



## Bergstrom Award Recipient Studies the Ecology of Patagonia's Migratory Birds

By Victor R. Cueto

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E. Alexander Bergstrom (1919–1973) was Vice-President of the Northeastern Bird-Banding Association (now the Association of Field Ornithologists) and the Editor of Bird-Banding (now the *Journal of Field Ornithology*) for 21 years. The E. Alexander Bergstrom Memorial Research Awards honor his memory and dedication to bird research. The purpose of the award is to promote field studies of birds by helping to support a specific research or analysis project. Every year, the AFO awards five awards to applicants based in North America, and five to applicants based in Latin America. In 2015, Cristian Andrés Gorosito was a Latin American recipient of a Bergstrom Memorial Research Award. The award was given to study determinants of reproductive success of White-crested Elaenia (*Elaenia chilensis albiceps*) in the Andean forests of Patagonia.

### The Ecology of Patagonia's Migratory Birds

Although numerous birds breed, migrate and overwinter wholly within South America, our understanding of this austral migration system has been basic at most. Yet, research on this system has made significant strides over recent years, in part due to support from the AFO. In 2015, Cristian Gorosito was awarded a Bergstrom Award to support his research on the ecology of Patagonia's migratory birds. Along with Cristian Gorosito, our research

group, based in Esquel, Argentina, has been studying the migration, demographic rates, reproductive biology, diet and functional role in Patagonian forests of the White-crested Elaenia (Fig. 1). This small flycatcher breeds during the austral summer along a narrow strip of Patagonian forests running north-south along the Andes mountains, between 36° S and 55° S (Figs. 2 and 3), then spends the winter at tropical latitudes in South America.

Over the last decade, our research has focused on elaenia populations at Lake Steffen, Nahuel Huapi National Park, Province of Río Negro, Argentina, and at Cañadón Florido, a ranch near the city of Esquel in the Province of Chubut, Argentina (Fig. 3). The primary habitat at these sites is mixed forests of Coihue (*Nothofagus dombeyi*) and Chilean Cedar (*Austrocedrus chilensis*) at the Lake Steffen site, and forests dominated by Maitén (*Maytenus boaria*) at the Cañadón Florido site. Elaenias at both of these sites are banded and their nests monitored.

At the Cañadón Florido site, we're primarily studying the reproductive biology of elaenias, evaluating their reproductive success as a function of annual food resource availability, the parental care of nestlings (monitored with the use of video cameras), nestling growth rates, the selection of nesting sites at different spatial scales, and extra-pair copulation rates. It is remarkable that, although elaenias are



Fig. 1. White-crested Elaenia (*Elaenia albiceps chilensis*) perched on a Calafate shrub (*Berberis buxifolia*) at the Cañadón Florido study site, near the city of Esquel (Province of Chubut, Argentina).

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the most abundant species in the Patagonian forests (with average densities greater than 8 individuals/ha), basic aspects of their ecology are poorly understood.

Relevant discoveries we have made about the biology of elaenias include the finding that the body size of elaenias does not vary significantly with latitude throughout their breeding range. However, we have found a way to distinguish males from females in the hand (elaenias are not obviously sexually dimorphic) using a combination of wing and tail length. Additionally, our data indicate that males arrive at the breeding area before females (as has been found in numerous birds breeding at north-temperate latitudes) and have greater fidelity to the breeding site than females. In addition, males leave for wintering areas before females and juveniles. We also found that clutch size decreases as the breeding season progresses, and that some juveniles return the next breeding season.

In terms of foraging behavior, we have discovered that where elaenias choose to feed is strongly affected by the abundance of ripe fruit, such that elaenias do not use areas of the forest understory during years with low fruit production at those sites. This relationship with the fruit is also reflected in the elaenia's functional role in the ecosystem. While the Andean-Patagonian forests have many species of shrubs and trees that produce fleshy fruits,

there are only a few species of birds and mammals that disperse the seeds in these forests. We have found that elaenias serve as the main disperser of several plant species, and that they play a key role in the dynamics of forest regeneration in Patagonia.

What do elaenias do outside of the breeding season? Using light-level geolocators, we are studying their fall and spring migration routes, and the location of their wintering areas. We have recently recovered 15 of 45 geolocators deployed on elaenias, and are currently analyzing data. Preliminary results suggest that elaenias overwinter in northeastern Brazil, over 5000 km from the Patagonian forests where they spend the summer.

Although we are making significant strides in understanding the ecology and behavior of elaenias in Andean-Patagonian forests, we still have much to learn about the complete annual cycle of these fascinating birds. The challenge now is to study the ecology of elaenias during migration and winter, including their potential role as disease vectors, which will require strong international research partnerships with ornithologists from different South American countries.

The fact that these small travelers are annually crossing the continent, linking various

Fig. 2. A White-crested Elaenia in Patagonian forest next to the "Perito Moreno" glacier at Los Glaciares National Park (Province of Santa Cruz, Argentina).

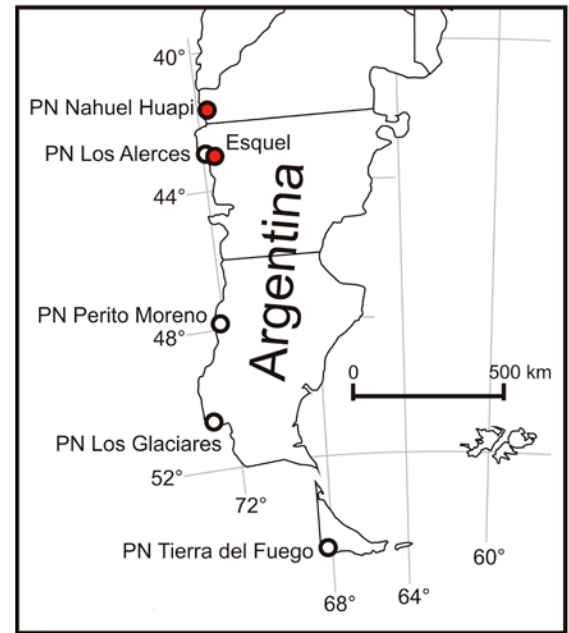
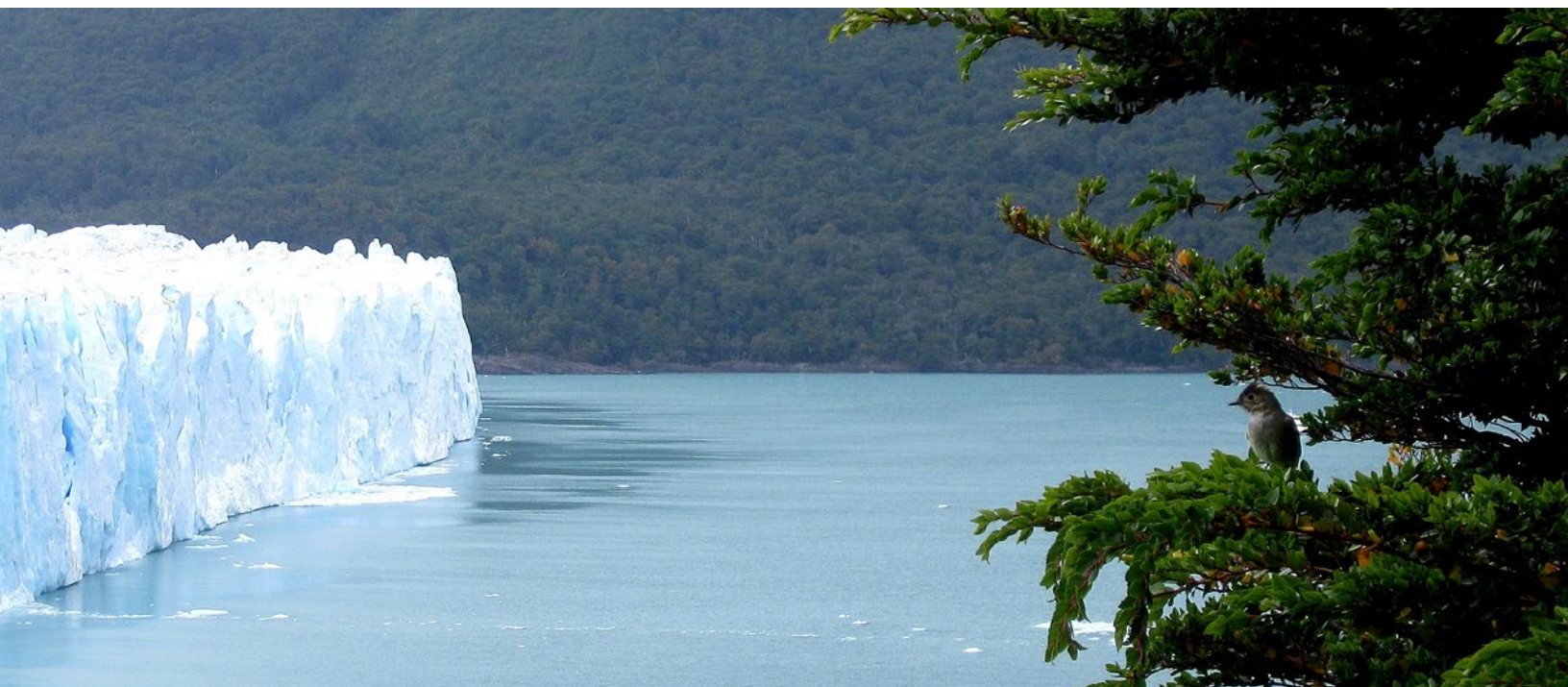


Fig. 3. Study sites where our group studies White-crested Elaenia ecology. Red points indicate sites where we conduct long term studies.

ecosystems and inhabiting different countries demonstrates just how interconnected South America's ecosystems are, and that they require international cooperation for research, protection and management. International research collaborations, such as the Aves Internacionales Network, of which our group is a part, are rare in South America, but imperative to understand the annual cycle of migratory birds such as the White-crested Elaenia.

This research would not be possible without funding from CONICET-Argentina, the Universidad de Buenos Aires, Idea Wild Foundation, the National Geographic Society and the AFO, to which we are very grateful.

Susana P. Bravo







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## AFO at the NAOC VI

By Jen Smith

This year, our annual meeting will occur from the 16th to the 20th August in Washington DC as part of the NAOC VI and is expected to be the largest ever ornithological meeting in North America with an estimated 2000 ornithological professionals, amateurs, and students. At the conference, we will be holding our annual executive committee meeting, council meeting, and business meeting. We will also have a booth manned throughout the conference by AFO council members – please drop by to find out more about the AFO! Most notably, we will be promoting our next annual meeting which will be held jointly with Aves Argentinas and the Brazilian Ornithological Society (Sociedade Brasileira de Ornitologia) at Iguazu Falls on the border between Argentina and Brazil in 2017. This promises to be fantastic meeting and we encourage you to visit our booth at the NAOC VI to find out more about it!

We also encourage attendees of the NAOC VI to use social media to enhance

their conference experience. For example, we suggest using Twitter to engage and communicate with other attendees, as well as those unable to attend, about the conference using the conference specific hashtag (#NAOC2016). By 'live-tweeting' throughout the conference, attendees can provide real-time updates about sessions, social events, promote presentations, and share information about presentations. Note: please adhere to any conference policies regarding live-tweeting and refer to the last edition of *AFO Afield* for tips on how to live-tweet at conferences!

We are also excited to announce that we will be running Twitter-based competitions throughout the conference! We will run a single competition each day of the conference and will announce each competition before the start of the day's events. Ideas for competitions are still being discussed, but could include 'fastest-answer to an ornithology-based question', 'best-photo', or 'most number of tweets in a given day'. Please make sure to include the conference specific hashtag (#NAOC2016) in all competition entries and direct them to us using the handle '@FieldOrnith'. Winners will receive a stylish AFO baseball cap to wear



*AFO Vice President, Paul Rodewald modelling an AFO baseball cap.*

with pride for the rest of the conference (as modelled in the photo by AFO Vice President, Paul Rodewald).

# Pamela L. and Alexander F. Skutch Research Award: Interviews with Past Recipients

By Jen Smith and Elissa Landre

Early in his career, Dr. Skutch received a grant from the Chapman Fund of the American Museum of Natural History to study Resplendent Quetzals in Costa Rica. Thereafter, Dr. Skutch and his wife, Pamela remained in Costa Rica, living in a house they built, farmed the land for their food, and studied the birds that lived on their farm. Dr. Alexander F. Skutch passed away peacefully at his home in Costa Rica in 2004. He left a legacy of having authored over 40 books and hundreds of scientific articles.

In 1998, the Association of Field Ornithologists established the Alexander F. Skutch Medal in his honor, to reward excellence in ornithology. The first medal was presented to Dr. F. Gary Stiles at the AFO meeting in San Jose, Costa Rica. Dr. Skutch subsequently decided to endow a fund for the AFO to help fund a research award. The Pamela and Alexander F. Skutch Fund of the AFO was established to provide grants that support life history studies of little known neotropical birds, especially their reproductive biology and behavior. Dr. Skutch wanted to encourage research using careful observation with minimal disturbance to the birds, the type of study for which very little money is currently available, especially in Latin America. His intention in establishing the Skutch Fund was to support the kind of research to which he devoted his life, and especially, to encourage studies by people who live in the Neotropics.

The Fund established provides up to \$10,000 annually and, to date, has awarded more than \$130,000 to 14 ornithologists. Dr. Skutch's

legacy has allowed studies of neotropical birds across much of Latin America, and has been used to investigate a wide range of research questions. Here, we highlight some of the important research funded through the Skutch Award from three former recipients: Sandra Victoria Rojas Nossa (2003), Ursula Valdez (2006), and Gustavo Londoño (2010).

## 2003: Sandra Victoria Rojas Nossa, Universidad Nacional de Colombia

'The ecology of a community of Andean Flowerpiercers (*Diglossa* and *Diglossopsis*)'

### Tell us about your research funded by the Skutch Award

In the Andes, a group of tanagers known as flowerpiercers (Thraupidae: *Diglossa*) use sophisticated tools and behaviors to extract nectar from flowers; they use their hooked maxillae and sharp mandible to perforate the flower's corolla and insert their tongue repeatedly until the flower is depleted. This behavior is known as nectar robbing. In some areas of the northern Andes several species of *Diglossa* coexist. Here, nectar is limited and competition for nectar among species could be shaping the structure and composition of avian communities and life histories of sympatric flowerpiercers. My research addressed two main questions: 1) Are there mechanisms that allow the coexistence of several flowerpiercer species in the Andean forests? and, 2) What kind of interactions do flowerpiercers sustain with nectarivorous plants?

### What were the major findings of your research?

I found five *Diglossa* species coexisting in the High-Andean forest. Coexistence of Andean flowerpiercers is allowed by variation in several traits between species related to body size and bill morphology, differences in population abundances, social behavior, asynchrony in the use of habitats, and in the timing of molting and reproduction. I also found that the morphology of the maxillary hook, the position of the flower and the length of the corolla were the most important characteristics determining the strategy of nectar extraction used by birds. Finally, I found that flowerpiercers regularly transport pollen between plants. Therefore, contrary to the belief that they are parasitic, my research revealed that these birds are important pollinators of plants in High-Andean ecosystems.

### What impact has your research had to date?

Until now, some of the most important direct outputs of my research include my MSc (2005) and PhD theses (2015). I have also published three peer-reviewed papers and presented my research at three conferences. My research has also been used by the local authorities and residents to design management and conservation plans for the highly threatened Andean ecosystems.

### What is your current job and where are you based?

I'm currently engaged as a Postdoctoral Researcher at the University of Vigo, Galician Association of Beekeepers (Spain), the Alien

## Message from the President

The last several years had been a period of turmoil among North America's ornithological societies. We once contemplated uniting as a single Society for Ornithology, but AFO and other smaller societies decided to remain distinct, helping us to redefine our niches, rethink our business models, and elaborate the services we provide our members. In August 2017, we will co-host our annual meeting with Aves Argentina and the Sociedade Brasileira de Ornitologia at Iguazu Falls NP in Argentina. We are re-emphasizing our Latin American connects by expanding our Bergstrom Awards and funding banding training for LA ornithologists through the North American Banding Council. Soon we hope to have a new business model, that we can elaborate on after the Council meeting at the NAOC, that should increase our annual income and ability to increase member services, reduce our dependence on dues, and increase our endowment, all of which can help us retain and recruit members. The AFO has a deep history and we are well situated for a long and bright future. I thank all the hard-working folks, Officers, Councilors, Committee Chairs, the staff at our business partners Biodiversity Research Institute, and the many members that serve AFO every day for their support and contributions of time and effort during my two-years as your President. I hope to summarize the results of our coming Council meeting soon after we know the results.

Reed Bowman, AFO President

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# Skutch Research Award: Interviews with Past Recipients

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Species Network and the COLOSS Honey Bee Research Association (international). I study the mechanisms driving the invasion of Asian hornets (*Vespa velutina*) in Europe and the economic and ecological impact. I'm also developing management strategies to minimize costs of Asian hornets in invaded areas.

## Tell us about one of your most memorable ornithological fieldwork moments?

My favorite group of birds are hummingbirds. One of the most memorable hummingbird encounters was the first time I observed *Patagona gigas*, the giant flying jewel of South America, submerged in a totally delightful atmosphere in the coast of Chile.

## 2006: Ursula Valdez, Peru

'Ecology of Forest-Falcons (*Micrastur*) in Amazonian rainforest of southeast Peru'



Ursula Valdez

## Tell us about your research funded by the Skutch Award

The Skutch Award contributed to my PhD field research (I graduated from the University of Washington in 2010). I studied the natural history and habitat use of five species of Forest-Falcons (*Micrastur*) in southeast Peruvian Amazonia; Collared Forest-Falcon (*M. semitorquatus*), Barred Forest-Falcon (*M. ruficollis*), Lined Forest-Falcon (*M. gilvicollis*), Buckley's Forest-Falcon (*M. buckleyi*), and Slaty-backed Forest-Falcon (*M. mirandollei*).

## What were the major findings of your research?

I confirmed that the five species occur in the Los Amigos River Basin region. The most abundant species were Barred and Lined Forest-Falcons, followed by Collared Forest-Falcons; Buckley's and Slaty-backed Forest-Falcons were much less numerous. Barred Forest-Falcons made use of terrace-forests more frequently than expected and Lined Forest-Falcons spent more time in palm swamps than expected. Slaty-backed Forest-Falcons were exclusively found in terrace forest and in areas with less human disturbance, while Buckley's Forest-Falcons were mostly found near river shores and in highly disturbed areas. I also found that Forest-Falcon reproduction in the region peaked during the rainy season and that Buckley's Forest-Falcon is a small mammal specialist.

## What impact has your research had to date?

My research increased our knowledge of the natural history, ecology, and habitat use of Forest-Falcons. It also provided new information about the sensitivity/tolerance of Forest-Falcons to habitat disturbance. I have presented my research at multiple ornithology conferences (Argentina, Venezuela, Peru), and given talks at many organizations, schools, universities, and field stations in Peru, the USA, and Panama. I am in the process of preparing papers for publication and am planning to complete accounts for each of the species for Neotropical Birds, an online resource supported by the Cornell Lab of Ornithology. I also continue to train students in field techniques to study tropical raptors in the region.

## What is your current job and where are you based?

I am Faculty at the University of Washington-Bothell and teach courses on natural history, ecology and conservation. I also go to Peru twice a year to teach bird-research, ecology and conservation field courses for Peruvian and American students (study abroad program), and teachers. I have also founded a conservation center that conducts bird research, conservation and promotes sustainability in Madre de Dios, Peru.

## Tell us about one of your most memorable ornithological fieldwork moments?

There are many, but this is one of my favorites: I was working in the northwest dry-forest (El Angolo game reserve) studying the feeding ecology of Laughing Falcons and Northern Caracaras. One day I was quietly following a Laughing Falcon and was trying to be sneaky so that I wouldn't disturb the bird. I was hiding in some bushes and suddenly the bird stooped down towards the bush where I was. I heard flaps by the ground but could not see. A few seconds later the bird was perched just a couple of meters away from me at about a meter from the ground. I managed to move slowly to see what was going on and my heart stopped when I realized it had captured a snake...just right by me! It dropped the head somewhere and started eating part of the snake, but then it saw me and flew away. I will never forget that!

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# Skutch Research Award: Interviews with Past Recipients

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## 2010: Gustavo Londoño

'How does avian nesting behavior change along an Andean altitudinal gradient?'

### Tell us about your research funded by the Skutch Award

Between 2008 and 2014 a team of 294 international volunteers from 20 countries searched for bird nests at four field stations located at different elevations (300, 900, 1400 and 3000 m) in the Manu National Park, Cusco, Peru. During this time, we monitored ~ 4000 nests from 265 species, and encountered the first nests for more than ~100 species.

### What were the major findings of your research?

In addition to the significant increase in information about tropical forest bird nesting, I discovered that nest predation decreases with elevation, but not in a linear way as previously suggested. I also found that snakes are one of the main nest predators in the lowlands and that nesting birds have a slower pace of life at higher elevations. We also found evidence that some nestlings mimic poison caterpillars see: Londoño, G.A., D. A. García, & M. A. Sánchez Martínez. 2015. Morphological and behavioral evidence of Batesian mimicry in nestlings of a lowland Amazonian bird. *American Naturalist* 185:135–141.

### What impact has your research had to date?

The research has resulted in 29 publications, of which 24 were completed with undergraduate field volunteers. In addition, the project produced a nest and egg field guide available for free at [fieldguides.fieldmuseum.org/guides/guide/514](http://fieldguides.fieldmuseum.org/guides/guide/514). My research also provided research experience for 294 field assistants, of which more than 35 are now enrolled in an MSc or PhD program.

### What is your current job and where are you based?

I am currently an Assistant Professor at Icesi University in Cali-Colombia. Currently I am expanding on my PhD research to understand the physiological and life history mechanisms that limit altitudinal



Gustavo Londoño

distribution of tropical birds. I am also planning on expanding my research to other taxonomical groups (e.g., lizard, bats, insects).

### Tell us about one of your most memorable ornithological fieldwork moments?

There are so many that it is hard to pick one! Overall, the ability to conduct such a large field-based project in a remote place without electricity and running water for so many years, and involving so many volunteers with a limited budget is the most memorable for me. However, the most gratifying moment has been all of the new and interesting nesting information that we have collected—I think Alexander Skutch would have been proud of all of the nesting information that we have, and will generate in the future.

## Council Update

During the 2015 AFO annual meeting held jointly with the Wilson Ornithological Society and Society of Canadian Ornithologists at Acadia University in Wolfville, Nova Scotia three ornithologists were elected following nomination to serve on the AFO Governing Council. The AFO's Governing Council consists of both amateur and professional ornithologists, in recognition of the contributions that both make to ornithology. Jill Jankowski, Matthew Reudink, and Jennifer Smith were elected and join Scott Stoleson and Christine Stracey Richard to complete the AFO Governing Council Class of 2018.

### Dr Jill Jankowski

Jill is an Assistant Professor in the Department of Zoology and Biodiversity Research Centre at the University of British Columbia (UBC), Vancouver, Canada. Jill's research program examines spatial patterns of avian diversity and the ecological factors that shape species distributions in heterogeneous landscapes. This approach integrates descriptive patterns with tests of underlying mechanisms using experiments, behavioral observations, and modeling techniques. The venue for this research is currently within Neotropical mountain ranges of South and Central America. Jill's graduate

students conduct research on related themes, but typically develop their own systems within the umbrella of her program. Additionally, undergraduate students and volunteers from diverse global counterparts, many from Latin America, participate directly in field data collection and projects, and are assisted in developing independent projects, presenting work at conferences and publishing in the primary literature. Jill also teaches undergraduate courses at UBC in ecology and biogeography annually, and runs a field course in tropical ecology and conservation every four to five years.

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# Council Update

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## Dr Matthew Reudink

Matt is an Associate Professor at Thompson Rivers University (TRU) in Kamloops, British Columbia, Canada and began there in 2010. He studies sexual selection, evolution, and behavior in birds, with an emphasis on the annual cycle of migratory birds. Matt received his B.Sc. (2001) from Willamette University and MSc (2004) from Villanova University. His PhD (2008) work at Queen's University and the Smithsonian Institution focused primarily on understanding the consequences of winter carry-over effects on sexual selection and the evolution of ornamental plumage coloration. At TRU, Matt and his students study the migration ecology and evolution of Bullock's Orioles and Mountain Bluebirds, movement, behavior, and the effects of urbanization on Mountain Chickadees and other winter residents, as well as the conservation biology of Vaux's Swifts and other aerial insectivores. Matt teaches Evolution, Conservation Biology, Terrestrial Vertebrate Zoology, Animal Behavior, and Communicating Biology, with an emphasis on field experiences for undergraduates. He maintains an active research lab primarily driven by undergraduate researchers (TRU is a primarily undergraduate institution with a small M.Sc. program).



## Dr Jennifer Smith

Jen is a Research Scientist in the Department of Biological Sciences at Virginia Tech and started her position in Spring, 2015. Broadly, her research focuses on the effects of landscape management decisions on species of conservation concern, typically birds. Specifically, she is interested in the mechanisms that drive changes in spatial ecology, breeding performance, and survival that may manifest through changes in predation risk, habitat, food availability, or through other anthropogenic disturbances. Ultimately, Jen's aim is to conduct research that can be used to inform land management decisions that promote biodiversity while considering the needs and values of land owners. Jen received her B.Sc. in Zoology (2005) from Cardiff University, Wales, UK and Ph.D. (2011) from The University of Birmingham, UK where she studied the effects of supplementary feeding on the reproductive behavior of Blue and Great Tits. More recently, Jen's research has focused on the effects of land conversion on Crested Caracaras in south-central Florida (Virginia Tech) and the effects of wind energy development on Greater Prairie-Chickens (University of Nebraska-Lincoln). Her current research (Virginia Tech) focuses on habitat selection of Red-cockaded Woodpeckers (RCW) in northeastern North Carolina, and on the effects of incentive based conservation programs on RCW demographics. Jen is currently the editor of the AFO's newsletter, *AFO Afield*.



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## AFO Afield

August 2016

Volume 20 • Number 2

[www.afonet.org](http://www.afonet.org)

### Editor

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### Design

ANNE MARIE JOHNSON

### Masthead Illustration

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