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Sandhill Cranes (*Grus canadensis*) and Snow Geese (*Anser caerulescens*). // Grues du Canada et Oies des neiges. Photo: Brigette Noel.

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Editors' Message

Rob Warnock and Barbara Bleho

Welcome to the final issue of *Picoides* in 2022. We hope everyone had having a good autumn and are continuing to be safe during the pandemic. In Nicola Koper's latest President's Report, she discusses the great success of the SCO-SOC virtual conference in September and the new Society initiatives on equity, diversity and inclusivity and their many positive impacts to date. She also thanks many folks who have helped organize the SCO-SOC conference and the equity, diversity and inclusivity initiatives. Her report is on page 2. We thank Nicola for her outstanding service and welcome Matt Reudink as SCO-SOC President and the new members of SCO-Council. We also thank all SCO-SOC members who have volunteered this year.

Please nominate worthy candidates for the 2022-23 Early Career Researcher Award, the Doris Huestis Spiers Award and the Jamie Smith Memorial Award for Mentoring. Nomination details and deadlines for these awards are in this issue. We also encourage all eligible student members of SCO-SOC to apply for our three Student Research Awards. Application details including deadlines are on pages 29-33.

Final part of the series on Brown-headed Cowbird brood parasitism on the Canadian prairies by Spencer Sealy is in this issue. Thank you, Spencer, for preparing this series! There is lovely bird artwork by Vianney Cupiche in this issue and a report on the successful inaugural Field Research in Ecology and Evolution Diversified (FREED) event at Algonquin Field Station in Ontario. In addition, there is a research summary by Taverner Award winner, Camille Rondeau Saint-Jean, an update on the federal Migratory Birds Regulations, a tenure-track job posting at Trent University and the latest Avian Ecology and Conservation table of contents. Check them all out!

The next *Picoides* deadline is February 15, 2023. We look forward to your next submission. Without submissions, there is no *Picoides*. We also welcome your feedback as it your publication and we wish everyone a safe, healthy, Christmas and Happy New Year.

FRANÇAIS—Message des éditeurs – Rob Warnock et Barbara Bleho

Bienvenue au dernier numéro de *Picoides* pour 2022. Nous espérons que vous avez tous passé un bel automne et que vous continuez à être sain et sauf pendant la pandémie. Dans le dernier rapport de la présidente, Nicola Koper évoque le grand succès de la conférence virtuelle SCO-SOC en septembre et des nouvelles initiatives de la Société en matière d'équité, de diversité et d'inclusion, ainsi que leurs nombreux effets positifs à ce jour. Elle remercie également les nombreuses personnes qui ont contribué à l'organisation de la conférence SCO-SOC et des initiatives en matière d'équité, de diversité et d'inclusion. Son rapport se trouve à la page 2. Nous remercions Nicola pour son service exceptionnel et souhaitons la bienvenue à Matt Reudink en tant que président de la SOC-SCO et les nouveaux membres du Conseil SCO-SOC. Nous remercions également tous les membres de la SOC-SCO qui ont été bénévoles cette année.

Veuillez proposer des candidats méritants pour le prix 2022-23 du chercheur en début de carrière, le prix Doris Huestis Spiers et le prix Jamie Smith Memorial pour le mentorat. Les détails des nominations et les dates limites pour ces prix sont dans ce numéro. Nous encourageons également tous les étudiants éligibles membres du SCO-SOC à postuler pour nos trois bourses de recherche pour étudiants. Les détails des candidatures, y compris les dates limites, figurent aux pages 29-33.

La dernière partie de la série sur le parasitisme de couvée du Vacher à tête brune dans les prairies canadiennes par Spencer Sealy est dans ce numéro. Merci Spencer d'avoir préparé cette série! Ce numéro contient également de superbes illustrations d'oiseaux réalisées par Vianney Cupiche ainsi qu'un rapport sur le succès de l'événement inaugural Field Research in Ecology and Evolution Diversified (FREED) à la station de recherche du Parc Algonquin en Ontario. Vous y trouverez également un résumé de la recherche de Camille Rondeau Saint-Jean, lauréate du prix Taverner, une mise à jour sur le Règlement fédéral sur les oiseaux migrateurs, un poste de professeur à l'Université Trent et la table des matières du dernier numéro de Avian Ecology and Conservation. Consultez-les tous!

La prochaine date limite pour *Picoides* est le 15 février 2023. Nous attendons avec impatience votre prochaine soumission. Sans soumissions, il n'y a pas de *Picoides*. Nous vous invitons également à nous faire part de vos commentaires sur cette publication et nous souhaitons à tous un Noël sûr et sain et une bonne année.

Message de la présidente

Nicola Koper

Ce sera mon dernier rapport à vous tous en tant que présidente puisque j'ai passé le flambeau à notre nouveau président, Dr Matt Reudink de l'Université Thompson Rivers, en octobre. Ce fut un privilège de travailler avec Matt en tant que vice-président au cours des 2 dernières années, et je sais qu'il sera un président fantastique.

Je vais profiter de cette occasion pour faire un retour sur notre plus récente conférence, pour ensuite discuter de nos activités au cours des deux dernières années. Tout d'abord, notre conférence virtuelle tenue en septembre 2022 était INCROYABLE. Nous avons tous hâte de revenir aux conférences en personne, mais le cadre virtuel que nous avons utilisé présentait de grands avantages, dont l'inscription gratuite et l'absence de temps de voyage ou de frais de déplacement (et d'impacts environnementaux associés). Pour cette conférence, nous avons adopté une approche différente qu'à l'habitude; nous nous sommes concentrés sur: la parole et les besoins des étudiants et des chercheurs en début de carrière; le développement de carrière et des compétences, y compris la formation EDI; maximiser l'accessibilité; et présenter un symposium sur l'ornithologie en Amérique latine et dans les Caraïbes, pour faire entendre de nouvelles voix et de nouveaux partenaires qui travaillent à nos côtés pour comprendre et aider à conserver les oiseaux envers qui nous avons une responsabilité. J'ai été enchantée de la qualité et de la diversité des interventions, et j'apprécie les nombreux mots aimables que j'ai entendus de la part d'autres personnes qui ont eu les mêmes expériences positives lors de cette conférence. Félicitations particulières à nos lauréats des prix de présentation étudiante: Camille Rondeau Saint-Jean, Triana I. Hohn, Sarah L. Dobney, Luke Anderson et Alan Monroy-Ojeda. Ils ont dû faire face à une rude concurrence parmi les présentations exceptionnelles données tout au long du programme. Nous avons aussi eu six ateliers fantastiques dont j'ai personnellement bénéficié, et nous sommes très reconnaissants envers nos présentateurs d'ateliers pour le temps qu'ils ont consacré à offrir ces opportunités d'apprentissage: Steffi LaZerte (R Markdown), Chris Adams (drones), Zack Moore (application de cartes de terrain), Wylee Fitz-Gerald (décolonisation et indigénisation des universités et autres institutions), Janet Ng et Ryan Fisher (carrières universitaires alternatives) et Emily McKinnon (enseignement de l'ornithologie adapté à la culture). Vous avez joué un rôle essentiel dans le succès de la conférence et vous avez grandement ajouté à nos possibilités d'apprentissage.

Dans l'ensemble, je me trouve extrêmement honorée et privilégiée d'avoir dirigé la SOC-SCO au cours des 2 dernières années, pendant une période de développement et de changement considérables. Les changements les plus importants sont le résultat d'une focalisation renouvelée et élargie pour mettre de l'avant l'équité, la diversité et l'inclusivité. Nous avons introduit plein de nouveaux programmes pour mettre de l'avant l'équité, la diversité et l'inclusion dans notre société, ce qui s'ajoute aux efforts personnels que beaucoup d'entre nous ont entrepris pour reconnaître le rôle que les sociétés professionnelles, y compris la nôtre, ont joué et continuent de jouer dans la promotion de normes sociales et professionnelles ancrées dans la colonisation et l'eurocentrisme. Je tiens à remercier tout particulièrement Dr Alana Westwood pour avoir suscité les conversations nécessaires sur notre besoin de traiter de ces questions au sein de la SOC-SCO, et Dr Letícia de Souza Soares, qui a fortement contribué à l'équité, à la diversité et à l'inclusivité en tant que présidente de la SOC-SCO de la réunion conjointe virtuelle AOS-SCO-SOC en 2021. Je suis incroyablement fière des réalisations extraordinaires de notre comité EDI, créé en 2021; il est difficile de dire à quel point je nous trouve chanceux que notre premier comité EDI soit composé d'une communauté de membres aussi exceptionnelle (Leanne Grieves et Cesar Estavo (coprésidents), Janet Ng, Lesley Howes, Roxanne Chicalo et Alana Westwood). Ils ont tout fait correctement, qu'il s'agisse de prendre le temps de réfléchir, de planifier l'avenir et d'élaborer des mandats clairs et des directives de comité; de collecter des données de base auprès de nos membres pour nous permettre d'évaluer les besoins des membres et de quantifier les succès du programme; et de la vision et du remue-méninge, et éventuellement de la direction de notre conseil concernant les nouveaux programmes nécessaires. Grâce à leur travail et à leur organisation stratégique, nous avons pu introduire de nombreux programmes pour améliorer l'EDI et mieux servir tous nos membres, y compris l'adhésion gratuite à la société pour les personnes issues de communautés sous-représentées, un programme de mentorat professionnel structuré, une série d'ateliers et de webinaires, des réunions mensuelles pour soutenir les ornithologues 2SLGBTQIA+ et PANDC (BIPOC), et un nouveau prix pour les étudiants provenant de communautés sous-représentées (à lancer en 2023). Le travail du comité portant sur l'éducation à l'EDI a également été un tremplin pour bon nombre des composantes de notre conférence virtuelle diversifiée et accessible en 2022, démontrant à quel point des comités EDI efficaces combinés à un focus organisationnel sur l'EDI peuvent entraîner des changements systémiques et

structurels qui vont au-delà des activités du comité EDI. Un immense merci également à l'ensemble du conseil SCO-SOC qui s'est chargé de mettre en place les programmes recommandés par le comité EDI. La seule raison pour laquelle nous avons pu accomplir tant de choses était que tant de personnes se sont mobilisées et ont travaillé pour atteindre un objectif commun.

Se concentrer sur l'EDI dans les environnements professionnels peut avoir de nombreux avantages personnels pour les individus au sein de ces organisations; l'une des raisons étant que ça valide et normalise les identités marginalisées. J'en ai personnellement profité. Je suis queer mais je n'ai jamais été ouverte sur mon identité dans les environnements professionnels jusqu'à l'an dernier. Bien que de nombreuses choses se soient réunies au bon moment pour que je puisse m'ouvrir sur mon lieu de travail, le travail que la SOC-SCO avait fait à l'époque pour promouvoir l'EDI en faisait partie. Au départ, mon but était d'augmenter la représentation et la visibilité pour soutenir mes étudiants queer, mais j'ai depuis réalisé la formidable croissance personnelle que cette décision m'a permise de vivre. Aborder et célébrer explicitement l'équité, la diversité et l'inclusivité au sein de la SOC-SCO et d'autres réseaux professionnels est essentiel pour garantir que les membres puissent apporter leur moi authentique à l'ornithologie. En plus d'être la bonne chose à faire pour soutenir tous nos membres, l'équité, la diversité et l'inclusion accrues améliorent également la diversité et l'originalité des idées qui animent notre domaine, et profitent ainsi directement à l'ornithologie dans la science et la pratique.

J'offre ma plus sincère gratitude à nos membres SCO-SOC pour l'opportunité de travailler avec vous en tant que présidente au cours des dernières années. Je suis si heureuse de faire partie de notre société.

ENGLISH— *President's Message – Nicola Koper*

This will be my last President's report to all of you, as I passed the torch to our incoming President, Dr. Matt Reudink from Thompson Rivers University, this October. It's been a privilege to work with Matt as VP over the last 2 years, and I know he's going to be a fantastic President.

I'm going to take this opportunity to reflect on our most recent conference, and then move on to our activities over the last two years. First of all, our virtual conference in September 2022 was AMAZING. We're all looking forward to getting back to in-person conferences, but the virtual framework we used had some really significant benefits, not the least of which was free registration and no travel time or costs (or associated environmental impacts). We took a different approach to this conference than usual; we focused on the voices and needs of students and early career researchers; career and skills development, including EDI training; maximizing accessibility; and featuring a symposium on ornithology in Latin America and the Caribbean, to bring in new voices and partners who are working alongside us to understand and conserve birds, many of which we share responsibilities for. I was absolutely delighted by the quality and diversity of talks, and I appreciate the many kind words I've heard since from other people reflecting the same positive experiences at this conference. Special congratulations to our student presentation award winners: Camille Rondeau Saint-Jean, Triana I. Hohn, Sarah L. Dobney, Luke Anderson, and Alan Monroy-Ojeda. They faced steep competition among the outstanding presentations given throughout the program. We also had six fantastic workshops, many of which I benefited from personally, and we are so grateful to our workshop presenters for their time spent on providing these learning opportunities: Steffi LaZerte (R Markdown), Chris Adams (drones), Zack Moore (field maps app), Wylee Fitz-Gerald (decolonizing and Indigenizing universities and other institutions), Janet Ng and Ryan Fisher (alt-academic careers) and Emily McKinnon (culturally responsive teaching in ornithology). You played a critical role in making the conference such a success and added so much to our learning opportunities.

Overall, I feel so honoured and privileged to have led the SCO-SOC during a period of tremendous development and change over the last 2 years. The most important changes have resulted from a strongly renewed and expanded focus on equity, diversity and inclusivity. We've introduced a ton of new programs to start the badly needed process of increasing equity, diversity and inclusivity in our society, which complement the personal efforts many of us are working on to come to terms with the role that professional societies, including ours, have played and continue to play in promoting social and professional norms rooted in colonization and Eurocentrism. I want to especially recognize Dr. Alana Westwood for prompting necessary conversations about our need to address these issues in the SCO-SOC, and Dr. Letícia de Souza Soares, who strongly pushed for equity, diversity and inclusivity as the SCO-SOC Chair of the virtual joint AOS-SCO-SOC meeting in 2021. I am incredibly proud of the extraordinary accomplishments of our EDI committee, established in 2021; it is challenging to put into words how lucky I feel we are that our first EDI committee consisted of such an exceptional community of members (Leanne

Grieves and Cesar Estavo (co-chairs), Janet Ng, Lesley Howes, Roxanne Chicalo, and Alana Westwood). They did everything right, from taking the time to reflect, plan for the future, and develop clear TOR and committee guidelines; collecting baseline data from our members to allow us to assess member needs and quantify program successes; and visioning and brainstorming, and eventually directing our council regarding what new programs were needed. As a result of their work and strategic organization, we were able to introduce numerous programs to increase EDI and better serve all of our members, including free society membership to people from underrepresented communities, a structured professional mentorship program, workshop webinar series, monthly meet-ups for supporting 2SLGBTQIA+ and BIPOC ornithologists, and a new award for students from underrepresented communities (to be launched in 2023). The committee's work on focus and education on EDI also spearheaded many of the components of our diverse and accessible virtual conference in 2022, demonstrating how effective EDI committees combined with an organizational focus on EDI can result in systemic, structural changes that go beyond the activities of the EDI committee itself. Also, a huge thanks to the entire SCO-SOC council, which took on the tasks of implementing the programs recommended by the EDI committee. The only reason we could accomplish so much was by having so many people pull together and put the work in to accomplishing a common goal.

Focusing on EDI in professional environments can have numerous personal benefits to individuals within these organizations; one reason is that it validates and normalizes marginalized identities. This has benefited me personally. I am queer but have never been open about my identity in professional environments until the last year. While many things came together at the right time for me to open up in my workplace, the work that SCO-SOC had been doing at the time to promote EDI was one of them. Initially my motivation was to increase representation and visibility to support my queer students, but I have since realized the tremendous personal growth that this decision has allowed me to experience. Explicitly addressing and celebrating equity, diversity and inclusivity in the SCO-SOC and other professional networks is essential to ensuring that members can bring their authentic whole selves to ornithology. In addition to this being the right thing to do to support *all* our members, increased equity, diversity and inclusivity will also increase the diversity and originality of the ideas that drive our field, and thus directly benefit ornithology in science and practice.

I offer my sincerest gratitude to our SCO-SOC members for the opportunity to work with you as President over the last few years. I am so happy to be part of our society.



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Student contributions wanted for *Picoides*!

SCO-SOC encourages students to submit material for *Picoides*. In particular, we would like each issue to feature abstracts of at least one or two recently published theses. They must be from students at a Canadian university, but need not necessarily focus on Canadian birds. Abstracts should be 250-400 words long, preferably accompanied by one or two relevant photos.

We also welcome articles describing aspects of student research in greater detail; these should focus on a subject relevant to Canadian ornithology, require references, and may be up to 1,000 words long, again preferably accompanied by one or two photos. See the SCO-SOC Information page for submission details.

Camille Rondeau Saint-Jean – Taverner Award // Prix Taverner

I am a MSc candidate in biology at the Université de Montréal and my graduate research focuses on developing a deep neural network capable of classifying songs of Savannah Sparrows (*Passerculus sandwichensis*). Specifically, I will use a deep neural network to differentiate between different microdialects of Savannah Sparrow song, and to classify individuals based on recordings of their songs. This May, I conducted field research at the Bowdoin Scientific Station on Kent Island in the Bay of Fundy in New Brunswick. Working with the research team of my co-supervisor Dan Mennill (University of Windsor), I collected recordings that will constitute the dataset which I will use to train my neural network. After a month of field recordings on Kent Island, I had collected a song library that included 50



confirmed color-banded males belonging to 5 of the 6 microdialects known in the population, with at least one hour of good quality songs for most of them. I also collected approximately 15,000 hours of passive recordings of Savannah Sparrow recordings; the deep neural network will be used to classify songs within this dataset.

I am deeply thankful to the Society of Canadian Ornithologists for providing me with a Taverner Award to support my field research on Kent Island. I look forward to presenting the results of my research to the ornithological community at an upcoming meeting of the SCO!

Camille Rondeau Saint-Jean recording Savannah Sparrows (*Passerculus sandwichensis*) on Kent Island, NB. Photo courtesy of Camille Rondeau Saint-Jean // Camille Rondeau Saint-Jean enregistre des bruants des prés (*Passerculus sandwichensis*) sur l'île Kent, NB. Photo gracieuseté de Camille Rondeau Saint-Jean

Mon projet de maîtrise en sciences biologiques à l'Université de Montréal vise à entraîner un réseau neuronal profond capable de classifier les chants de bruants des prés (*Passerculus sandwichensis*). Plus spécifiquement, je souhaite développer un algorithme qui soit en mesure de reconnaître des microdialectes et des individus de cette espèce d'après des enregistrements de leur chant. En mai dernier, je me suis rendue à la station scientifique Bowdoin, sur l'île Kent dans la baie de Fundy au Nouveau-Brunswick afin de mener mes travaux de terrain. En collaboration avec l'équipe de mon co-superviseur Dan Mennill (University of Windsor), j'ai récolté des enregistrements qui constitueront le jeu de données avec lequel je vais entraîner mon réseau neural. Après un mois d'enregistrements, j'ai pu constituer un catalogue de chants incluant 50 mâles dont l'identité a pu être confirmée grâce à leurs bagues de couleur. Cinq des six microdialectes connus dans cette population y sont représentés, et je dispose d'au moins une heure d'enregistrements de haute qualité pour la plupart des individus. J'ai aussi récolté près de 15 000 heures d'enregistrements de bruants des prés via des enregistreurs autonomes disséminés dans toute notre aire de recherche; le réseau neuronal profond sera utilisé pour classifier les chants dans ce jeu de données.

Je voudrais exprimer ma profonde reconnaissance à la Société des Ornithologistes du Canada pour m'avoir accordé le prix Taverner afin de soutenir mes travaux sur l'île Kent. Il me tarde de présenter les résultats de mes recherches aux membres de la communauté ornithologique lors d'une prochaine rencontre de la SOC!

Feature Articles

Alberta's Early Resident Naturalists and New Cowbird Host Records¹

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Introduction

Highlights of the previous instalment in this series focused on contributions to knowledge of the brood-parasitic habits of the Brown-headed Cowbird (*Molothrus ater*) by two professors who worked out of the University of Alberta. Endocrinologist Otto Höhn studied the hormonal basis of reproduction in the Brown-headed Cowbird, a species typical of obligate brood parasites that does not develop brood patches during the breeding season. He also studied the hormonal basis of reproduction in the sex role-reversed phalaropes. Results of ornithologist William Rowan's experiments on the influence of photoperiod on timing of reproduction and migration in passerine birds made him famous. He planned to extend those studies to include cowbird migration; after all, the young are reared by other species and apparently migrate independently of the adults and their foster-parents. The cowbird study did not materialize, but we gained a window into Rowan's thinking about cowbirds, and several host records emerged as a by-product of alongside his wide-ranging field activities, initially during a short stint in Manitoba after arriving in Canada from England, followed by a long and busy career in Alberta.

Rowan conducted field research whenever his on-campus duties permitted, but success lay in his ability to enlist experienced, resident naturalists with the collection of field data and specimens. Most helpful were two of Alberta's best-known naturalists. Thomas E. Randall was a tireless nest finder and observer who farmed for many years in the Castor area of south-central Alberta (Houston et al. 1984). Archibald D. Henderson of Belvedere was one of the most prolific of Alberta's egg collectors (Houston and Bechard 1990) with whom Rowan was associated for more than 30 years, particularly in the muskeg region of west-central Alberta. Their observations of cowbirds and host records were timely. Randall's and Rowan's records became intertwined, and most were reported together to Herbert Friedmann for inclusion in updates of his catalogues of cowbird hosts, whereas Henderson's records were sent independently. Contributions of these and other resident Alberta naturalists augmented the early picture of host use by cowbirds on the Canadian Prairies and are highlighted here.

Rowan's year in Manitoba

Observations around Winnipeg

Rowan had visited Manitoba twice before emigrating from England to take a position as a lecturer in the zoology department at the University of Manitoba, where he remained for a little less than one year. During the winter of 1919-20, he laid plans to conduct research out of the University's recently established biological station at Indian Bay on Shoal Lake (Manitoba-Ontario), which was accessed by an all-day train trip to Waugh (49.62°N, 95.21°E.), the eastern terminus of the Greater Winnipeg Water District Railway at Indian Bay (map in Pip 1988). That year Rowan conducted a preliminary study of the avifauna of the muskeg area in the vicinity of the field station (Rowan 1922a), primarily to "outline the main characteristics of the region that future students may investigate [them] further" (Rowan 1922b, p. 255). Before departing Winnipeg for the field station in the spring of 1920, Rowan observed and collected



Rowan observed birds around Winnipeg and north to Gimli on the west shore of Lake Winnipeg before initiating field research at the University of Manitoba's field station at Indian Bay on Shoal Lake, Manitoba-Ontario.

¹ Seventh, and final, in a series on historic observations of cowbird parasitism on the Canadian Prairies.

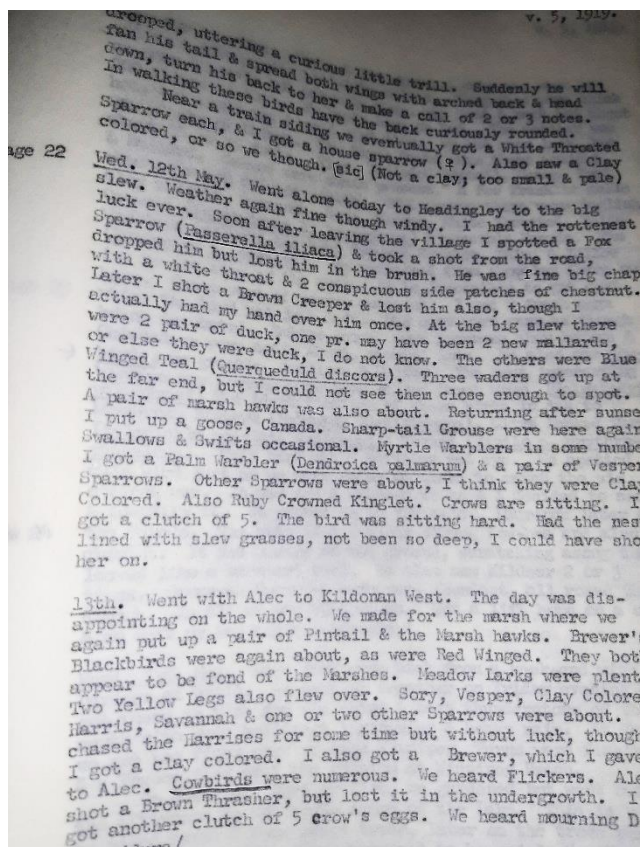


Figure 1. Page from William Rowan's field notes for May 12 and 13, 1920, in which observations were made in Winnipeg before he ventured to the University of Manitoba's field station in southeastern Manitoba-Ontario. On May 13, Rowan was accompanied by Alexander G. Lawrence, a well-known Winnipeg naturalist. Courtesy of the zoology museum, University of Alberta.

1920, the period of Rowan's field work in Manitoba. Those notes are actually contained in Volume V (1919); page 1 of the journal begins on November 4, 1919, whereas page 3 begins on January 1, 1920, even though the running head through the end of the book reads "v.5, 1919." There were real gaps in the notes and some observations lacked details, which reflected Rowan's typically busy schedule of field activities.

Because Rowan did not set out to study cowbirds, his observations were made opportunistically, and were recorded in conjunction with those of other species. It was sometimes a challenge to tease records of host use from the notes, but some could be correlated with parasitized egg-sets stored in the Rowan egg drawer (see below) in the Museum. Other host records were extracted from published papers. In the field notes, Rowan generally referred only to the cowbird's presence, for example, observations near Winnipeg read as follows: "Cowbirds were numerous" (May 13, 1920), "We also saw

specimens on the outskirts of the city, and near the settlement of Gimli on the west shore of Lake Winnipeg. He was frequently accompanied on these excursions by the accomplished naturalist, Alexander G. Lawrence (see Houston 1961), whom Rowan met on a visit to Winnipeg in 1911, and to whom he referred to as Alec in his field notes (Figure 1). Among Lawrence's influential contributions to natural history in Manitoba was a weekly column, *Chickadee Notes*, published by the *Winnipeg Free Press*, which he penned from its inception in 1921 through 1955 (Houston and Bechard 1987). The column, founded by the Natural History Society, provided a vehicle for publication of bird observations from all corners of Manitoba, and information contained in the columns was drawn upon by authors of many species accounts published in *The Birds of Manitoba* (2003).

Rowan collected 54 birds at Gimli and 58 on the outskirts of Winnipeg; among the latter were four adult cowbirds collected between May 6 and 11, 1920. The cowbirds (MVZ: Bird 75946-7, males; MVZ: Bird 75948-9, females) were referred to as *M. a. artemesiaae* of the northwest by Joseph Grinnell, then curator at the Museum of Vertebrate Zoology (MVZ) at the University of California, with whom Rowan corresponded extensively. Penciled on the labels of MVZ 75949 (Figure 2) is the suggestion of intergradation between the eastern subspecies, *ater*, and *artemesiaae*. These specimens, and 97 specimens of other species collected later in the vicinity of the field station, became part of the large collection of birds that Rowan eventually sold to the MVZ to help fund his research.

Rowan's field notes that covered his time in Manitoba and later in Alberta are archived in the zoological museum of the Department of Biological Sciences at the University of Alberta. His notes were accessed through the diligent work of Cynthia Paszkowski, professor emeritus in the department. A note of explanation is required to account for "missing" notes for the field season of

Figure 2. Adult female Brown-headed Cowbird (MVZ: Birds 75949) collected by William Rowan on the outskirts of Winnipeg, Manitoba. The date of collection is not given on the label, but it was confirmed from the Museum's catalogue and Rowan's field notes as May 6, 1920. Rowan's original signed label plus the Museum's label are shown. Courtesy of the Museum of Vertebrate Zoology, University of California, Berkeley.



Cowbirds" (May 15), and "Also Cowbirds" (May 26), and at the "big slough" near Headingly, "Cowbirds were all over the shop, following horses & cattle" (June 4). Rowan noted that cowbirds sometimes associated with other species of blackbirds, and he described elements of the cowbird's courtship behaviour, which he observed on May 11, 1920:

The male cowbird has a curious way of courting. He runs by the hen (hens are about 1 to 6 cocks or more in number) with head high & beak pointing upwards, wings slightly drooped. Uttering a curious little trill. Suddenly he will fan his tail & spread both wings with arched back & head down, turn his back to her & make a call of 2 or 3 notes. In walking these birds have the back curiously rounded.

Rowan noted the male-biased sex ratio of breeding Brown-headed Cowbirds that most researchers have reported (see Ortega 1998, pp. 146-147), and two male displays. As Rowan's artistic skills and propensity to sketch wildlife were evident as I perused his papers that are



Figure 3. Two displays of male Brown-headed Cowbirds were observed by William Rowan near Winnipeg on May 11, 1920: (left) "Bow", (right) "Bill-Tilt". Sketches from life by Julie Zickefoose.

archived at the University of Alberta, I hoped to find a sketch of displaying cowbirds, but there were none. His descriptions match, however, the "Bill-Tilt" (Darley 1968) or "Head-Up" (Rothstein et al. 1986) display that is directed to birds of the same sex, and the "Bow" or "Song Spread" (Friedmann 1929, Darley 1968) display (Figure 3) that is directed more intensely to nearby males than to females, accompanied by song.

On June 5, 1920, Lawrence and Rowan discovered a Song Sparrow's (scientific names of birds in Appendix 1) nest that contained four nestling sparrows, one addled host egg and two "good" cowbird eggs, "... evidently laid by different birds as they were of two distinct types, the one quite fresh, the other nearly hatching. A few days later, on June 16, another nest was discovered, this one with four Song Sparrow eggs and two of the cowbird..." In previous instalments, additional records of more than one cowbird egg laid in the same nest, i.e.,

multiparasitism, involved records for the Song Sparrow, which may have involved parasitism by the same or different females. A multiparasitized Song Sparrow clutch collected by naturalist Thomas Randall at Boyle, Alberta, is shown in Figure 4.

On the last field trip before leaving for the field station, Rowan recorded a parasitized Clay-colored Sparrow nest that was discovered on June 12, 1920, with two sparrow eggs and one cowbird egg. Although an early record of parasitism on this species, he went on to consider it among the most frequently parasitized in Alberta. In fact, he told Friedmann (1963, p. 163) "that he had collected a series of nearly 20 parasitized sets of eggs near Edmonton", but none of these sets was located.

Cowbird hosts at the University of Manitoba's field station

Between June 15 and August 4, 1920, now at the field station, Rowan (1922a, p. 229) described the cowbird as "Abundant. Flocking began early in July when the old birds left the district. Only two young cowbirds were observed, one on the wing, accompanied by Chipping Sparrows, the other still in the nest of a White-throated Sparrow. The latter disappeared before he was fully fledged." Rowan's notes for July 24 indicated that the cowbird being fed by the Chipping Sparrows was collected, but the specimen was not traced. Two days later, he noted a "Sparrow's nest with 2 young & a young Cwbd. — all about one week old." The host was not collected, therefore, not identified, which was not unusual at sparrows' nests at the time. In fact, a specimen of a juvenile Chipping Sparrow that Rowan collected on July 26, was originally identified as a Lincoln's Sparrow (Figure 5). Rowan's record of the White-throated Sparrow as a host, which was cited by Friedmann (1929), added another species to the growing list of hosts known to at least attempt to rear cowbirds — information that oologists' egg-sets could not provide.



Figure 4. Multiparasitized set of Song Sparrow eggs (WFVZ 106,101), with three sparrow eggs (top) plus three cowbird eggs, collected by Thomas E. Randall at Boyle, Alberta, June 18, 1928. Courtesy of the Western Foundation of Vertebrate Zoology.



Figure 5. Originally identified as a Lincoln's Sparrow, this juvenile male Chipping Sparrow (MVZ: Bird 76071) was taken by William Rowan at Shoal Lake in southeastern Manitoba on July 26, 1920. Note the year of collection, given as 1921, was an error in transcription of the handwritten date on the original label. Courtesy of the Museum of Vertebrate Zoology, University of California.

Moving on to Alberta, and Herbert Friedmann's call for host records

Leaving Manitoba, Rowan accepted a position as assistant professor in the Zoology Department at the University of Alberta in late 1920. Cowbird host records soon came to light with the resumption of field work. Despite difficulties convincing the head of the department that field research on birds was an acceptable endeavor of academic study (Ainley 1993), Rowan wasted little time venturing into the field to observe and collect birds. By the end of September, he had collected several species in the vicinity of Edmonton and also on duck-hunting trips to Beaverhill Lake east of Edmonton in October.



Black-and-white Warbler entering a nest that contained two host eggs and three cowbird eggs, June 7, 1958, located near the Pinawa highway bridge (see Taylor 1983, p. 154-155). Photo credit: the late Warren Johnston, courtesy of Peter Taylor.

On the other hand, Friedmann (1929) ignored the observation of Chipping Sparrows accompanied by a young cowbird that Rowan described in the same paper. I pointed out in the third instalment of this series that cowbirds and other brood parasites may be fed by more than the biological host, albeit apparently infrequently, particularly after the young have left the nest (Sealy and Lorenzana 1997); nevertheless, Friedmann (1929, p. 221) stated, "It is an extremely common sight to see one of these familiar little birds feeding a big, clumsy Cowbird two or more times its own size. In most places it is one of the most imposed upon species." In the ensuing decades, the Chipping Sparrow has been confirmed as an important host of the Brown-headed Cowbird (e.g., Friedmann et al. 1977).

In addition to White-throated Sparrow and Chipping Sparrow confirmed by Rowan (1922a) as hosts in southeastern Manitoba, Taylor (1983) reported 13 additional cowbird host species in the Pinawa-Lac du Bonnet region, about 100 km to the north. I mention these observations because only seven cowbird eggs were detected in 621 nests of various species inspected in this region in 1937 (Taylor 1983), which suggests cowbirds were uncommon amid an undoubtedly different landscape. Decades later, Ferguson (1981) observed flocks of up to 60 cowbirds foraging in the region in late May and early June, 1978.

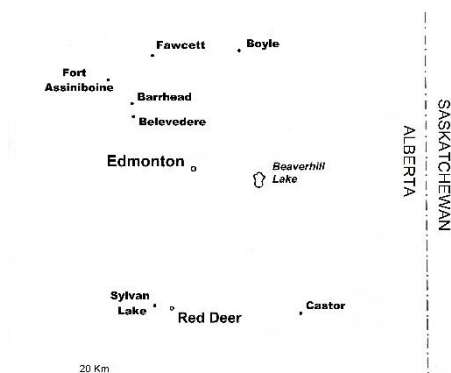


Brown-headed Cowbird begging to its putative host, an adult Chipping Sparrow, Guelph, Ontario, June 28, 2014. Photo credit: Kyle H. Elliott and Mélanie M. Guigueno.

Rowan visited

this lake and surrounding area many times in the ensuing decades, frequently accompanied by Randall, and occasionally by Henderson, and created many memorable experiences and established associations with numerous people that were chronicled in Robert Lister's entertaining account, *The Birds and Birders of Beaverhills Lake*, published in 1979 (Figure 6).

In previous instalments, I referred to Herbert Friedmann's catalogues of hosts of the parasitic cowbirds of the Americas, and updates of new information on cowbird hosts that was published in journals or sent to him by oologists and naturalists. A massive correspondence was involved, which was not only initiated by Friedmann, but also by egg collectors and other field workers who learned of his endeavor and told him of their discoveries, as if "telling [him] about their findings was the thing to do" (Rothstein 1988, p. 367). Friedmann (1934a, b; 1938, 1963) received many records of cowbird



Working out of the University of Alberta in Edmonton, William Rowan was accompanied on many field trips by Archibald Henderson, who homesteaded in the Barrhead-Belvedere district in the early days of settlement, and Thomas Randall, who farmed south of Castor.

On the basis of Friedmann's (1932b) response to Rowan's letter of July 3, 1932, and records published in Friedmann's (1934a, b; 1963) updates, I deduced that Randall's and Rowan's personal host records were sent together, whereas Henderson's were sent independently. Friedmann wrote:

Your letter of July 3 with notes on cowbird victims has come and I hasten to thank you for it. It contains a surprisingly large number of important and interesting records. Please extend my thanks to Mr. Randall for his notes and in case he may be interested in the novelty of some of them, I may summarize them as follows:

Four of the species listed have never before been recorded as cowbird victims. These are the yellow-bellied flycatcher, rusty blackbird, Philadelphia vireo and palm warbler. In addition to these, seventeen have never been noted as victims of the Nevada cowbird [*M. a. artemisiae*], that is, the local northwestern race of the cowbird, although they have been found to be parasitized by other races of the cowbird in other parts of the country. This is a truly surprising record from a total of only thirty-four forms.

Friedmann (1934a, b; 1938) credited Randall with 27 host records and Henderson with nine, but all were published with few details, apparently as they were received. A few host records not submitted to



Sprague's Pipit. Photo credit: Jennifer Lusk.

Friedmann are examined below; additional information was gleaned from data-slips that accompanied Henderson's egg-sets.

Randall, nest-finder extraordinaire

Thomas E. Randall emigrated to Canada from Kent, England in 1912. He was single at the time, but apparently married during the war. Following the war, he began farming near Castor, Alberta, where many of his ornithological experiences were made and cowbird hosts were recorded. He hosted at least one visit by William Rowan and spent considerable time in the field with Henderson, in the mixed-woods region northwest of Edmonton (Houston et al. 1984). Randall worked several jobs in several places and, based on observations and

parasitism from field workers on the Canadian Prairies (e.g., Houston 1966), and Rowan's were among them. Friedmann contacted him first, however, to inquire about parasitism on Sprague's Pipit, a species for which there was no record of cowbird parasitism. Having exchanged letters with Rowan on other subjects since 1929, Friedmann (1932a), at the time employed by the United States National Museum in Washington, inquired of Rowan on January 28, 1932, wondering:

I am compiling a second list of additional data on the birds victimized by the cowbirds and wonder if you have ever found cowbird eggs in the nests of Sprague's Pipit. This is a species for which I have no records, but which I suspect must be parasitized at times. Incidentally, I would very much like to know just what species you have found victimized in Alberta as that is a region whence, I have but little data. Needless to say, I shall be only too glad to give you full credit for any information you may send me...

Rowan was not able to provide a record of parasitism on Sprague's Pipit, but Friedmann (1949) eventually uncovered one, a parasitized clutch collected by Albert C. Lloyd at Last Mountain Lake in southern Saskatchewan, on May 29, 1932. This egg-set, which was reported by Todd (1947), was figured in the fourth instalment of this series.

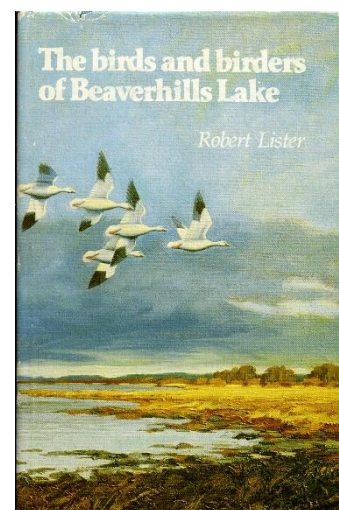


Figure 6. In *The Birds and Birders of Beaverhills Lake*, Robert Lister chronicled many field trips taken by William Rowan to Beaverhill Lake that began soon after his arrival in Edmonton in 1920, and over the next 30 years. He was often accompanied by naturalists, such as T.E. Randall and A.D. Henderson, and ornithologists from across Canada and the United States.

collections made along the way, he published important additions to the ornithological literature in western Canada (e.g., Soper 1952, Randall 1962a, b; also see Houston et al. 1984). According to Houston et al. (1984, p. 231), Randall "collected egg sets at only a fraction of

the nests he found and was a virtual one man Nest Records Scheme.” That may have been an understatement, considering Randall discovered 1000 nests of Wilson’s Phalarope and more than 50 nests of the Canada Jay, among others. He discovered several host records that are worthy of scrutiny. Friedmann (1934a, p. 35) stated of the Philadelphia Vireo that “Mr. T.E. Randall found a nest of this bird with a cowbird’s egg in Alberta. It is the only record for this species.” Friedmann appropriately ignored an earlier report by another Alberta naturalist, Charles Horsbrugh, who claimed to have found a nest of the Philadelphia Vireo at Sylvan Lake [Alberta] on June 18, 1916, “containing four eggs, which I believed to belong to this species... Three eggs of the Cowbird crowded the structure to its fullest capacity” (Horsbrugh 1918, p. 403). Questioning this record, Friedmann (1929), nevertheless, considered credible Horsbrugh’s (1915, 1918) reports of parasitism on three other host species (Swainson’s Thrush, Clay-colored Sparrow, Savannah Sparrow). Salt (1973, p. 125) also questioned Horsbrugh’s record of parasitism on the Philadelphia Vireo, stating “The location of the next [sic] and the observer’s uncertainty about the identity of the female make it doubtful that this nest belonged to a Philadelphia Vireo.” Salt also noted Randall’s discoveries of several nests of this species, but Randall’s record of parasitism by a cowbird was not mentioned. This and other records of parasitism on vireos in Alberta have proved to be important for the study of evolution of host responses to cowbird parasitism.



Nest of Wilson’s Phalarope,
Minnedosa, Manitoba, June 17, 1973.
Photo credit: S.G. Sealy.

Not reported to Friedmann was a parasitized nest of the Red-eyed Vireo that was discovered on the University of Alberta campus by Robert Lister, on June 28, 1924, and confirmed by Rowan the next day to contain three host eggs and one cowbird egg. A parasitized set of Solitary (Blue-headed) Vireo’s eggs was discovered by Randall at Boyle on May 28, 1934 that apparently was originally part of the Rowan collection, but it cannot be traced now. Especially important is Randall’s record of parasitism on the western subspecies of Warbling Vireo (*Vireo gilvus swainsoni*), to which Friedmann (1934a) referred as the first definite record of parasitism on this subspecies by the “Nevada”

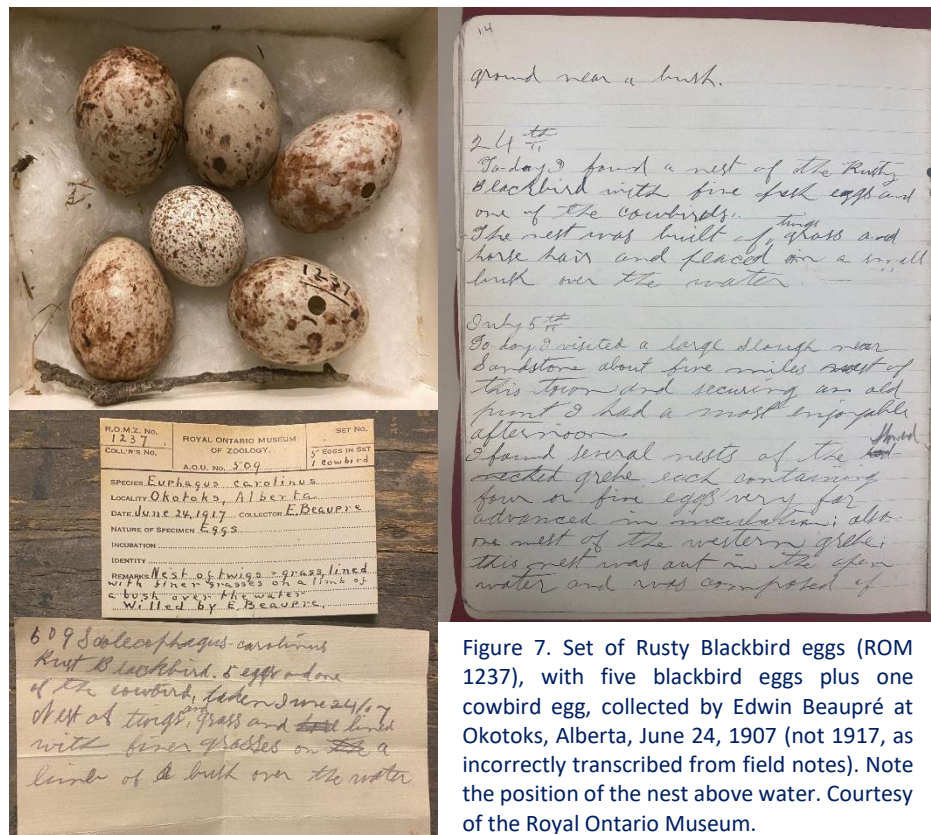


Figure 7. Set of Rusty Blackbird eggs (ROM 1237), with five blackbird eggs plus one cowbird egg, collected by Edwin Beaupré at Okotoks, Alberta, June 24, 1907 (not 1917, as incorrectly transcribed from field notes). Note the position of the nest above water. Courtesy of the Royal Ontario Museum.

Cowbird (*M. a. artemisiae*), although parasitism was reported on this subspecies in the western U.S. by the “Dwarf” Cowbird (*M. a. obscurus*) (Friedmann 1963). Early records of Warbling Vireos throughout the range portended an interesting dynamic regarding this taxon’s response to cowbird parasitism, with evidence in the simplest case pointing to acceptance of the cowbird egg by *swainsoni* and ejection by the eastern subspecies *V. g. gilvus*. I suggested in the fifth instalment that further research is warranted on the history of parasitism by cowbirds and the evolution of egg discrimination in these vireos, with attention focused on Alberta where both subspecies of Warbling Vireo co-occur and sometimes nest in adjacent territories. Recent evidence suggests these subspecies are actually full species (e.g., Lovell et al. 2021).

Regarding the Rusty Blackbird, the fewer than 10 records of parasitism are all from Alberta. Friedmann (1963, p. 134) stated of this species that “T.E. Randall informed me many years ago

that he had found two parasitized nests of this blackbird; A.D. Henderson also wrote me of similar observations” (also see Henderson [1927]). The only parasitized egg-set of this species that I uncovered consists of five eggs of the host plus one of the cowbirds, taken by Edwin Beaupré at Okotoks, Alberta on June 24, 1907 (ROM 1237), not 1917, as transcribed incorrectly on the data-slip (Figure 7). Field notes archived in the Royal Ontario Museum confirmed that Beaupré, who lived in Ontario, visited Alberta for several months in 1907

(Mark Peck, pers. comm., April 14, 2022), a fact overlooked in his obituary, as Merriam (1930) noted only one visit to Alberta, in the spring of 1929. Beaupré collected additional egg-sets at Okotoks (50.72°N, 113.97°W) that confirm the year of his first visit there was 1907: a parasitized set of White-crowned Sparrow eggs (Figure 8), and eight unparasitized sets of Brewer's Blackbird eggs (ROM 1242-49) collected between May 29 and July 31, confirm the year, thus supporting the identification of the Rusty Blackbird's nest.

Another parasitized set of White-crowned Sparrow eggs collected at Okotoks years later elicited the following comments from Friedmann (1949, p. 161):

In the Bulletin of the Jourdain Society..., it was stated that a set of eggs of Gambel's sparrow, *Zonotrichia leucophrys gambelii*, with four cowbird eggs was exhibited at a meeting of the Society by Mr. [G.H.] Lings [see Lings 1947]. On writing to the exhibitor, not only was I promptly given the complete data, but even the eggs were sent to me for examination. The set was collected near Okotoks, southern Alberta, June 11, 1930, by Mr. Lings. The locality precludes the possibility of the host being *gambelii* and makes it out to be typical *leucophrys*. As a matter of fact, there is another parasitized set of *leucophrys* eggs [collected by Beaupré, see above] from the same place in the collections of the Royal Ontario Museum of Zoology, at Toronto. This record is the third I know of for the Nevada cowbird and white-crowned sparrow combination.

By contrast, Brewer's Blackbirds, whose breeding range and the cowbirds' overlap more broadly, were parasitized frequently, a fact highlighted in previous instalments. Friedmann (1963, p. 134) referred to seven parasitized clutches "In the Rowan collection at the University of Alberta", but only one set was located, in this case the blackbird eggs were atypically patterned. The date and place of collection were gleaned from Rowan's field notes for June 4, 1924 and were taken during a visit with Randall at his farm 21 km south of Castor. Rowan referred to "The colony of Brewer's Blackbird nests chiefly in some bundles of brush. Each bundle has a nest in it... Lots of nests on the ground, mostly under a dead branch or scrap of brush." According to Friedmann (1963), the only other records of parasitism on this species from Alberta were sent to him by Henderson (Table 1).



Figure 9. Set of Chipping Sparrow eggs (WFVZ 66990) with three sparrow eggs and one cowbird egg, collected by W.E. Griffiee, near Rocky Mountain House, Alberta, June 1, 1963. Courtesy of the Western Foundation of Vertebrate Zoology.

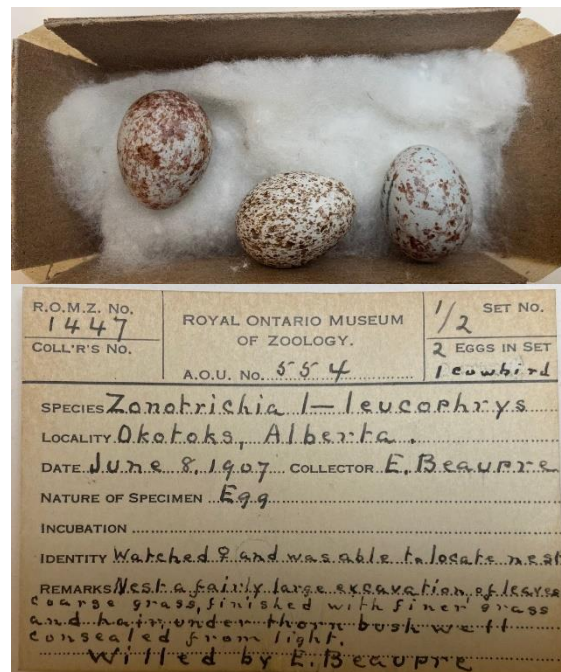


Figure 8. Set of White-crowned Sparrow eggs (ROM 1447), with two sparrow eggs and one cowbird egg, collected by E. Beaupré at Okotoks, Alberta, June 8, 1907. Courtesy of the Royal Ontario Museum.

Rowan never wavered in his praise for Randall's abilities in the field. Responding to an inquiry from oologist Willet E. Griffiee of the Western Pine Association of Portland, Oregon, who had spent a month in the field with Randall at Rocky Mountain House in 1948 (Griffiee 1955), still impressed, even envious, Rowan (1955) stated that "Tom Randall is one of the best egg collectors I have ever known, but God also seems to have taken him under his celestial wings, for his luck is prodigious! When we have tossed up for whom is to go which way, the toss always lands in Tom's lap. Never fails." (On the contrary, Randall [1928] attributed his nest-finding prowess in part to "good luck", but it was more than that.) During a later visit to Rocky Mountain House, in 1963, Griffiee collected a parasitized set of Chipping Sparrow eggs (Figure 9), on which Friedmann had not reported.

The "Rowan" egg drawer

Throughout this and the previous instalment, I referred to parasitized egg-sets stored in Rowan's egg drawer in the zoology museum of the Department of Biological Sciences at the University of Alberta. A parasitized set of Red-winged Blackbird eggs that contains four host eggs and one cowbird egg (Figure 10), apparently collected on June 4, 1924, during one of Rowan's earlier visits to Randall's farm. Rowan merely mentioned parasitism on this species in his notes, as well as on the Common Grackle and Brewer's Blackbird. Confirmation of parasitism on the grackle would have resulted in one of only a handful of instances of parasitism reported for this species, as Friedmann (1963) listed only six records. Among the factors that possibly contribute to the infrequency of parasitism on this species

are the generally earlier initiation of the grackle's nesting season, differential aggressiveness toward female cowbirds at the nest (Sealy et al. 1998) and the cowbird's avoidance of grackle nests even when parasitism opportunities exist (Peer and Bolinger 1997). Data from Delta Marsh, Manitoba, yielded three of 119 nests parasitized (Peer et al. 2001), compared with one of 87 nests parasitized in North Dakota (Igl and Johnson 2007).

Rowan wrote on June 12, 1920, about several Gray Catbird nests found in Winnipeg, all empty except for one that contained one egg. An egg-set with four catbird eggs and one cowbird egg, held in the Rowan egg drawer (Figure 11), was collected in 1936, during a later visit by Rowan to Randall's farm. This is one of few records of parasitism on this species on the Canadian Prairies. Undated records were recorded by E. Manley Callin at Qu'Appelle (Callin 1983) and H.H. Pittman at Wauchope Saskatchewan (Nero and Lein 1971), but the fates of those cowbird eggs are unknown. Gray Catbirds eject Brown-headed Cowbird eggs, a response confirmed experimentally in Connecticut (Rothstein 1975) and Manitoba (Lorenzana and Sealy 2001). One of two possible scenarios may explain the observations of a cowbird egg in a catbird nest. The clutch was collected or observed before the cowbird egg was ejected, a response that generally occurs in this species



Figure 11. Set of Gray Catbird eggs from the Rowan egg drawer with four catbird eggs plus one cowbird egg taken at Castor, Alberta, in 1936. On the label visible against the lower side of the container is penciled Yellow-headed Blackbird, obviously in error (Rowan egg drawer, zoology museum, University of Alberta). Photo credit: Cynthia Paszkowski.

ejection of the cowbird egg may obscure detection of natural parasitism on a species when cowbird eggs are removed before or between the observer's nest inspections. Baltimore Oriole is a case in point. By placing real cowbird eggs into nests and observing them for the first hour after "parasitism" revealed that Baltimore Orioles ejected most cowbird eggs (Sealy and Neudorf 1995). Implicitly, natural parasitism at these nests would have gone undetected when inspected the next day. Of 280 Baltimore Oriole nests monitored at Delta Marsh between 1975 and 2001, parasitism was detected at seven nests (2.5%) (S.G. Sealy and T.J. Underwood, unpublished), whereas 2 of 13 (15.4%) nests that were watched around sunrise were parasitized, but the cowbird eggs were ejected within minutes (Neudorf and Sealy 1994).

In his letter to Friedmann of July 3, 1932, Rowan included at least three records of cowbird parasitism obtained near Edmonton, including a parasitized set of Spotted Towhee eggs with three cowbird eggs (Friedmann 1934b). Not recorded was an egg-set containing three Spotted Towhee eggs and one cowbird egg (YPM 131273, 142388) evidently taken by a collector for Walter Raine north of Edmonton on June 16, 1906 (Figure 12), as Raine's last trip to western Canada was in 1894 (Houston 1981). Additional parasitized sets from Alberta followed, also noted by Friedmann (1963) to have come from Rowan's collection, but these sets cannot be traced now: one set of Tennessee Warbler taken on June 17, 1935, and an undated set of Yellow-rumped Warbler with three host eggs and one cowbird egg. Another Yellow-rumped Warbler nest contained four cowbird



Figure 10. Set of Red-winged Blackbird eggs from the Rowan egg drawer, with four host eggs and one cowbird egg, collected by William Rowan and Thomas Randall near Castor, Alberta, June 24, 1924. Courtesy of the zoology museum, University of Alberta. Photo credit: Cynthia Paszkowski.

within five hours of parasitism (Lorenzana and Sealy 2001). Or, catbirds accepted the cowbird egg, which is a response rarely recorded in this and most other ejector species, although Gray Catbirds occasionally rear cowbirds (e.g., Nickell 1958, Lowther 1980).

The few records of natural parasitism on three other species that eject cowbird eggs (Eastern Kingbird, eastern subspecies of Warbling Vireo, Bullock's Oriole) were discussed in previous instalments. To these can be added records of parasitism on the Baltimore Oriole: Randall's from Alberta (Friedmann 1963) and Maurice G. Street's undated observation recorded in the Nipawin district, Saskatchewan (Houston and Street 1959). To reiterate,

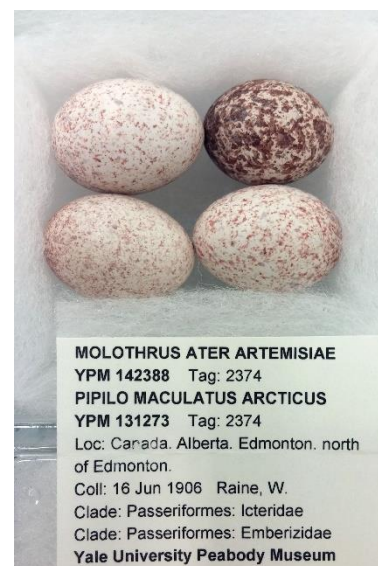


Figure 12. Set of Spotted Towhee eggs (YPM 131273, 142388), with three eggs of the host and one cowbird egg taken for Walter Raine north of Edmonton, June 16, 1906. Courtesy of Yale Peabody Museum.

eggs but no host eggs, on June 3, 1941, apparently taken near Fawcett. The last three records were not included in Salt's (1973) accounts of these species, although two unparasitized Yellow-rumped Warbler nests found by Rowan at Fawcett were mentioned, as well as unparasitized nests of several other species of warbler. Salt (1973) mentioned numerous parasitized and unparasitized vireo and warbler nests recorded by Randall.

Although Friedmann (1929) cited Rowan's (1922a) observation of the parasitized nest of the White-throated Sparrow in southeastern Manitoba, he ignored his published observation of the young cowbird collected while being tended by a Chipping Sparrow (see above). Several years later, Rowan noted the discovery of a parasitized nest that contained four Chipping Sparrow eggs and one cowbird egg at Buffalo Lake, Alberta on June 3, 1944; the only parasitized egg-set of this species in Rowan's collection contains three host eggs plus one cowbird egg, taken near Fawcett on June 1, 1936 (Figure 13). The cowbird egg had been partially buried by nest material, which suggests it was laid when the nest was being constructed (see Sealy 1995).



Figure 13. Set of Chipping Sparrow eggs, with three host eggs and one cowbird egg, collected by William Rowan near Fawcett, Alberta, June 1, 1936 (Rowan egg drawer, zoology museum, University of Alberta). Photo credit: Cynthia Paszkowski.

Many years later Rowan revealed that he had no intention of assembling a comprehensive egg collection. On March 15, 1955, Ralph S. Palmer inquired of Rowan about the status of egg collections at the University of Alberta (Palmer 1955) and whether measurements of eggs could be taken for inclusion in some of the species accounts in the upcoming volumes of *The Handbook of North American Birds*, of which he was editor. Rowan responded on March 21, 1955, stating that the few eggs held in the museum were used mostly for demonstrations with students:

My own [egg] collection here is not a serious collection... Except for series of eggs useful as demonstrations to students, such as blackbirds and cowbirds, I have only odd sets. Some of those, however, as greater yellowlegs, are sufficiently rare in collections to be worth recording perhaps but we could measure those by ordinary means in view of the small numbers involved if you want them.

Palmer also wondered whether the University held the egg collection of the late naturalist, Frank L. Farley, to which Rowan responded (Rowan 1955):

... there are only two [egg collections] worth talking about. The one is owned by Mr. A.D. Henderson, Belvedere, Alberta and the other by Mr. [Donald] Wilby (whose initials I do not recollect), Heatherdown, Alberta. I think Henderson has all his eggs measured but he is getting very old and might balk at being asked to send them. However, his collection is very extensive, and it might be worthwhile [sic] sending someone up. In any case you had better send him your inventory. I am afraid from Wilby you won't get anything, but it is worth writing him I should think... Frank Farley never did collect eggs seriously...

Wilby was a businessman, but his passion was collecting eggs and butterflies (Anonymous 2013). After arriving in Heatherdown, Alberta, in 1904, he established a farm and amid many associated activities, he assembled an egg collection largely through purchases from collectors around the world. His collection was eventually dispersed among many museums, including the Manitoba Museum and Royal Alberta Museum. I did not uncover any sets of parasitized clutches among those taken by Wilby, but Friedmann (1963, p. 94-95) included a record of parasitism on the Tennessee Warbler, which Wilby sent to him "from Alberta". This was in addition to another record of that host species that Rowan sent to Friedmann in his letter of July 3, 1932. Salt (1973) reported several parasitized Tennessee Warbler nests in Alberta, but neither Rowan's nor Wilby's record was among them.

In his letter to Palmer, Rowan did not mention Charles Horsbrugh or Sidney Stansell, the latter an egg collector who emigrated to Edmonton from Illinois in 1906. He established the first Audubon Society in Edmonton and the first Christmas Bird Counts, only six years after the first count was held in North America (Houston and Houston 1976). Acknowledged as a photographer (Spalding 1981), Stansell photographed the first record of parasitism on Swainson's Thrush, a nest that contained three host young plus two cowbird eggs near Edmonton in 1907 (Stansell 1907, also see Friedmann 1929). Horsbrugh (1918) reported two parasitized nests of this species, to which Friedmann (1929) referred in his monograph. The first nest contained two eggs of each of the host and cowbird found on June 14, 1914, and the following day another nest was discovered with three thrush eggs and one cowbird egg. Horsbrugh reported two other records of parasitism on this species, but Friedmann (1929) ignored them because the descriptions were vague. Horsbrugh (1918, pp. 495-6) stated



Figure 14. Egg-set containing one American Robin egg and three putative cowbird eggs (Rowan egg drawer, zoology museum, University of Alberta). Photo credit: C. Paszkowski. A parasitized clutch of the American Robin at Delta Marsh, Manitoba, is shown for comparison. The cowbird egg, which was laid on the morning before the second robin's egg was laid, was ejected between 24 and 48 hours later, May 31, 1990. Photo credit: S.G. Sealy.

parasitized (Friedmann et al. 1977), but I recorded a case of multiparasitism on this species at Delta Marsh, Manitoba, in the late spring of 1979, which was one of four records of parasitism on this species; three cowbird eggs were laid as well as three robin eggs before the clutch was depredated.

Cowbird eggs and an incomplete experiment

Noted in the previous instalment, Rowan (1925) mentioned to Harry S. Swarth of the MVZ that he planned to study the migratory habits of the cowbird, stating that "Randall and I are working together on the cowbird", but the project did not get off the ground. Nevertheless, Randall collected "... 41 cowbird eggs with foster sets and examined no less than 340 nests of small birds." Were those eggs from among the "thirty different species [of foster-parent]" to which Rowan referred, and were they among the host species included by Friedmann (1934a, b; 1938)?

Apparently, those eggs were not incubated, but I wondered whether at least some of them were preserved, possibly individually or as parasitized egg-sets in the Rowan egg drawer. Although Randall had recorded several cowbird hosts over the years, the eggs in the vials in the egg drawer (Figure 15) were taken in the mid-1930s, at least 10 years after those that Rowan (1925) had mentioned in his letter to Swarth. Several vials in the egg drawer contain one or two cowbird eggs, but neither collector, host species nor date was indicated in most cases. On the labels inside a few other vials of cowbird eggs, however, Randall was named collector with dates of collection in June 1936 (Figure 15). Assuming the year is correct, the cowbird eggs apparently were collected more than 10 years after Rowan planned to study cowbird migration, and they could not have been among the records included in Friedmann's initial updated host catalogues. In a subsequent update, however, Friedmann (1938) included six additional host records of Randall's, but all were recorded in May and June 1934, two years before the records referred to above.

Some records may have become mixed up or lost over the years, as Rowan had no intention of building an egg collection, and with his many projects, he was constantly on the go. In fact, Ainley (1993, p. 285) commented that "Rowan had always worked in a cluttered space: the fact that he was involved in so many activities, which he carried out in haste

that "I had the same luck on the 17th [apparent reference to one of the records above] and on the 19th found a nest with three newly hatched young along with a fresh egg of the other species under them [a cowbird's egg?]." Stansell provided a vague report of parasitism on the Swamp Sparrow (Friedmann 1963) and the first record for Lincoln's Sparrow, which Friedmann (1931) considered to be more definite after receiving one of a parasitized clutch in the collection of J. Hooper Bowles, collected in Manitoba on June 6, 1920.

Another egg-set in the egg drawer contains a single American Robin egg and three similar, but oddly marked and relatively large eggs that cannot be confirmed as cowbird eggs, or those of another species (Figure 14). The American Robin, an ejector, has rarely been recorded

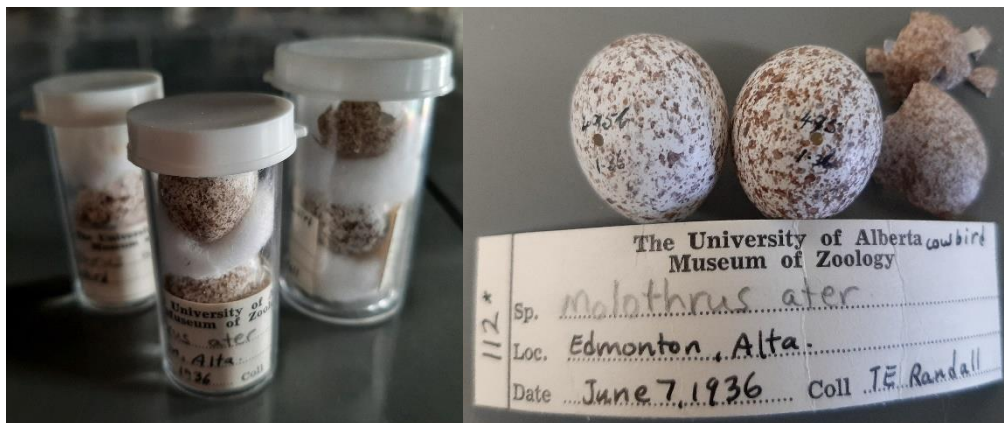


Figure 15. Brown-headed Cowbird eggs as they appear in their original storage vials (left) and removed from one vial to reveal eggs collected by Thomas Randall in June 1936; host(s) are unknown (Rowan egg drawer, zoology museum, University of Alberta). Photo credit: Cynthia Paszkowski.



One of several nests and eggs of the Short-billed Dowitcher that A.D. Henderson discovered in the Fort Assiniboine District, Alberta, this one probably in June 1925. Photo credit: William Rowan (courtesy of the University of Alberta Archives [1650-16-1462]).

discovery of the nesting ground of the Whooping Crane had waned (Sealy 2020), but through Henderson's tireless field work, several dowitcher specimens were collected and nests were discovered (Rowan 1926, Henderson 1941); Rowan named a new subspecies of Short-billed Dowitcher (*Limnodromus griseus hendersoni*) in honour of his friend and associate (Rowan 1932). By the 1920s, Henderson's oological expertise attracted a who's-who among naturalists and ornithologists who used his home as a base for their collecting activities (chronicled by Houston and Bechard 1990).

After being prodded by A.C. Bent, author of the *Life Histories of North American Birds*, to find a nest of Bonaparte's Gull, Henderson and his wife, Annie, travelled far into the muskeg region by car and team and wagon, in 1925, and found six nests. Both Bent's introduction to Henderson's (1926) article in *The Auk* and Randall's (1962b) account of Bonaparte's Gull published in Britain claimed that Henderson was the second person in North America to find the nest of this species. Roderick Ross MacFarlane, a Hudson's Bay Company factor had collected 37 sets in the Lower Anderson River area just south of the Arctic Ocean, in the late 1860s. In MacFarlane's (1890, p. 7) words:



Bonaparte's Gull nest containing three eggs, July 3, 1989. The nest was placed 3 m high in a Black Spruce (*Picea mariana*) near Churchill, Manitoba. Photo credit: S.G. Sealy.

and with minimum assistance, meant that his offices — at the university and at home — were never tidy and well organized. He had been known to lose lecture notes, socks, and even specimens..." That the vials in which the cowbird eggs referred to above were not in their original containers, which dated from the 1930s (C. Paszkowski, pers. comm., November 23, 2021), suggests the cowbird eggs originally were part of parasitized egg-sets but were eventually stored separately and the labels were lost. Some egg-sets may have become mixed up.

Henderson, egg collector extraordinaire

Archibald D. Henderson, originally from Ontario before farming near Belvedere, Alberta, was one of the most prolific and best known of Alberta's egg collectors and naturalists, having assembled a huge egg collection and shared his observations in more than 40 articles published in ornithological and oological journals (Houston and Bechard 1990). He became one of Rowan's closest associates, working together in the field for more than 30 years during Rowan's many trips to the muskeg region northeast of Edmonton and elsewhere, especially to Beaverhill Lake. Their hopes for



Type specimen of *Limnodromus griseus hendersoni* (CMN_AV 24832): male collected by William Rowan at Devil's Lake, Alberta, June 19, 1924. Courtesy of the Canadian Museum of Nature.

"The parents always fly about in close proximity to the nest and scream vehemently when explorers, in the interests of science, are obliged to deprive them of their eggs or young, and not infrequently shoot one of them. They seldom lay more than three eggs."

The bulk of Henderson's egg collection (about 8000 eggs of 930 species) — augmented by many sets obtained through world-wide exchanges — was sold to egg collector Werner Haller in Switzerland (A. Henderson 1963, Congreve 1963). Congreve (1964) commented that "Mrs. Henderson sent me an interesting account of the two "Haller" agents, who packed the eggs in special boxes, and sent them by air to Switzerland." Haller's egg collection, and most of Henderson's eggs (Figure 16) were eventually acquired by the Muséum d'histoire naturelle de Genève (Hollier and Hollier 2016). A small portion of Henderson's egg collection (314 sets of 62 species) remains in California at the Western Foundation of Vertebrate Zoology and 28 sets of 25 species are catalogued in the Royal Ontario Museum (Houston and Bechard 1990; see Table 1 for cowbird host records). Only a few cowbird host records emerged

from Henderson's vast egg collection, of which nine were reported by Friedmann (1934a, b); unpublished records were also obtained from data-slips that accompanied the egg-sets (Table 1). Henderson was unable to find a museum in Canada that was able to purchase his egg collection; hence, most of the eggs went to Haller. Henderson was 84 years old, and ill, when his eggs were sold. By then, he had become frustrated and considered destroying the collection. The Haller agents who assessed the collection were family friend, Cyrilla Kijewski, and E. Otto Höhn, physiologist at the University of Alberta (Laurent Vallotton, *pers. comm.*, July 4, 2022; September 1, 2022), whose original research on hormones and reproduction in Brown-headed Cowbirds was highlighted in the previous instalment.

In Closing

In the current and previous instalments of this series, I chronicled observations of Brown-headed Cowbirds and discoveries of the identities of the cowbird's hosts on the Canadian Prairies that emerged in the second half of the 1800s through the early 1900s. I relied heavily on egg-sets of parasitized species collected by oologists during the egg-collecting craze when for reasons that varied from scientific to commercial to the fanatic, eggs were collected, distributed, bartered and sold. Many egg-sets made their way, sometimes circuitously, from private hands to become permanently deposited in museums in Canada and around the world, as noted for eggs collected by S.J. Darcus, the sale of Archibald Henderson's vast collection to a private collector in Switzerland before being transferred to the Muséum d'histoire naturelle Genève, or in the case of Edwin Beaupré's collection, willed to the Royal Ontario Museum. Many of those egg collections now can be accessed online and the data that accompany many of them provide information such as date of collection, location and description of the nest, clutch size, and progress of incubation. In some cases, field notes were written quickly and sometimes illegibly, and when they were eventually transcribed, usually by someone else, errors were occasionally made, on which researchers must keep a watchful eye (see Figure 7); some egg-sets are accompanied by the collectors' personal data-slips. Upon the cessation of egg collecting, many naturalists submitted records of nests to record schemes, such as Prairie Nest Records Scheme and Cornell Nest Records Program, which are important sources of information. The early collectors were hampered by the lack of field guides and not everybody had a pair of field glasses, thus, in some instances they resorted to collecting an adult to confirm the identity of its nest.

The lives and activities of many of the egg collectors were critically assessed by C. Stuart Houston and collaborators in a series of articles published in *Blue Jay* devoted to the history of egg collecting on the Northern Great Plains. Although mindful of the brood-parasitic habits of cowbirds, none of the oologists or naturalists set out to observe cowbirds or their hosts, and some collectors, but fortunately not most, considered parasitized clutches to be tainted, and removed the foreign eggs or avoided collecting parasitized egg-sets altogether. The early visits to the Prairies were generally of a few days or weeks, mostly by egg collectors from eastern Canada and the United States. For these reasons, because so few nests of each species were inspected, the frequency of parasitism among species cannot be compared statistically, and the effects of the cowbird on the reproductive success of hosts and their populations could not be calculated. The number

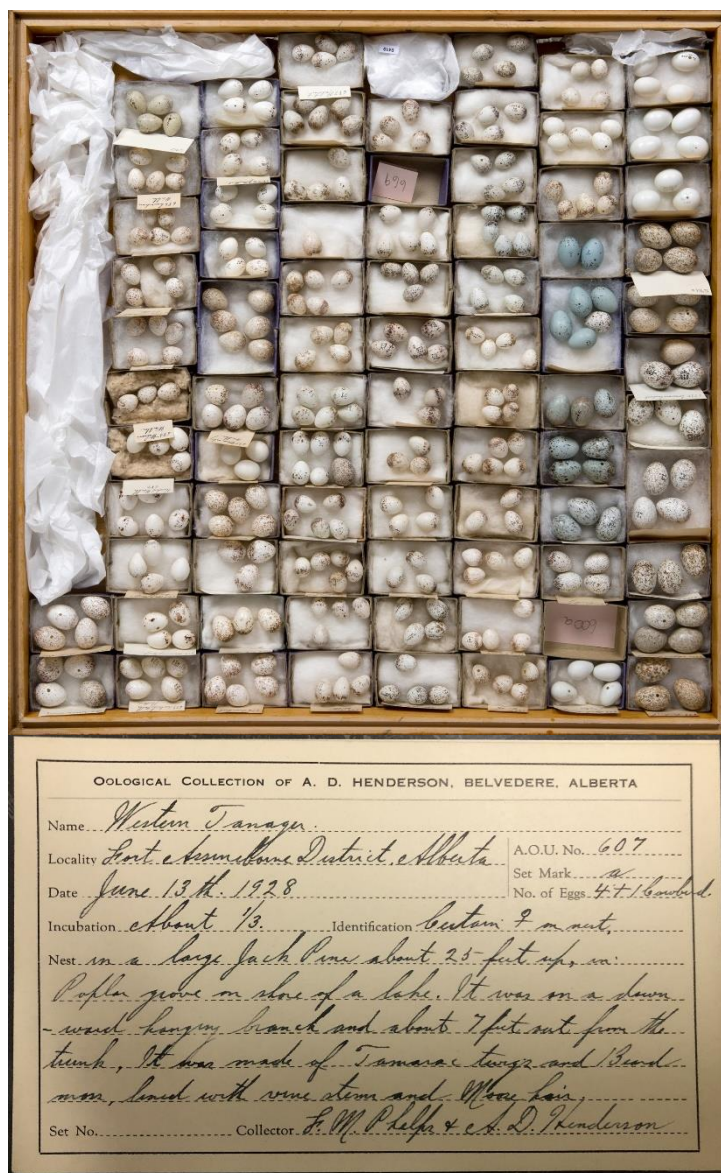


Figure 16. One of many trays that contain A.D. Henderson's egg collection. The parasitized set of Western Tanager eggs (MNHG-OIS 495; 607 a) is the fifth egg-set from the top of the second column from the right. The data-slip reveals the eggs were collected in the Fort Assiniboine District, Alberta, June 13, 1928. Courtesy of the Muséum d'histoire naturelle Genève. Switzerland.



Figure 17. Set of Dark-eyed Junco eggs (WVZ 84523) with three eggs of the host and two of the cowbird (top), collected by A.D. Henderson at Fort Assiniboine, Alberta, June 8, 1946. Courtesy of the Western Foundation of Vertebrate Zoology.

of hosts identified eventually increased and their importance was confirmed as experienced naturalists and ornithologists who lived in the region and visited more habitats began to report their observations.

Cowbirds were not on the minds of most oologists, except for Walter Raine, a businessman from Ontario, and on whose contributions, I focused in the second instalment. Raine was perhaps Canada's best known egg collector, but not everything written about him was complimentary (see Peck and Richards 1983). Houston (1981), however, was not so quick to set aside all of Raine's egg records, and he assessed them thoroughly and fairly, and cited opinions expressed by several important egg collectors in defense of Raine's collections. But Raine contributed more than just records of cowbird hosts. He had done his homework and posed intuitive questions about the lifestyle of cowbirds in his 1892 book, *Bird-Nesting in North-West Canada*, guided by the early works of Nuttall, Ord and Coues. He thought about the laying habits of cowbirds, wondering about the time of day the eggs were laid and whether host eggs were removed, and whether one or more females parasitized nests that received two or more cowbird eggs, especially when they looked different. Not surprisingly, like many early naturalists, Raine's curiosity was piqued by Yellow Warblers that buried cowbird eggs in their nests, presumably simply because they were parasitized. He did not know to what exactly the warblers responded, but whether this defense is a response to the sudden appearance of the cowbird egg in the nest, the female warbler's encounter with the laying or egg-removing cowbird, and accompanying hormonal responses, are topics that interest researchers today.

Raine was among the first to record nests that contained more than one cowbird egg. He wondered whether closely matching eggs were laid by the same female, with differently patterned eggs laid by more than one female. Using techniques of molecular genetics to link eggs in host nests with individual females revealed the same female sometimes lays one or more eggs in the same nest (Ellison et al. 2006), but more frequently different females were involved (McLaren et al. 2003).

Friedmann (1963) hypothesized that the number of multiparasitized nests, sometimes viewed as an index of parasitism pressure (McGeen 1972), increased in frequency over the past century as cowbird densities increased (Rohwer and Spaw 1988), particularly as habitats became fragmented. Although oologists recorded several multiparasitized clutches on the Canadian Prairies, this hypothesis cannot be tested because too few nests, parasitized and unparasitized, were recorded. Limited support, however, was received from McLaren et al.'s (2006) test of this hypothesis, using data from four host species in Ontario derived from nest-record schemes and other sources over 130 years. Multiparasitism significantly increased over all decades in the Chipping Sparrow and Song Sparrow prior to 1970, whereas there were no significant trends in the Red-eyed Vireo or Northern Cardinal. In a long-term study of host use in a riparian forest and marsh edge in Manitoba, the Song Sparrow was one of the most frequently parasitized species, and most often multiparasitized, which has been confirmed as an important cowbird host in large parts of its breeding range (Friedmann 1963).

The value of the centuries-old egg collections preserved in museums can neither be overstated nor forgotten. In the words of Carrol L. Henderson (2007, p. 149), "... the collections of [the] oologists are biological gifts from the past to future generations." Their importance in studies of host use by cowbirds and other avian brood parasites has been highlighted throughout this series, but egg collections also have been used for analyses of changes in nesting phenology (e.g., Walk et al. 1999, Scharlemann 2001) in the era of climate change (Bates et al. 2022), historic distributions, nest occurrence and long-term ecological studies (e.g., Green and Scharlemann 2003, McNair and Dean 2003), elucidation of the devastating consequences of eggshell thinning due to DDT poisoning (e.g.,



Set of Horned Lark eggs (WVZ 13759) with four host eggs plus two cowbird eggs taken by Walter Raine (confirmed from the Museum's catalogue) at Lakes End, Saskatchewan, June 3, 1896. Did the same female cowbird lay both eggs? Courtesy of the Western Foundation of Vertebrate Zoology.

Ratcliffe 1976, Hickey and Anderson 1968), and genetic analyses of DNA salvaged from residual yolk left in eggs that have sat for years in trays in museums, including those of extinct species (Chilton 2007). For enlightening accounts of the history and culture of egg collecting, readers are encouraged to examine C.L. Henderson's (2007) "Oology and Ralph's Talking Eggs", and Cole's (2016) "Blown out: The science and enthusiasm of egg collecting in the *Oologists' Record*, 1921-1969."

Table 1. A.D. Henderson's cowbird host records confirmed from egg-sets collected in Alberta: Friedmann (1934a, b), Muséum d'histoire naturelle de Genève (MNHG) and Western Foundation of Vertebrate Zoology (WFVZ).

Species	Provenance and notes
Yellow-bellied Flycatcher	According to Friedmann (1934a), "Mr. Henderson found one [parasitized nest]... in Alberta"
Olive-sided Flycatcher	June 27, 1925; 3 h + 1 c ¹ ; "Mr. A.D. Henderson writes me that he collected a nest of this bird [near Belvedere] containing three eggs of the flycatcher and one of the Nevada Cowbird (Friedmann 1934a)"
Ruby-crowned Kinglet	Friedmann (1934a) mentioned, "a parasitized nest near Belvedere, Alberta"
White-throated Sparrow	WFVZ 84492: June 9, 1946; 3 h + 2 c; Timeu; Friedmann (1963, p. 176-177) reported seven parasitized nests submitted by Randall and Henderson
LeConte's Sparrow	Henderson "... found it acting as a host" (Friedmann 1934b), but no details provided. Was the sparrow feeding a fledged cowbird?
Song Sparrow	Denoting this species "a common victim in Alberta", Friedmann (1934b, p. 113) credited Randall and Henderson with "many records"
Lincoln's Sparrow	Henderson "... found it acting as a host" (Friedmann 1934b), but no details were provided
Dark-eyed Junco	WFVZ 84523: June 8, 1946 (Figure 17); 3 h + 2 c; Fort Assiniboine district; this species "...also found... [by Henderson] to be parasitized in Alberta" (Friedmann 1934b)
Dark-eyed Junco	MNHG-OIS 495 m; 567 h: June 2, 1927; 1 h + 2 c; Belvedere ²
Dark-eyed Junco	MNHG-OIS 495 B; 567 z: June 2, 1945; 1 h + 2c; Fort Assiniboine District
Yellow-rumped Warbler	MNHG-OIS 495 B; 655 A: May 29, 1941; 5 h + 1c; Fort Assiniboine District
Rusty Blackbird	Friedmann (1934b, p. 107) stated that "A.D. Henderson also wrote me of similar observations [to Randall's]"
Western Tanager	MNHG-OIS 495; 607 a: June 13, 1928; 4 h + 1 c (Figure 16); Fort Assiniboine District; "Not previously known as a [cowbird] host", until this and another record from British Columbia were reported (Friedmann 1934b)

¹ h = host egg(s) + c = cowbird egg(s).

² For parasitized egg-sets, the host's eggs and, in this case, the cowbird egg(s), are given separate catalogue numbers; for example, MNHG-OIS 495 m (= host's clutch); 567 h (= cowbird eggs).

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Appendix 1. Scientific names of bird species mentioned in the text.

Whooping Crane (<i>Grus americana</i>)	White-crowned Sparrow (<i>Zonotrichia leucophrys</i>)
Short-billed Dowitcher (<i>Limnodromus griseus</i>)	White-throated Sparrow (<i>Z. albicollis</i>)
Greater Yellowlegs (<i>Tringa melanoleuca</i>)	LeConte's Sparrow (<i>Ammodramus leconteii</i>)
Wilson's Phalarope (<i>Phalaropus tricolor</i>)	Savannah Sparrow (<i>Passerculus sandwichensis</i>)
Bonaparte's Gull (<i>Chroicocephalus philadelphia</i>)	Song Sparrow (<i>Melospiza melodia</i>)
Yellow-bellied Flycatcher (<i>Empidonax flaviventris</i>)	Swamp Sparrow (<i>M. georgiana</i>)
Olive-sided Flycatcher (<i>Contopus cooperi</i>)	Lincoln's Sparrow (<i>M. lincolni</i>)
Eastern Kingbird (<i>Tyrannus tyrannus</i>)	Spotted Towhee (<i>Pipilo maculatus</i>)
Bell's Vireo (<i>Vireo bellii</i>)	Baltimore Oriole (<i>Icterus galbula</i>)
Blue-headed Vireo (<i>V. solitarius</i>)	Bullock's Oriole (<i>I. bullockii</i>)
Warbling Vireo (<i>V. gilvus</i>)	Yellow-headed Blackbird (<i>Xanthocephalus xanthocephalus</i>)
Red-eyed Vireo (<i>V. olivaceus</i>)	Red-winged Blackbird (<i>Agelaius phoeniceus</i>)
Gray Jay (<i>Perisoreus canadensis</i>)	Brown-headed Cowbird (<i>Molothrus ater</i>)
Horned Lark (<i>Eremophila alpestris</i>)	Brewer's Blackbird (<i>Euphagus cyanocephalus</i>)
Ruby-crowned Kinglet (<i>Corthylio calendula</i>)	Rusty Blackbird (<i>E. carolinus</i>)
American Crow (<i>Corvus brachyrhynchos</i>)	Common Grackle (<i>Quiscalus quiscula</i>)
Gray Catbird (<i>Dumetella carolinensis</i>)	Black-and white Warbler (<i>Mniotilta varia</i>)
Swainson's Thrush (<i>Catharus ustulatus</i>)	Tennessee Warbler (<i>Leiothlypis peregrina</i>)
American Robin (<i>Turdus migratorius</i>)	Yellow Warbler (<i>Setophaga petechia</i>)
Sprague's Pipit (<i>Anthus spragueii</i>)	Palm Warbler (<i>S. palmarum</i>)
Chipping Sparrow (<i>Spizella passerina</i>)	Yellow-rumped Warbler (<i>S. coronata</i>)
Clay-colored Sparrow (<i>S. pallida</i>)	Western Tanager (<i>Piranga ludoviciana</i>)
Dark-eyed Junco (<i>Junco hyemalis</i>)	Northern Cardinal (<i>Cardinalis cardinalis</i>)



In August 2022, the [FREED](#) (Field Research in Ecology and Evolution Diversified) had its first ever event: a weeklong crash-course of fieldwork skills across diverse taxa! We welcomed 14 Indigenous, Black, and Racialized students and 11 leaders to the Algonquin Wildlife Research Station ([AWRS](#)) from various Ontario universities. This program was made possible in part by the generous support from SCO-SOC!

Before we introduced the students to any workshops, Christine Luckasavitch from [Waaseyaa Consulting](#) gave a stunning presentation against the backdrop of Sasajewun Lake where she guided the students through the past 14,000 years of history of this provincial park. She emphasized the need to acknowledge that we are in an active relationship with the animals and the land. On the first day, the students also got out on the water to learn how to canoe! They practiced canoeing during turtle surveys at Wolf Howl Pond with Mariel Terebiznik. Students continued their forays into the aquatic realm with Rachel Giles at Bat Lake, where they tested aquatic ecology invertebrate sampling. The terrestrial invertebrate complement was with Rowan French who taught techniques like sweep netting and beetle-funnel traps. Early on, the students also went on a guided hike at Two Rivers trail to learn more about native trees with Vanessa Nhan and woke up early to go on a guided birding hike at Chit Lake trail with Aranya Iyer.

Students acquired practical skills with Kevin Kemmish and James Pinto, AWRS staff, who led a session on wayfinding, and car maintenance in the field. Throughout the week, it was amazing to see the students immediately employ tricks imparted by Dr. Viviana Astudillo-Clavijo during her field notetaking and science illustration workshop. The session on science communication with Samantha Stephens not only reinforced the same principles, but also opened the door for students to submit their art to organizations that would compensate them for their work.

It was an invaluable experience for the students to observe the importance of long-term monitoring projects happening around the station. Patrick Moldowan led the students through an amphibian survey at Bat Lake and Rebekah Persad, our “s’mammal” workshop instructor, set up trap lines to successfully catch a northern flying squirrel! Students continued their exploration of mammals during our Wolf Howl with Ontario Park Naturalists. Furthermore, Ontario Parks facilitated our camping trip at Whitefish Campground led by Demiesha Dennis, director of [Brown Girl Outdoor World](#). During the debrief session, students even mentioned how this experience gave them confidence to camp in different environments – including other countries!

Based on immediate feedback, students reflected on how FREED helped them gain fieldwork skills, left them feeling connected to nature, and encouraged them to pursue further courses and work in the EEB field. Students highlighted above all the connections they were able to make with other students and mentors who had the same passion as them. We were touched by the comment made by a student who expressed how easy it was to be authentic and engaged in the environment that FREED helped create. We are eager to do the same for next year’s adventure!



FREED participants learning tree angling near Algonquin Wildlife Research Station. Photo courtesy of Aranya Iyer. // Des participants au programme FREED apprennent à pêcher dans les arbres près de la station de recherche faunique Algonquin. Photo gracieuseté de Aranya Iyer.

En août 2022, le [FREED](#) (Field Research in Ecology and Evolution Diversified) a organisé son tout premier événement: un cours accéléré d'une semaine sur les compétences en travail de terrain pour divers taxons!

Nous avons accueilli à la Station de Recherche Faunique du Parc Algonquin ([AWRS](#)) 14 étudiants indigènes, noirs et racisés ainsi que 11 responsables de diverses universités ontariennes. Ce programme a été rendu possible en partie grâce au généreux soutien de la SOC-SCO!

Avant de présenter les ateliers aux élèves, Christine Luckasavitch de [Waaseyaa Consulting](#) a fait une présentation incroyable avec, pour toile de fond, le lac Sasajewun. Elle a guidé les élèves à travers les 14 000 ans d'histoire de ce parc provincial. Elle a insisté sur la nécessité de reconnaître que nous entretenons une relation dynamique avec les animaux et la terre. Lors de la première journée, les élèves sont aussi allés sur l'eau pour apprendre à faire du canoë! Ils se sont exercés au canoë en prenant un relevé des tortues de l'étang Wolf Howl avec Mariel Terebiznik. Les étudiants ont poursuivi leurs incursions dans le monde aquatique avec Rachel Giles au lac Bat, où ils ont échantillonné des invertébrés aquatiques. Un complément sur les invertébrés terrestres s'est fait avec Rowan French qui leur a enseigné certaines techniques avec le filet à balayage et les pièges à coléoptères. Les étudiants ont également participé à une randonnée guidée sur le sentier Two Rivers pour en apprendre davantage sur les arbres indigènes avec Vanessa Nhan et se sont levés tôt pour participer à une randonnée guidée d'observation des oiseaux sur le sentier du lac Chit avec Aranya Iyer.



Les élèves ont acquis des compétences pratiques avec Kevin Kemmish et James Pinto, membres du personnel de l'AWRS, qui ont donné une session sur l'orientation et l'entretien des voitures en situation de travail de terrain. Tout au long de la semaine, il était formidable de voir les élèves utiliser immédiatement les astuces de Dr Viviana Astudillo-Clavijo lors de son atelier de prise de notes de terrain et d'illustration scientifique. La session sur la communication scientifique avec Samantha Stephens a non seulement renforcé les mêmes principes, mais a également ouvert la porte aux étudiants pour qu'ils soumettent leur art à des organisations qui les rémunéreraient pour leur travail.

Three FREED participants birding near Algonquin Wildlife Research Station. Photo courtesy of Arranya Iyer. // Trois participants au programme FREED en train d'observer des oiseaux près de la station de recherche faunique Algonquin. Photo gracieuseté de Arranya Iyer.



Sunset over Sasajewun Lake. Photo courtesy of Arranya Iyer. // Coucher de soleil sur le lac Sasajewun. Photo gracieuseté de Arranya Iyer.

Ce fut une expérience inestimable pour les étudiants que d'apprendre sur l'importance des projets de surveillance à long terme qui se déroulent autour de la station. Patrick Moldowan s'est entretenu avec les élèves lors d'une étude sur les amphibiens au lac Bat tandis que Rebekah Persad, notre instructeur de l'atelier "s'mammal", a installé des pièges pour attraper avec succès un écureuil volant! Les élèves ont poursuivi leur exploration des mammifères lors de notre Wolf Howl avec les naturalistes de Parcs Ontario. De plus, Parcs Ontario a facilité notre voyage au terrain de camping Whitefish, dirigé par Demiesha Dennis, directrice de [Brown Girl Outdoor World](#). Au cours d'une séance de compte-rendu, les élèves ont même mentionné que cette expérience leur avait donné confiance pour camper dans divers environnements - y compris dans d'autres pays!

Spontanément, les élèves ont réfléchi à la manière dont FREED les a aidés à acquérir des compétences en matière de travail de terrain, leur a donné le sentiment d'être connectés à la nature et les a encouragés à poursuivre leurs études et à travailler dans le domaine de la BEE. Les étudiants ont surtout souligné les liens qu'ils ont pu établir avec d'autres étudiants et mentors qui ont la même passion qu'eux. Nous avons été touchés par le commentaire d'un étudiant qui a exprimé combien il était facile d'être authentique et engagé dans l'environnement que FREED a contribué à créer. Nous avons déjà hâte de répéter l'aventure l'an prochain! Veuillez ajouter une photo.

Ornithological News and Announcements

Migratory Birds Regulations, 2022 are in force

The modernized [Migratory Birds Regulations, 2022 \(MBR 2022\)](#) came into force on July 30, 2022. The MBR 2022 protect individuals of all species of migratory birds, as defined in the regulations, at all times, as well as all migratory bird nests when they contain a live bird or viable egg. These protections apply only to species listed as 'migratory birds' in Article 1 of the *Migratory Birds Convention Act, 1994*. The nests of 18 species listed in Schedule 1 of the MBR 2022 are protected year-round. Visit [Frequently asked questions: Migratory Birds Regulations, 2022](#) on the Government of Canada website to learn more.

Some highlights of the modernized MBR are:

- Increased clarity to facilitate interpretation and compliance and add flexibility
- Recognition of existing Aboriginal and treaty harvesting rights, recognized and affirmed under section 35 of the *Constitution Act, 1982*
- Improved ability to manage migratory birds in Canada by:
 - Protecting nests when they have conservation value for migratory birds
 - Clarifying and introducing provisions to support current and new policy on migratory game bird hunting and hunting management

Nest protection

The MBR 2022 protect most nests from damage, destruction, disturbance or removal only when they contain a live bird or viable egg. This supports conservation benefits, as the nests of most migratory birds only have conservation value when they are active (contain a bird or viable egg), and also provides flexibility and predictability for stakeholders to manage their compliance requirements as they undertake activities on the landscape that may affect migratory bird nests.

For 18 species of migratory birds identified on Schedule 1, the MBR 2022 provide year-round nest protection until they can be deemed abandoned. The Schedule includes certain migratory birds which either re-use their own nests from one year to the next, or whose nests are commonly re-used by other species of migratory bird species, like Pileated Woodpeckers. If the nest of a Schedule 1 species has not been occupied by a migratory bird for the entirety of the waiting time indicated in the MBR 2022, it is considered to be abandoned, and to no longer have high conservation value for migratory birds. Visit [New Migratory Birds Regulations, 2022](#) on the Government of Canada website for more information on the amendments to the regulations, the list of protected nests and their designated waiting period, and how to use the Abandoned Nest Registry.

Temporary possession without a permit

The MBR 2022 authorize the temporary possession of migratory birds (without a permit), not including their eggs, in the following three situations:

- When a migratory bird is found dead, in order to dispose of the carcass according to applicable laws, or to, as soon as the circumstances allow, deliver it to a lab for analysis
- To bring an injured migratory bird to a location that is authorized to rehabilitate migratory birds, as soon as the circumstances allow
- To temporarily help an uninjured migratory bird that is facing an immediate threat to its life

Changes to scientific permits

Under the modernized MBR, paragraph 12(1)(d), the Minister may issue a scientific permit, which is described in subsection 75(1):

A scientific permit may be issued by the Minister to a person who acts with a scientific, rehabilitation or educational purpose if the Minister is of the opinion that that person has the skills required to perform the activities for which the permit is issued.

Subsection 75(2) lists the powers of the permit holder, specifically:

A holder of a scientific permit may, for scientific purposes, including banding, or for rehabilitation or educational purposes, do one or more of the following activities subject to the conditions of the permit, if the activity is listed on the permit:

- (a) capture, kill, injure or harass a migratory bird;
- (b) destroy, take or disturb an egg;
- (c) damage, destroy, remove or disturb a nest;
- (d) deposit bait in any place during the period referred to in subsection 6(1), in accordance with subsections 6(3) to (5);
- (e) exchange, give or have in their possession a migratory bird, egg or nest; and
- (f) if they are authorized to capture and band a migratory bird, take birds that are killed as a result of normal banding operations or that are found dead.

The MBR 2022 also itemize permit holder obligations, including reporting on permit activities and disposal of bird carcasses.

Visit the Government of Canada website for more information on [scientific permits](#).

Should you have any questions on the MBR 2022, you may contact the Canadian Wildlife Service, Wildlife Management and Regulatory Affairs office at ec.reglementsfaune-wildliferegulations.ec@canada.ca.

Please contact the Canadian Bird Banding Office at bbo@ec.gc.ca if you have questions related to your scientific permit to capture and band birds or your local CWS regional office regarding your other MBR permits.

Règlement sur les oiseaux migrateurs, 2022 sont en vigueur

Le Règlement sur les oiseaux migrateurs, 2022 (ROM) modernisé est entré en vigueur le 30 juillet 2022. Le ROM 2022 protège en tout temps les individus de toutes les espèces d'oiseaux migrateurs, telles que définies dans le règlement, ainsi que tous les nids d'oiseaux migrateurs lorsqu'ils contiennent un oiseau vivant ou un œuf viable. Ces protections ne s'appliquent qu'aux espèces inscrites comme « oiseaux migrateurs » à l'article 1 de la *Loi de 1994 sur la convention concernant les oiseaux migrateurs*. Les nids de 18 espèces inscrites à l'annexe 1 du ROM 2022 sont protégés toute l'année. Visitez le site Web du gouvernement du Canada pour examiner [foire aux questions: Règlement sur les oiseaux migrateurs, 2022](#).

Voici quelques points saillants du Règlement sur les oiseaux migrateurs (2022) modernisé :

- Améliore la clarté, favorise la flexibilité et facilite l'interprétation et la conformité
- Reconnaît des droits de récolte existants - ancestraux et ceux issus de traités - reconnus et confirmés en vertu de l'article 35 de la Loi constitutionnelle de 1982
- Améliore la capacité de gérer efficacement les oiseaux migrateurs au Canada en:
 - Protégeant des nids lorsqu'ils ont une valeur pour la conservation des oiseaux migrateurs
 - En clarifiant et en adoptant des dispositions à l'appui des politiques nouvelles et actuelles sur la chasse aux oiseaux migrateurs considérés comme gibiers et la gestion de la chasse

Protection des nids

Le ROM 2022 protège la plupart des nids contre les dommages, la destruction, les perturbations ou l'enlèvement uniquement lorsqu'ils contiennent un oiseau vivant ou un œuf viable. Cela appuie les avantages en matière de conservation, car les nids de la plupart des oiseaux migrateurs n'ont la plus grande valeur de conservation que lorsqu'ils sont actifs (contiennent un oiseau ou un œuf viable), et offre également aux intervenants la souplesse et la prévisibilité nécessaires pour gérer leurs exigences de conformité lorsqu'ils entreprennent des activités dans le paysage qui peuvent avoir une incidence sur les nids d'oiseaux migrateurs.

Pour 18 espèces d'oiseaux migrateurs identifiées à l'annexe 1, le ROM 2022 prévoit une protection des nids tout au long de l'année jusqu'à ce qu'ils puissent être considérés comme abandonnés. L'annexe comprend certains oiseaux migrateurs qui réutilisent leurs propres nids

d'une année à l'autre ou dont les nids sont couramment réutilisés par d'autres espèces d'oiseaux migrateurs, comme le Grand Pic. Si le nid d'une espèce de l'annexe 1 n'a pas été occupé par un oiseau migrateur pendant la totalité du temps d'attente indiqué dans le ROM 2022, il est considéré comme abandonné et n'ayant plus une grande valeur de conservation pour les oiseaux migrateurs. Visitez le site Web du gouvernement du Canada [Nouveau Règlement sur les oiseaux migrateurs \(2022\)](#) pour obtenir de plus amples renseignements, la liste des nids protégés et leur période d'attente désignée et comment utiliser le Registre des nids abandonnés.

Possession temporaire sans permis

Le ROM 2022 autorise la possession temporaire d'oiseaux migrateurs (sans permis), à l'exclusion de leurs œufs, dans les trois situations suivantes:

- Lorsqu'un oiseau migrateur est trouvé mort, afin d'éliminer la carcasse conformément aux lois applicables, ou de la livrer à un laboratoire pour analyse dès que les circonstances le permettent
- Amener un oiseau migrateur blessé dans un endroit autorisé à réhabiliter les oiseaux migrateurs, dès que les circonstances le permettent
- Aider temporairement un oiseau migrateur non blessé qui fait face à une menace immédiate pour sa vie

Modifications des permis scientifiques

En vertu du modernisé ROM, l'alinéa 12(1)(d), le ministre peut délivrer un permis scientifique, ce qui est décrit dans le paragraphe 75(1):

Un permis scientifique peut être délivré par le ministre à une personne qui agit dans un but scientifique, de réhabilitation ou éducatif si le ministre est d'avis que cette personne possède les compétences pour exercer l'activité autorisée par le permis.

Le paragraphe 75(2) énumère les pouvoirs du titulaire du permis, plus précisément:

Le titulaire d'un permis scientifique peut, à des fins scientifiques, y compris le baguage, ou à des fins de réhabilitation ou éducatives, exercer au moins l'une des activités ci-après, si celle-ci est mentionnée sur le permis et sous réserve des conditions du permis:

- (a) capturer, tuer, blesser ou harceler un oiseau migrateur;
- (b) détruire, prendre ou déranger un œuf;
- (c) endommager, détruire, enlever ou déranger un nid;
- (d) déposer des appâts dans tout lieu pendant la période visée au paragraphe 6(1) et conformément aux paragraphes 6(3) à (5);
- (e) échanger, donner ou avoir en sa possession un oiseau migrateur, un œuf ou un nid;
- (f) dans le cas où il est autorisé à capturer et à baguer des oiseaux migrateurs, prendre les oiseaux tués à la suite d'opérations normales de baguage ou trouvés morts.

Le ROM 2022 détaille également les obligations des détenteurs de permis, y compris les rapports sur les activités autorisées et l'élimination des carcasses d'oiseaux.

Visitez le site Web du gouvernement du Canada pour plus d'informations sur le [permis scientifique](#).

Si vous avez des questions sur le Règlement sur les oiseaux migrateurs, vous pouvez communiquer avec le bureau de la gestion de la faune et des affaires réglementaires, Service canadien de la faune à l'adresse courriel ec.reglementsfaune-wildliferegulations.ec@canada.ca.

Veuillez communiquer avec le Bureau de baguage des oiseaux canadien à l'adresse bbo@ec.gc.ca si vous avez des questions concernant votre permis scientifique de capture et de baguage d'oiseaux migrateurs ou avec votre bureau régional du SCF concernant vos autres permis du ROM.



Trent University invites applications for a tenure track position in the field of **Cell Biology**, in the Department of Biology. The appointment will be at the rank of Assistant Professor and will commence July 1, 2023. This position will be located at the Trent Peterborough campus and is subject to budgetary approval.

A completed Ph.D. and relevant research experience are required, with teaching experience considered an asset. The successful candidate is expected to have a demonstrated research record and the potential to secure external funding. We seek an individual who investigates cellular responses to environmental stressors and/or environmental change. Research areas could include developmental processes at the cellular or molecular level, evolutionary developmental biology, cell physiology and metabolism, inter- and intra-cellular communication, and/or cellular stress responses, among others. A research program spanning multiple levels of biological organization (genes-to-whole organisms) and that complements current research in the Department of Biology (www.trentu.ca/biology) would be an asset. Applicants must be committed to undergraduate and graduate level training through teaching, mentorship of student research, and student advising as a member of the Department of Biology and the Environmental and Life Sciences Graduate Program (www.trentu.ca/els).

Applications should include a cover letter, a *curriculum vitae*, a statement of teaching experience and philosophy, a brief description of proposed research, and the names, email addresses, and telephone numbers of three referees who would be willing to write on the candidate's behalf. Please note that applications will only be accepted in PDF format via email. Please send applications and/or any questions to biologyjobs@trentu.ca, attention Professor Gary Burness, Chair, Department of Biology.

The deadline for receipt of applications is **December 15, 2022**.

Trent University is actively committed to creating a diverse and inclusive campus community and encourages applications from all qualified candidates. Trent University offers accommodation for applicants with disabilities in its recruitment processes. If you require accommodation during the recruitment process or require an accessible version of a document/publication, please contact garyburness@trentu.ca.

All qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be given priority.

Jamie Smith Memorial Award for Mentoring Prix Memorial de Jamie Smith pour le mentorat

CALL FOR NOMINATIONS / APPEL DE NOMINATIONS - 2023

In recognition of Jamie Smith's contribution to fostering ornithological research, the Society of Canadian Ornithologists has created The Jamie Smith Memorial Award for Mentoring in Ornithology.

This award honours established ornithologists - either in academia, industry, non-government or government agencies - nominated by students, colleagues and/or peers to have displayed excellence in mentoring a new generation of professional or amateur biologists. The award will be presented to the recipient at the Society's annual meeting.

Nomination: Details concerning nominations can be found online at www.sco-soc.ca/smith-award. A cover letter (max 1,000 words) outlining why the nominee should receive the distinction should accompany the nomination. The nomination must be accompanied by at least two additional letters of support (max 500 words) that indicate they have seen and support the nomination letter. They may then add their own comments on the nominee.

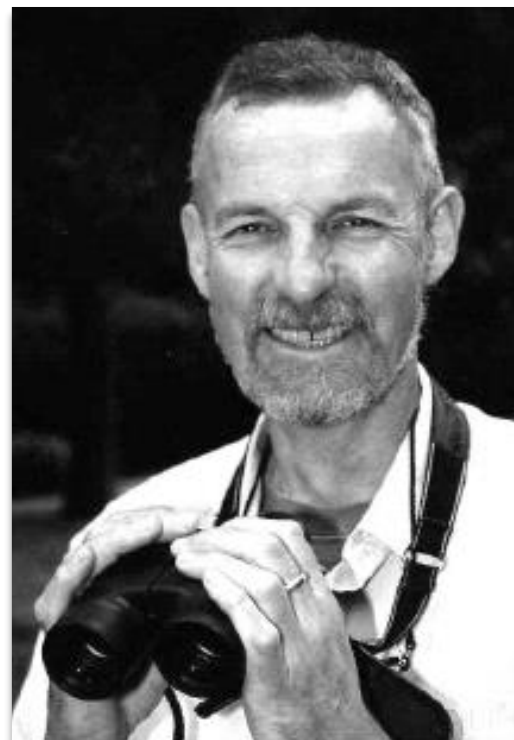
Deadline for submission of nominations is **15 January 2023**.

Nominations should be sent, by email, to:

Kyle Elliott

Chair - Jamie Smith Memorial Mentoring Award Committee

Email: kyle.elliott@mcgill.ca



En reconnaissance pour la contribution de Jamie Smith à la recherche en ornithologie au Canada, la Société des ornithologistes du Canada a créé le Prix Mémorial de Jamie Smith pour le mentorat en ornithologie.

Le prix est remis à un ornithologiste établie, soit dans le domaine académique, industriel, gouvernemental ou ONG, nommé par des étudiants ou collègues pour avoir excellé dans le mentorat d'une nouvelle génération de biologistes amateurs ou professionnels. Le prix sera présenté au récipiendaire à la réunion annuelle de la Société.

Nomination: Les détails concernant les nominations peuvent être trouvés au site de la SCO-SOC (www.sco-soc.ca/smith-award). Une lettre (max 1 000 mots) expliquant pourquoi la personne nominée devrait recevoir ce prix doit accompagner la nomination. La nomination devrait aussi inclure au moins deux autres lettres de support (max 500 mots) dans lesquelles il est indiqué que ces personnes ont lu la lettre de nomination et qu'ils la supportent. Ils peuvent également ajouter leur propres commentaires sur le nominé.

Date limite pour la remise des nominations est le **15 janvier 2023**.

Les nominations devraient être envoyé, par courriel, à:

Kyle Elliott

Comité pour le Prix Mémorial de Jamie Smith pour le mentorat

Courriel: kyle.elliott@mcgill.ca



Society of Canadian Ornithologists
Société des ornithologistes du Canada

Early Career Research Award

Prix de recherche en début de carrière

CALL FOR NOMINATIONS / APPEL DE NOMINATIONS - 2023

The Early Career Researcher Award honours fledgling ornithologists – in academia, industry, non-government or government agencies – that show strong potential for future leadership in Canadian ornithology. The award will be presented to the recipient at the Society's annual meeting where they will be invited to give a 30 minute keynote address, and travel to the meeting will be subsidized. The recipient will also be asked to provide a synopsis of their work to appear as a multi-page colour feature in the Society's *Picoides* newsletter. // *Le prix de recherche en début de carrière honore les jeunes ornithologistes – en université, en industrie et en agences non-gouvernementales et gouvernementales – qui démontrent un fort potentiel pour le futur leadership en ornithologie canadienne. Le prix sera présenté au récipiendaire à la réunion annuelle de la société où il sera invité à donner un discours d'ouverture de 30 minutes, et le voyage à la réunion sera subventionné. Le récipiendaire devra également fournir un résumé de son travail qui sera publié comme un article à plusieurs pages dans le bulletin de la société, Picoides.*

Nomination: Candidates can be nominated by themselves, former/current supervisors, colleagues and/or peers. A nomination letter should include a short statement (max 1,000 words) describing the nominee's accomplishments to date. To be eligible, the candidate must have received their PhD from or currently working at a Canadian institution. The researcher should have obtained her or his PhD no more than five years prior to the SCO meeting where the award is to be given. Periods where the researcher has not been active due to parental or personal leave would be excluded from the five years. Nominations are accepted in French or English. // *Les candidats peuvent se nommer ou peuvent être nommés par leurs anciens superviseurs, par leur superviseurs actuels, par leurs collègues, ou par leurs pairs. Une lettre de nomination devrait inclure une courte déclaration (max 1 000 mots) décrivant les accomplissements du nominé à ce jour. Pour être éligible, le candidat doit avoir reçu son doctorat d'une institution canadienne ou doit présentement travailler à une institution canadienne. Le candidat doit avoir obtenu son doctorat au plus tard 5 ans avant la réunion de la SOC où le prix sera remis. Les périodes durant lesquelles le candidat n'était pas actif à cause d'un congé parental ou personnel seront exclues de cette période. Les candidatures sont acceptées en français ou en anglais.*

Deadline for submission of nominations is 31 January 2023. // Date limite pour les nominations est le 31 janvier 2023.

Nominations should be sent, by email, to // *Les nominations devraient être envoyées, par courriel, à:*

Danielle Ethier, Chair/Chaire

Early Career Research Award Committee/ Comité de prix de recherche en début de carrière

email/courriel: dethier@birdscanada.org



Society of Canadian Ornithologists
Société des ornithologistes du Canada

STUDENT RESEARCH AWARDS

TAVERNER AWARDS

Taverner Awards are offered by the SCO-SOC to honour Percy A. Taverner and to further his accomplishments in increasing the knowledge of Canadian birds through research, conservation, and public education. The awards are aimed at people with limited or no access to major funding, regardless of professional status, who are undertaking ornithological work in Canada.

Two awards of up to \$2,000 each are made annually.

JAMES L. BAILLIE AWARD

The James L. Baillie Student Research Award is open to any student at a Canadian university. It honours the memory of James L. Baillie and is to support research, monitoring, education and conservation projects that involve any wild bird species occurring in Canada. More specifically, studies eligible for the award will involve a high proportion of field work or will have direct conservation benefits. The Baillie Student Research Award is funded by Bird Studies Canada from proceeds of the Great Canadian Birdathon.

One award of up to \$2000 is made annually

FRED COOKE AWARD

The Fred Cooke Student Award is offered jointly by the SCO-SOC and Bird Studies Canada to honour the contributions of Professor Fred Cooke to Canadian ornithology. It supports ornithological conference travel or research activities by a student. The award shall be open to any student conducting ornithological research at a Canadian university, except that previous recipients of the award shall not be eligible. The award shall be for travel to ornithological conferences at which the student will make an oral or poster presentation, or research in any aspect of ornithology anywhere in the world.

One award of up to \$1000 is made annually.

FOR FULL DESCRIPTIONS/APPLICATION FORMS, VISIT:

<https://www.sco-soc.ca/student-awards>

- Applicants must be members of the SCO-SOC to be eligible (\$15/year for students)
- A single application can be made to apply for all three award types. Application Deadline: 1 Mar 2023

For further information, or to submit an application (e-mail only), contact:

Dr. Danielle Ethier, Chair, SCO-SOC Student Awards Committee

Birds Canada, Port Rowan, Ontario

e-mail: dethier@birdscanada.org



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BOURSES DE RECHERCHE

BOURSES TAVERNER

La bourse Taverner est offerte par la SCO-SOC afin d'honorer Percy A. Taverner et de faire progresser ses accomplissements en améliorant les connaissances sur les oiseaux canadiens par la recherche, la conservation et l'éducation du public. Les bourses sont destinées aux gens qui n'ont aucun accès ou un accès limité aux subventions majeures, peu importe leur statut professionnel, et qui entreprennent des travaux ornithologiques au Canada.

Deux bourses d'une valeur atteignant 2000 \$ chacune sont décernées annuellement.

BOURSE JAMES L. BAILLIE

La bourse de recherche pour étudiant(e)s James L. Baillie est ouverte à tout(e) étudiant(e) qui entreprend une recherche ornithologique à une université canadienne. La bourse est en honneur de James L. Baillie et subventionne la recherche qui correspond aux objectifs du fond James L. Baillie. Ces objectifs sont de supporter financièrement les études d'oiseaux canadiens dans leurs milieux naturels, les projets contribuant à la sauvegarde d'oiseaux et les projets visant à propager le savoir ornithologique. La bourse de recherche étudiante James L. Baillie est subventionnée par le d'Études d'oiseaux Canada par les revenus du Great Canadian Birdathon et est administrée par la Société des ornithologues canadien(ne)s.

Une bourse atteignant 2000 \$ est présentée annuellement.

BOURSE FRED COOKE

La bourse de recherche pour étudiant(e)s Fred Cooke est offerte conjointement par la SCO-SOC et Études d'oiseaux Canada afin d'honorer les contributions à l'ornithologie canadienne par le professeur Fred Cooke. Cette bourse vise à subventionner les coûts de voyage vers une conférence ornithologique ou la recherche d'un(e) étudiant(e) d'université canadienne. La bourse est ouverte à n'importe quel(le) ornithologue poursuivant sa recherche dans une université canadienne, sauf les gagnant(e)s précédent(e)s de la bourse. La bourse doit être utilisée pour le voyage aux conférences ornithologiques auxquelles l'étudiant(e) donne une présentation orale ou une affiche (poster), ou pour la recherche ornithologique n'importe où à travers le monde.

Une seule bourse atteignant 1000 \$ est présentée annuellement.

DESCRIPTIONS COMPLÈTES/FORMULAIRE D'APPLICATION À:

<https://www.sco-soc.ca/prix-etudiants>

- Les candidats doivent être membres de la SCO-SOC pour être éligible (15 \$ par année pour les étudiants)
- Une seule demande par candidat pour les trois types de bourses. Date limite d'inscription: 1 mars 2023

Pour de plus amples renseignements ou pour soumettre une candidature (courriel seulement), veuillez communiquer avec:

Dr. Danielle Ethier, Chaire du Comité de SCO-SOC bourses de recherche pour étudiant(e)s

Oiseaux Canada, Port Rowan, Ontario

Courriel: dethier@birdscanada.org



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Doris Huestis Speirs Award

Prix Doris Huestis Speirs

CALL FOR NOMINATIONS / APPEL DE NOMINATIONS - 2023

The Doris Huestis Speirs Award is the most prestigious award given by the SCO-SOC. The award is presented annually to an individual who has made outstanding lifetime contributions in Canadian ornithology. Past awardees include professionals who work at museums, government agencies, private companies and universities, as well as amateur ornithologists and people who have contributed to ornithological infrastructure of Canada. // *Le prix Doris Huestis Speirs est le plus prestigieux prix décerné par la SCO-SOC. Le prix est remis annuellement à une personne qui a apporté une contribution significative à long terme en ornithologie au Canada. Les précédents récipiendaires sont des professionnels qui travaillent dans les musées, les organismes gouvernementaux, les entreprises privées, les universités, ainsi que des ornithologues amateurs et des personnes qui ont contribué à la cause ornithologique au Canada.*

Doris Huestis Speirs was born on 27 October 1894 in Toronto, Ontario, and passed away in Ajax, Ontario, on 24 October 1989. Doris was highly prominent in art, literary, and ornithological circles. She founded the Margaret Morse Nice Ornithological Club, which was the only such group specifically for women, and she was also a founding member of the Pickering Naturalists' Club. In her lifetime, Doris made several prominent contributions to the ornithological literature on Evening Grosbeaks and Lincoln's Sparrows (the latter with her husband, J. Murray Speirs). // *Doris Huestis Speirs est née le 27 octobre 1894 à Toronto, en Ontario, et est décédée à Ajax, Ontario, le 24 octobre 1989. Doris a été très importante dans les milieux artistiques, littéraires et ornithologiques. Elle a fondé le club ornithologique de Margaret Morse Nice, qui était le seul groupe ornithologique pour les femmes et elle a également été membre fondateur du Club des naturalistes de Pickering. De son vivant, Doris a fait plusieurs contributions importantes à la littérature ornithologique du Gros bec errant et le Bruant de Lincoln (ce dernier avec son mari, J. Murray Speirs).*



Process//Processus: Nominations should clearly articulate the nominee's cumulative, significant contributions to ornithology in Canada. Nomination packages containing attestations from more than one individual about the scope and impact of the nominee's contributions are particularly welcomed. To nominate a candidate for the Speirs award, preferably with supporting detailed information, contact the Chair of the award committee: // *Les candidatures doivent exprimer clairement le cumul et l'importance des contributions du candidat à l'ornithologie au Canada. Les dossiers de candidature comprenant le soutien de plus d'une personne au sujet de la portée et l'impact des contributions du candidat sont particulièrement les bienvenues. Afin de désigner un candidat au prix Speirs, de préférence avec à l'appui des informations détaillées, contactez le président du comité d'attribution:*

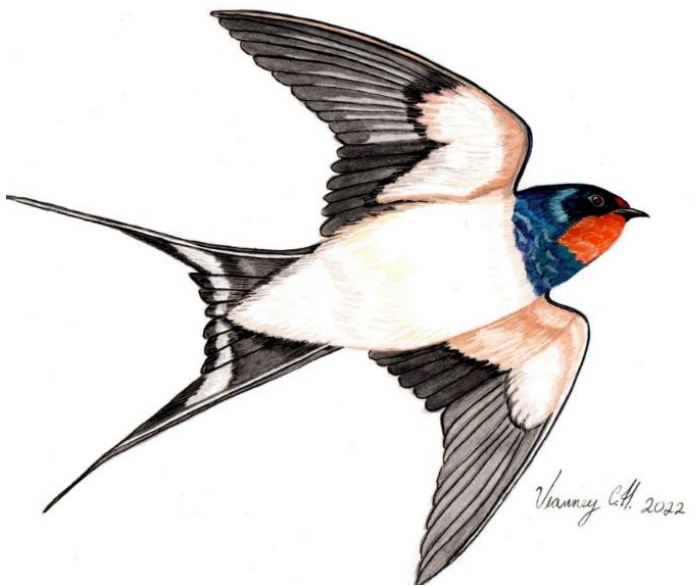
Colleen Barber
Department of Biology
Saint Mary's University
923 Robie Street, Halifax, NS B3H 3C3
Tel: 902-223-1211
Email/courriel: colleen.barber@smu.ca



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Deadline for receipt of nominations is 7 April 2023. // La date limite de réception des candidatures est le 7 avril 2023.

Bird Artwork



Avian Conservation and Ecology Articles

Volume 17, Issue 2

RESEARCH PAPERS

[Age-specific effects on reproductive performance of grassland songbirds nesting in agricultural habitats](#)

Olivia M. Scott, Noah G. Perlut, Allan M. Strong

[The Great Lakes shape nocturnal bird migration in southern Ontario](#)

François Gagnon, Charles M. Francis, Junior A. Tremblay

[Do lighting conditions influence bird–window collisions?](#)

Lauren C. Emerson, Robin G. Thady, Bruce A. Robertson, John P. Swaddle

[Trends in bird counts 1978–2020 in a New Zealand *Nothofagus* forest with variable control of mammalian predators](#)

Laureline Rossignaud, Dave Kelly, Eric B. Spurr, David J. Flaspohler, Robert B. Allen, Eckehard G. Brockerhoff

[Spring migration and breeding distribution of female Ring-necked Ducks wintering in the southern Atlantic Flyway](#)

Tori D. Mezebish, Glenn H. Olsen, Michele Goodman, Frank Rohwer, Mark D. McConnell

[Effects of human land use on avian functional and taxonomic diversity within the upland coastal zone of the North American Great Lakes](#)

Annie M. Bracey, Katya E. Kovalenko, Gerald Niemi, Erin E. Gnass Giese, Robert W. Howe, Alexis R. Grinde

[Migratory connectivity and variation in migration phenology within the Pacific population of Barrow's Goldeneye \(*Bucephala islandica*\)](#)

Tesia M. Forstner, W. Sean Boyd, Daniel Esler, Timothy D. Bowman, Jason L. Schamber, Malcolm McAdie, Jonathan E. Thompson, David J. Green

[Effects of spring weather on laying dates, clutch size, and nest survival of ground-nesting passerines in abandoned fields](#)

Viktoria Grudinskaya, Stanislav Samsonov, Elena Galkina, Alexander Grabovsky, Tatiana Makarova, Tatiana Vaytina, Svetlana Fedotova, Dmitry Shitikov

[Mitigating avian collisions with power lines through illumination with ultraviolet light](#)

David M. Baasch, Amanda M. Hegg, James F. Dwyer, Andrew J. Caven, William E. Taddicken, Catherine A. Worley, Amanda H. Medaries, Cody G. Wagner, Phoebe G. Dunbar, Nicole D. Mittman

[Identifying spatial drivers of long-term population growth in three large gull species: the importance of mink farms and urban areas](#)

Josu Meléndez-Arteaga, Thomas Bregnballe, Morten Frederiksen

[Long-term assessment of birds' extirpation from a tropical agroecosystem](#)

Raul E. Sedano-Cruz, Kimberly C. Navarro-Velez

[Bioacoustically derived migration arrival times in boreal birds: implications for assessing habitat quality](#)

John J. Johnson, Erin Bayne

[Spatiotemporal patterns in Golden-cheeked Warbler breeding habitat quantity and suitability](#)

Lindsay Dreiss, Paul Sanchez-Navarro, Bryan Bird

[Factors affecting the breeding ecology of the globally threatened Lesser Adjutant \(*Leptoptilos javanicus*\) in agricultural landscapes of Nepal](#)

Hem B. Katuwal, K. S. Gopi Sundar, Mingxia Zhang, Bhagawat Rimal, Hem S. Baral, Hari P. Sharma, Prashant Ghimire, Alice C. Hughes, Rui-Chang Quan

[Estimated number of birds killed by domestic cats in Colombia](#)

Raul E. Sedano-Cruz

[Habitat selection and site fidelity on winter home ranges of Eastern Whip-poor-wills \(*Antrostomus vociferus*\)](#)

Marja H. Bakermans, Joshua M. Driscoll, Andrew C. Vitz

[In the twilight zone: patterns in Common Nighthawk \(*Chordeiles minor*\) acoustic signals during the breeding season and recommendations for surveys](#)

Kevin C. Hannah, Lionel F. V. Leston, Elly C. Knight, Russ Weeber

[Functional habitat suitability and urban encroachment explain temporal and spatial variations in abundance of a declining farmland bird, the Little Bustard *Tetrax tetrax*](#)

Beatriz Arroyo, Alba Estrada, Fabián Casas, Laura Cardador, Miquel De Cáceres, Gerard Bota, David Giralt, Lluís Brotons, Francois Mougeot

[Wetland use by Greater White-fronted Geese and spatial overlap with waterfowl conservation priority areas in Mexico](#)

Jay A. VonBank, Joshua P. Vasquez, Jason P. Loghry, Kevin J. Kraai, Lei Cao, Bart M. Ballard

[Weather and climate change drive annual variation of reproduction by an aerial insectivore](#)

Michael T. Murphy, Lucas J. Redmond, Amy C. Dolan, Nathan W. Cooper, Karen Shepherdson, Christopher M. Chutter, Sarah Cancellieri

[Population density estimates and key microhabitat parameters for two endangered tropical forest understory insectivorous passerines from the Pernambuco Endemism Center](#)

Luiza Carvalho Prado, Thiago da Costa Dias, Lahert William Lobo de Araújo, Luís Fábio Silveira, Mercival Roberto Francisco

[Influence of in situ oilsands development on occurrence of an avian peatland generalist and specialist](#)

Thea M. Carpenter, C. Lisa Mahon, Erin Bayne, J. L. Keim, Scott E. Nielsen

[Comparing waterfowl densities detected through helicopter and airplane sea duck surveys in Labrador, Canada](#)

Amelia R. Cox, Scott G. Gilliland, Eric T. Reed, Christian Roy

[Environmental drivers of sex-biased foraging behavior in Magnificent Frigatebird in Baja California Sur, Mexico](#)

Giulia Giambalvo, Yuri V. Albores-Barajas, Cecilia Soldatini, Martha Patricia Rosas Hernandez, Niels C. Rattenborg

[Canada Warbler response to vegetation structure on regenerating seismic lines](#)

Jocelyn M. Gregoire, Richard W. Hedley, Erin M. Bayne

ESSAYS

[Ontario's Double-crested Cormorant hunting season may be ineffective but that doesn't mean there are no conflict issues](#)

Brian S. Dorr, David G. Fielder, James R. Jackson, James F. Farquhar, Douglas W. Schultz, Randall M. Claramunt

SCO – SOC Information

Name	Title	Phone	E-mail
Officers for 2022/2023:			
Dr. Matt Reudink	President	204-474-8768	mreudink@tru.ca
Dr. Danielle Ethier	Vice-President/President-elect	519-586-3531 ext. 115	dethier@birdscanada.org
Dr. Nicola Koper	Past President	204-474-8768	nicola.koper@umanitoba.ca
Dr. Junior Tremblay	Treasurer	418-649-6260	junior.tremblay@canada.ca
Dr. Elizabeth MacDougall-Shackleton	Membership Secretary	519-852-5179	emacdoug@uwo.ca
Dr. Greg Mitchell	Recording Secretary	613-998-7311	greg.mitchell@canada.ca
Rob Warnock	Co-editor, <i>Picoides</i>	306-586-2492	warnockr@myaccess.ca
Barbara Bleho	Co-editor, <i>Picoides</i>	416-705-0092	bleho.barbara@gmail.com
Voting Members of Council: (*second term)			
Dr. Kara Lefevre	Member of Council	239-321-0425	klefevre@tru.ca
Dr. Brendan Casey	Member of Council	780-920-1787	brcasey@ualberta.ca
Amélie Roberto-Charron	Member of Council	867-669-4734	amelie.roberto-charron@canada.ca
Dr. Maggie MacPherson	Member of Council	705-622-4575	maggie.macpherson@gmail.com
Dr. Lionel Leston	Member of Council	778-990-4981	leston@ualberta.ca
Dr. Sam Hache	Member of Council	867-669-4771	samuel.hache@canada.ca
Dr. Sarah Gutowsky	Member of Council	-	sarahegutowsky@gmail.com
Dr. Ann McKellar	Member of Council	306-241-1495	ann.mckellar@canada.ca
Steven van Wilgenburg	Member of Council	306-975-5506	steven.vanwilgenburg@canada.ca

(Non-voting) Past Presidents:

Ross Lein	1983-1986	Tony Diamond	1998-2000	Joe Nocera	2012-2014
Spencer Sealy	1986-1988	Kathy Martin	2000-2002	Greg Robertson	2014-2016
Erica Dunn	1988-1990	Jean-Pierre Savard	2002-2004	Ken Otter	2016-2018
Jon Barlow	1990-1992	Charles Francis	2004-2006	Colleen Barber	2018-2020
Bruce Falls	1992-1994	Susan Hannon	2006-2008	Nicola Koper	2020-2022
Henri Ouellet	1994-1996	David Bird	2008-2010		
David Nettleship	1996-1998	Erica Nol	2010-2012		

Membership Information

www.sco-soc.ca/membership.html

SCO-SOC membership forms can be found at the link above. Current membership rates are provided below. SCO-SOC provides free membership to members of equity-denied communities. See our website for more information.

Student	\$15.00/year
Early Career (<5 y post-grad)	\$25.00/year
Retired	\$25.00/year
Regular	\$35.00/year (\$45.00/year international)
Sustained	\$75.00/year
Life	\$500.00

SCO-SOC Website

www.sco-soc.ca/index.html

The SCO-SOC website includes sections on membership, meetings, news, publications, awards, information for students, an overview of SCO-SOC, and links of interest to members and other visitors.

Please direct any suggested additions or edits to the website to the Society's webmaster, Jennifer Foote, at jennifer.foote@algomau.ca.

Submissions to *Picoides*:

Articles and photos relevant to Canadian ornithology are welcomed by the editors. If submitting photos, please save them in tiff or jpeg format with descriptive file names, and supply captions including common names of species, location, date, photographer, and any other notes of interest. Deadlines for submission are February 15, May 15, and October 15; issues are typically published 4-6 weeks later. Please send all submissions to Rob Warnock at warnockr@myaccess.ca.

Disclaimer:

Picoides is not a peer-reviewed journal; the publication of an article in *Picoides* does not imply endorsement by SCO-SOC.