold adaptation, behavioural thermoregulation and stress-related temperature responses of birds and mammals. Much of this work



## #BOU18TC abstracts

Presenters are listed in alphabetic order based on their family name

involves the application of thermal imaging as a non-invasive technique of measuring body temperature and modelling metabolic heat production. I coordinate the Thermal Ecology Group at the University of Glasgow, I am Editor in Chief of IBIS and an Editorial Board member for the *Journal of Thermal Biology*. I am co-organiser of the Symposium on Heat Exchange with the Environment at SEB in Seville 2-5 July 2019.

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20 November, 2000 UTC



**Henry McGhie** @oconned5

Manchester Museum, University of Manchester, UK

### How can museum collections support bird conservation effectively?

Museums contain millions of natural history specimens gathered over the last two centuries. What do researchers think these could be used for, and how could collections be developed to answer a range of conservation and environmental research questions effectively? A project is underway, funded by the British Ecological Society, to find out. This presentation will invite researchers and conservationists to get involved.

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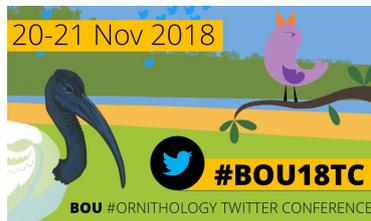
20 November, 1000 UTC

**Ravichandra Mondreti** @rav12319

National Centre for Sustainable Coastal Management (NCSCM), India

### Illegal egg harvesting and population decline in a key pelagic seabird colony of the eastern Indian Ocean

We carried out population counts of a nesting colony of terns (Sternidae); estimated the number of nests and eggs, and recorded egg predation loss, on Pitti Island, an official seabird sanctuary in Lakshadweep. We interviewed 800 respondents from Kavaratti Island in the Lakshadweep to evaluate their attitudes towards seabird conservation. Levels of natural predation on this species were low (<1%), whereas fishermen removed 14%-45% of the eggs. Approximately 72% of the 800 respondents interviewed on Kavaratti Island were either directly or indirectly involved in the harvest and local trade of seabird eggs. This key breeding site will likely be lost unless stringent conservation measures are implemented.



## #BOU18TC abstracts

Presenters are listed in alphabetic order based on their family name

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21 November, 1150 UTC

**Stuart Newson** @NewsonStuart  
British Trust for Ornithology, UK

### Calling in the dark: a unique conservation tool for monitoring nocturnal wildlife

Over recent years, I have been involved in developing automated acoustic identification routines in the UK for bats and bush-crickets. However, other species groups including birds and mammals could also be recorded concurrently. Here I present recent work to extend our classifier to nine species of nocturnal bird, which are poorly monitored through existing schemes: Tawny Owl, Little Owl, Barn Owl, Stone Curlew, Curlew, Woodcock, European Nightjar, Grasshopper Warbler and Nightingale. We do this by considering larger suite of potential confusion species, including other birds, mammals, amphibians, insects and anthropogenic and abiotic noise which may be recorded in the field.

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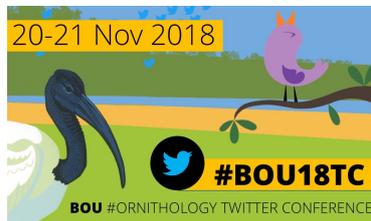
20 November, 1230 UTC

**Darren P. O'Connell** @oconned5  
Trinity College Dublin, Ireland

### New white-eye species in the understudied Wallacea region: congeneric island colonisers with very different origins

White-eyes (Zosteropidae) are known for their remarkable diversification and speed of evolution, particularly, on isolated islands. Here we present evidence of two new white-eye species from the Wakatobi Islands in the Wallacea region. The Lemon-bellied White-eyes (*Zosterops chloris*) on the Wakatobis are distinct from mainland populations in genetics, morphology, plumage and song. Even more remarkably we have found a completely novel white-eye species, found on only on 155km<sup>2</sup> Wangi-wangi Island, with its closest relatives over 3000km to the east in the Louisiade Archipelago (*Zosterops griseotinctus* and *Zosterops murphyi*). Our results demonstrate the uncharted biodiversity that remains in the Wallacea region.

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## #BOU18TC abstracts

Presenters are listed in alphabetic order based on their family name



20 November, 1430 UTC

**Nina O'Hanlon** @Nina\_OHanlon

Environmental Research Institute – UHI, UK

### Spatial variation in Herring Gull colony size

To investigate potential habitat drivers, associated with local food availability, of variation in Herring Gull colony sizes we compared the colony size of 68 Herring Gull colonies across southwest Scotland and Northern Ireland to relate to the availability of potential foraging habitats surrounding each colony. We found spatially clustered variation in changes of the size of Herring Gull colonies indicating that neighbouring colonies experienced similar environmental conditions. We also highlight the importance of intertidal and farmland habitats in buffering against declines. (Co-author: Ruedi Nager)



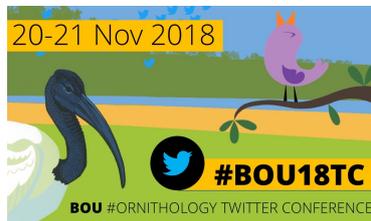
21 November, 1020 UTC

**Agnes Olin** @agnesbirgitta

University of Glasgow & University of Strathclyde, UK

### #WSTC5 – share your seabird research with millions of people

The first World Seabird Twitter Conference was held in 2015, and its reach and extent has since grown rapidly and it has been followed by other hugely successful Twitter conferences, such as #BOU17TC. These cost-free, low-carbon conferences have together hosted presentations by hundreds of people from all over the world, reaching millions of twitter users and enabling direct interaction with the public in a way that ordinary conferences can't. Next spring, the 5th World Seabird Twitter Conference #WSTC5 will take place and we hope all the amazing tweeters at #BOU18TC will join us!



## #BOU18TC abstracts

Presenters are listed in alphabetic order based on their family name



21 November, 1110 UTC

**Vicki Pattison-Willits** @BlueTitEcology

University of Birmingham, UK

### **Does city living buffer the effects of extreme weather on breeding in an urban-adapted bird?**

My research explores how the dual challenge of urbanization and extreme weather events affect breeding phenology and success in the Blue Tit (*Cyanistes caeruleus*). Six years of breeding data has been collected and analysed from a network of >300 nest-boxes positioned along an urban gradient in Birmingham, UK. I will share how breeding within the complex city-scape is affected by fine-scale changes in the amount and connectivity of green-space. I will then introduce how we are using modelling of high-resolution satellite and ground-based weather data to determine if the urban environment buffers or exacerbates the effects of extreme-weather during breeding.



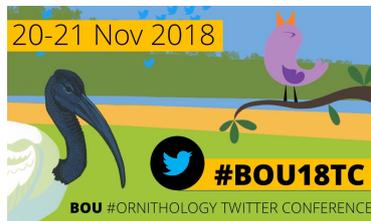
20 November, 1810 UTC

**Sasha Pekarsky** @SashaPekarsky

The Hebrew University of Jerusalem, Israel

### **Space use patterns of a herbivorous migrant in an intensively managed wintering and stopover site**

Intensified conflict between conservation and agriculture in many stopover and wintering sites led to implementation of multilayered management schemes. Individual-based approach is needed to investigate their consequences. We used movement data of migratory and wintering Eurasian Cranes in Israel, to show consistent difference between reactions of individuals to changes in management throughout the season. Migratory birds did not encounter more disturbances, but they selected more fat-rich food. Most wintering individuals decreased their daily activity area and reacted in a binary way to the implementation of diversionary feeding, while 17% of them consistently showed larger flight distances and used orchards instead.



## #BOU18TC abstracts

Presenters are listed in alphabetic order based on their family name



21 November, 1120 UTC

**Edgar Bernat Ponce** @edberpon

ICBiBE, University of Valencia, Spain

### New park policies, new House Sparrow problems

House Sparrows are experiencing severe declines in Europe. Several hypotheses have been suggested. Our aim was to detect if House Sparrow populations of parks that suffer modern changes (plastic grass, paving and dog areas) decline at higher rates than those of parks without alterations. The abundance of sparrows in 32 parks (4 locations) of the Valencian Community (Spain) was recorded by point counts in 4 summer seasons (2015-2018). Ten parks suffered changes during the study. Growth rates between seasons were calculated in both kinds of parks. Populations decreased at higher rates in modified parks. New urban policies are urgently needed.



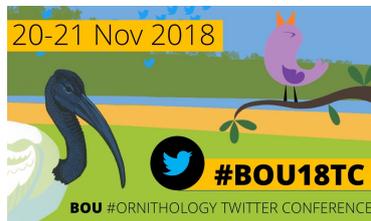
20 November, 1310 UTC

**Belgic Porras** @BelgicaPorras

Centro Tlaxcala de Biología de la Conducta, Mexico

### Sexual differences in parental care in Western Bluebirds (*Sialia mexicana*)

There are sex differences in the amount and type of parental care. In addition, there is variation in parental care, which could be explained by changes in brood demands, and sexes may respond differently to these demands. The distribution of parental care might also affect offspring fitness. Western bluebirds present a high proportion of extrapair offspring and a biased social environment, so sexual differences were expected. However, no differences had been found. We evaluated if there are sexual differences in parental care associated with brood demand, and if the distribution between the sexes is related to nestlings' body condition.



## #BOU18TC abstracts

Presenters are listed in alphabetic order based on their family name



20 November, 1650 UTC

**Henrietta Pringle** @HenPringle

British Trust for Ornithology, UK

### **Do gamebird releases affect the distribution and abundance of generalist predators?**

Every year, around 40 millions captive-bred Pheasants and Red-legged Partridges are released in Britain. Of those released, only some are shot, leaving a surplus that has steadily increased since the 1960s, potentially adding significantly to the food resource available to predators and scavengers. If this extra food availability subsidises predator populations, gamebird releases could increase predation pressure on other wild birds, affecting their populations. Using three national datasets, we examine the spatial relationships between reared and free-roaming gamebirds, and explore spatial and temporal associations between gamebirds and five species of avian predator in lowland rural Britain.



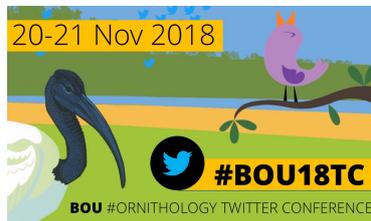
20 November, 1450 UTC

**Airam Rodríguez** @Airam\_Rguez

Estación Biológica de Doñana, EBD-CSIC, Spain

### **Seabird plastic ingestion differs among collection methods: Examples from the Short-tailed Shearwater**

Few seabird plastic ingestion studies have assessed how plastic loads vary with sampling methods. Most studies use necropsies of naturally dead seabirds, but seabirds killed accidentally may be more representative. We used the Short-tailed Shearwater to test different sampling methods: naturally beached fledglings and accidentally road-killed fledglings after being grounded by artificial lights. Beached birds showed higher plastic loads, poorer body condition and reduced isotopic variability, suggesting that they are not a representative subsample of the fledgling population. Our results might have implications for long-term monitoring programs of seabird plastic ingestion.



## #BOU18TC abstracts

Presenters are listed in alphabetic order based on their family name



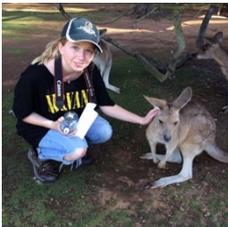
20 November, 1820 UTC

**Kate Rogerson** @oconned5

University of East Anglia, UK

### **Disentangling impacts of landfill sites and migratory strategy on the survival of a partially migratory bird using GPS transmitters**

Many migratory species have changed their migratory behaviour in recent decades and some previously wholly migratory species now have resident populations in their breeding locations. White Stork populations became partially migratory in Southern Europe, possibly facilitated by year-round utilisation of organic waste from landfill sites. Our analysis shows the survival of tracked adults (68) and juveniles (98) was lowest during the breeding season and autumn migration. Adult survival was negatively influenced by nest proximity to landfill sites and migratory distance. Landfill sites, which facilitated White Stork residency, are closing across Europe which will influence the survival rates of this species.



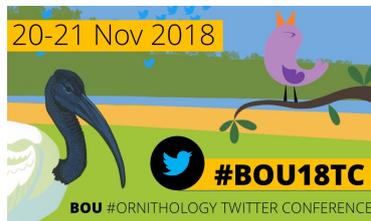
20 November, 1800 UTC

**Tereza Senfeldova** @penguin\_tereza

University of Aberdeen, UK

### **Taxonomic status of the extinct Canary Islands Oystercatcher *Haematopus meadewaldoi***

The Canary Islands Oystercatcher was a range-restricted species of uncertain taxonomic affinity that was last collected in 1913 and is considered to have gone extinct shortly after. We isolated and sequenced fragments of three mitochondrial genes from two museum specimens of *H. meadewaldoi*. These sequences were aligned with all available oystercatcher sequences. At these loci, *H. meadewaldoi* was nearly identical to Eurasian Oystercatcher *H. ostralegus* samples from Europe and fell within the range of genetic variation observed in that species. We conclude that *H. meadewaldoi* can be considered a recently diverged melanistic morph or subspecies of *H. ostralegus*.



## #BOU18TC abstracts

Presenters are listed in alphabetic order based on their family name



20 November, 1640 UTC

**Jennifer Smart** @ drredshank  
RSPB Centre for Conservation Science, UK

### **Managing a conservation conflict – diversionary feeding to reduce raptor predation at seabird colonies**

What can you do when predator and prey are protected species of conservation concern but the predatory impact of one on the other is significant? Until now solutions were limited but our new study shows that diversionary feeding could be the answer to managing an increasing number of these conservation conflicts. In our study, Kestrels were preying on chicks at an internationally important Little Tern colony. We used long-term annual monitoring over 17 years combined with 4-years of more intensive monitoring where diversionary food was provided in some years to test whether diversionary feeding reduced Kestrel predation and increased Little Tern productivity.

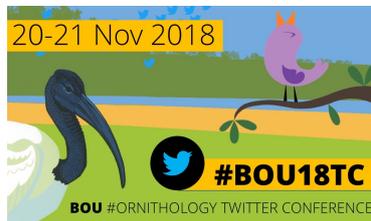


20 November, 1700 UTC

**Jennifer Smart** @ drredshank  
RSPB Centre for Conservation Science, UK

### **Who's eating who? A review of predation as a limiting factor for birds**

The impact of predation is a widely debated and contentious subject which has resulted in many high quality studies over the last few decades. Here we present results from a systematic review of 81 studies including 90 species and 908 cases where the effect of one or more predator species on a prey species had been measured. We examine predator trends and abundance and assess whether predation limits the population sizes of UK birds. We also identify the life history traits that are important predictors of whether a species is more likely to be limited by predation and the predator species that are most commonly associated with limiting their prey.



## #BOU18TC abstracts

Presenters are listed in alphabetic order based on their family name



21 November, 1140 UTC

**Jez Smith** @PiedflyWales

Cardiff University, UK

### **Integral Projection Models using Pied flycatchers: What will happen to migratory woodland birds?**

Predictions of population level change of birds can now be achieved using Integral Projection Models provided that 3 traits can be measured (adult survival, laying date & reproductive output). Using a long-term dataset on Pied Flycatchers from south Wales I assess their decline and potential future local extinction using an IPM. Generalised Linear Models are used see how laying date influences each trait i.e. do earlier laying birds have a higher survival probability.

These models allow us to see which stressors are having most influence on the population and what management strategies can be adopted to most effectively counteract them.



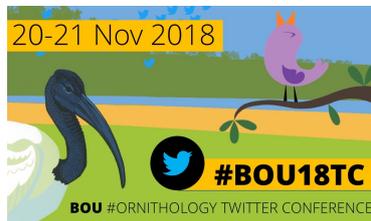
20 November, 1420 UTC

**Anouk Spelt** @AnoukSpelt

University of Bristol, UK

### **Habitat use of an urban-nesting seabird**

Urbanisation negatively affects animal populations, however can also be advantageous for some species. The number of large gulls has been increasing in the UK as they use the urban environment for breeding. Currently, there is a lack of information on how these gulls utilise their surroundings. By combining high resolution GPS units with behavioural and habitat data we found that these gulls avoid the marine environment spending on average 70% of their time away from the nest in urban areas. This suggests that the urban environment provides the majority of the resources required over the breeding season.



## #BOU18TC abstracts

Presenters are listed in alphabetic order based on their family name

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21 November, 0950 UTC

**Anouk Spelt** @AnoukSpelt  
University of Bristol, UK

### Human-gull interaction in urban feeding grounds

Since the last century gulls are increasingly breeding in cities which results in more conflicts between humans and these so-called urban gulls. GPS data has showed that in Bristol, UK, urban gulls use urban feeding grounds at different times of the day. To assess if these temporal patterns were related to human-linked food availability, we monitored human activity, food availability and gull presence at three different feeding grounds in Bristol; school, park and waste centre. All three feeding grounds showed a similar temporal pattern in gull abundance as the GPS data and this pattern was also related to human food availability.



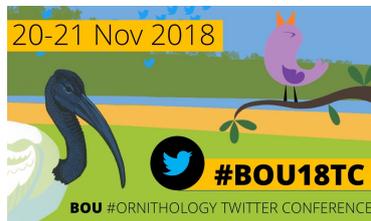
KEYNOTE

20 November, 1930 UTC

**Paul Sweet** @pablo\_dulce  
American Museum of Natural History, US

### The role of museum collections in modern day ornithology

Bird collections provide the foundation of ornithological knowledge. Avian taxonomy and nomenclature are underpinned by the type specimens housed in museums. Species distributions and movements are extracted from specimens properly labeled with locality and dates. The fields of anatomy, molt, developmental and reproductive biology among others, are almost wholly based on the skin, skeleton, spirit, egg and nest specimens archived in museums. In recent decades the development of new techniques in molecular biology, imaging, 3D scanning, spectrophotometry and chemical analysis, coupled with ever more powerful computer processing, has greatly increased the value of extant collections in ways that the original collectors could never have imagined. Progress in databasing has made it possible to quickly provide specimen data to researchers via the internet and many natural history museums have digitized their specimen data. Several initiatives have developed powerful tools for capturing biodiversity data from multiple institutions, notably the distributed database Vertnet. Efforts to retrospectively georeference locality data from collections, combined with geographic



## #BOU18TC abstracts

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information systems have led to the development of species distribution modelling. Modern museum ornithology is thriving, and yet more information will be gained from collections as new techniques are developed. However, these innovations have also shown that significant gaps exist in the specimen record, particularly for genetic and anatomical specimens. There is a need for continued collecting and investment in curation if museum collections are to remain relevant.

**Paul Sweet** was born in Bristol, England and has been interested in birds for as long as he can remember. After completing a degree in Zoology at the University of Liverpool, he traveled extensively in the Americas and Asia for several years before working in the Raffles Collection in Singapore. In 1991 he moved to New York to work at the American Museum of Natural History where he is now the Collection Manager of the Ornithology Department, the largest bird collection in the world. During his tenure at the AMNH, he has participated in many museum collecting expeditions, most recently to Benin, Cuba, The Solomon Islands and Papua New Guinea.



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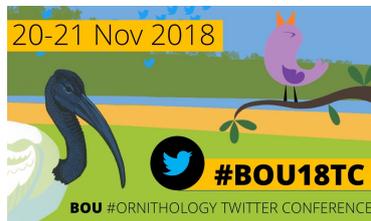
21 November, 0940 UTC

**Martyna Syposz** @martyna\_syposz  
University of Oxford, UK

### Factors influencing Manx Shearwater grounding on the west coast of Scotland

Grounding of newly fledged shearwaters in built-up areas due to artificial light is a global problem. Our recent IBIS paper investigated a combination of several factors that may influence the number of Manx Shearwater groundings. A model was developed that used meteorological variables and moon cycle to predict the daily quantity of birds that were recovered on the ground. The model revealed how new moon and strong onshore winds influence grounding. The analysis can improve rescue campaigns.

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## #BOU18TC abstracts

Presenters are listed in alphabetic order based on their family name



20 November, 2020 UTC

**Oldrich Tomasek** @OldrichTomasek

Institute of Vertebrate Biology, Czech Academy of Sciences, Czech Republic

### **Fuel for the pace of life: blood glucose concentration coevolves with life-history traits in songbirds**

We tested whether basal concentration of blood glucose (G<sub>0</sub>), a major blood-borne energy source, coevolves with life-history traits, hence constituting a component of pace-of-life syndromes. In support of our hypothesis, we found G<sub>0</sub> to be negatively correlated with body mass, clutch size and clutch/egg mass across 30 songbird species. These links were not mediated through basal metabolic rate (BMR) as G<sub>0</sub> and BMR were not correlated. Interestingly, G<sub>0</sub> was more tightly correlated with fecundity than BMR. In contrast, G<sub>0</sub> was not correlated with maximum lifespan, suggesting that long-lived species can evolve physiological adaptations preventing ageing-accelerating effects of high glucose concentrations.



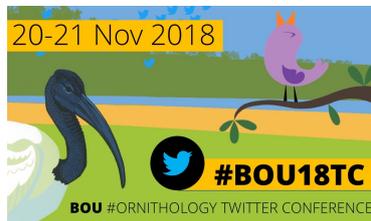
20 November, 1750 UTC

**Charles van Rees** @GuloThoughts

Fulbright, Spain, Estacion Biologica de Donana, Spain / Tufts University, US

### **Using Multiple Sources of Evidence to Investigate Density-Dependent Population Dynamics in Endangered Hawaiian Stilts**

Hawaiian Stilts (*Himantopus mexicanus knudsenii*) are an endangered subspecies of the Black-necked Stilt endemic to the Hawaiian Islands. Although considerable effort has been put into monitoring this taxon across time, the main drivers of their population dynamics are poorly understood. We used time series data of statewide abundance and reproductive success to test for evidence of density-dependent population dynamics in Hawaiian Stilts. Across several frequentist and Bayesian methodological approaches, density-dependent models best fit observed population dynamics, and we found a strong negative correlation between local density and nest success at a major breeding.



## #BOU18TC abstracts

Presenters are listed in alphabetic order based on their family name



21 November, 1010 UTC

**Stephanie Winnard** @stephanina85

Albatross Task Force, UK

### Using satellite technology as a tool to monitor albatross conservation

Albatrosses are one of the most threatened groups of birds in the world, with 15 of 22 species currently threatened with extinction. Pelagic longline fishing poses one of the greatest threats to seabirds where they are caught incidentally as bycatch.

Seabird mitigation measures use is a requirement for all pelagic longline vessels operating in areas overlapping with albatross. Monitoring the implementation of these measures is difficult due to low levels of observer coverage and the remote environment operations are conducted. Recent advances in technology provide opportunities for improved compliance monitoring at minimal cost.

RSPB collaborated with Global Fishing Watch to attempt the first ever analysis using AIS data from fishing vessels to assess compliance with regulations requiring vessels to set fishing lines only at night. We assessed more than ~61,000 fishing sets by over 300 vessels for night setting compliance using a convolutional neural network.

Results indicate that in areas where seabird mitigation measures are required a maximum of ~15% of sets have less than two hours overlap with daylight, and the percentage of sets fully compliant with night setting could be much lower, perhaps <5%.