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Bohemian Waxwing enjoying winter crab apples. Photo by Ken Morrison.

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Editor's Message

Rob Warnock and Barbara Bleho

Welcome to the second and final issue of *Picoides* of 2015. We hope everyone has had a good year and is enjoying the holiday season!

In this issue, there is the bilingual President's message, President's report (page 4), the 2014 Fred Cooke research report (page 7), and several recent Canadian ornithological theses (page 12). In addition, there is a review of Robert Alvo's new book, *Being a Bird in North America, North of Mexico Volume 1: Waterfowl to Shorebirds* (see page 18), which focuses on the conservation status and issues facing North American birds, and a fantastic ornithological poem about Red-headed Woodpeckers and European Starlings by Maureen Jackson (Page 16).

In other ornithological news in this issue, Project FeederWatch is looking for participants and the Canadian Loon Survey report is now available. Bird Studies Canada has a new distance learning program and is involved with the songbird documentary film, The Messenger. Our sister SCO-SOC publication, *Avian Ecology and Conservation*, is looking for a social media coordinator. Please check out these notices!

Your feedback and suggestions for *Picoides* are always welcome – we receive very little input from our readers, and would love to get more. In order to make *Picoides* more useful and relevant to SCO-SOC members, we really need more submissions. We received NO submissions for the May 2015 deadline, which was extremely disappointing. It was also a real challenge to get enough material for this issue, so we really do need submissions from SCO-SOC members, especially from students and ornithology labs. Picoides truly does not exist without your contributions of articles and photos. The next submission deadline is February 15, 2016. Until then, safely enjoy Christmas, the New Year and the rest of winter – and submit something to Picoides (your New Year's resolution)!

Message des éditeurs

Rob Warnock et Barbara Bleho

Bienvenue au deuxième et dernier numéro de Picoides en 2015. Nous espérons que tous ont passé une belle année et profiterons bien de la période des Fêtes !

Ce numéro comprend le message bilingue du président, le rapport du Président (page 4), le rapport de recherche Fred Cooke 2014 (page 7) et plusieurs thèses ornithologiques canadiennes récentes (page 12). En outre, il y a une revue du nouveau livre de Robert Alvo, *Being a Bird in North America, North of Mexico Volume 1: Waterfowl to Shorebirds* (voir page 18), qui porte sur l'état de conservation et les enjeux des oiseaux d'Amérique du Nord et également un fantastique poème ornithologique à propos du Pic à tête rouge et de l'étourneau sansonnet par Maureen Jackson (Page 16).

Dans la rubrique « Autres nouvelles ornithologiques », le Projet *FeederWatch* est à la recherche de participants et le rapport de l'Inventaire canadien des Plongeons huards est maintenant disponible. Études d'Oiseaux Canada possède un nouveau programme d'apprentissage à distance et est impliqué dans le film documentaire *The Messenger*. L'autre publication de SCO-SOC, *Avian Ecology and Conservation*, est à la recherche d'un coordonnateur des médias sociaux.

Vos commentaires et suggestions pour Picoides sont toujours les bienvenus - nous recevons très peu de commentaires de nos lecteurs et nous aimerions en obtenir davantage. Afin de rendre Picoides plus utile et pertinent aux membres SCO-SOC, nous avons vraiment besoin de plus de soumissions. Nous n'avons reçu AUCUNE soumission pour l'échéance de mai 2015, ce qui a été extrêmement décevant. Il a été également difficile d'obtenir suffisamment de matériel pour le numéro actuel, de sorte que nous avons vraiment besoin de plus de communications provenant des membres SCO-SOC, en particulier des étudiants et des laboratoires d'ornithologie. Picoides ne peut exister sans vos contributions d'articles et de photos. La prochaine date limite de soumission est le 15 Février 2016. D'ici-là, profitez de Noël, du Nouvel An et de l'hiver - et soumettez quelque chose à Picoides (votre résolution du Nouvel An)!

Follow SCO on Twitter! Follow us @SCO_SOC for news, exciting research, updates from members, and more!
Suivez SOC sur Twitter! Suivez-nous @SCO_SOC pour les nouvelles, la recherche passionnant, mises à jour des membres, et plus encore!

President's Message

Greg Robertson

I was not able to personally attend the meeting in Wolfville, so I want to thank everyone who filled in for me, especially Ken Otter, our President-elect, who took over the duties of chairing the council meetings and the AGM. From all accounts I heard it was an excellent meeting by any standard. Dave Shutler, the chair of the local committee, deserves a huge collective thank you from all of us, it's a massive and often thankless undertaking organizing a scientific meeting, and his efforts are very much appreciated. Dan Mennill, Greg Mitchell and Laura McFarlane Tranquilla played key roles on the student travel, student presentation and scientific program committees on our behalf. I would also like to thank our partner societies, the AFO and the WOS, and the steering committee that helped plan the meeting. From my perspective, working with the AFO and WOS was seamless; we were able to meet the needs of our respective members but also plan a cohesive and enjoyable event. I did hear that there was some disappointment about not having a major SCO-SOC award to present at the meeting. I share that disappointment, and will work hard with our award committees to make sure quality nominations are put forward. But I also ask you, the members, to support our awards, and be prepared to take the time needed to put forward a nomination package. Probably the most satisfying task I have conducted on behalf of the SCO-SOC is presenting the Speirs award, and I can tell you the pride expressed from the people that put these nominations together is worth every minute invested in putting together the nomination.

My 2015 President's report is included in this issue of Picoides, and you can read more about the state of our society there. All in all, I think we are in good shape, and have some exciting years ahead of us.

Message du président

Greg Robertson

Malheureusement, je n'ai pu être présent à la conférence de Wolfville et je tiens à remercier particulièrement Ken Otter, notre président élu, lequel a repris les fonctions de présider les réunions du conseil et de l'assemblée générale annuelle. De ce que j'ai pu entendre, la conférence fut excellente. Dave Shutler, le président du comité local, mérite un énorme remerciement collectif de nous tous, il a entrepris la tâche colossale et souvent ingrate d'organiser une réunion scientifique et ses efforts sont très appréciés. Dan Mennill, Greg Mitchell et Laura McFarlane Tranquilla ont joué un rôle clé en notre nom pour les voyages étudiant, la présentation des étudiants et des comités de programmes scientifiques. Je voudrais également remercier nos sociétés partenaires (AFO et WOS) et le comité de direction qui a contribué à planifier la conférence. De mon point de vue, la collaboration avec AFO et WOS a été sans faille; nous étions en mesure de répondre aux besoins de nos membres respectifs, mais aussi de planifier un événement cohérent et agréable. J'ai entendu parler de quelques déceptions de ne pas avoir un prix majeur de la SCO-SOC à présenter lors de cette conférence. Je partage cette déception et je vais travailler étroitement avec nos comités d'attribution à ce que des nominations de qualité sont mis en avant. Toutefois, je vous demande aussi, membres, de soutenir nos prix et d'être prêt à prendre le temps nécessaire pour promouvoir un dossier de candidature. La tâche probablement la plus satisfaisante que je pu mener au nom de la SCO-SOC fut de présenter le prix Speirs et je peux vous témoigner la fierté des gens qui préparent ces nominations vaut chaque minute investi à préparer la nomination.

Mon rapport du président 2015 est inclus dans ce numéro de Picoides, et vous pouvez y lire davantage sur l'état de notre société. Dans l'ensemble, je pense que la société est sur la bonne voie et nous avons des années passionnantes devant nous.

Avian Conservation and Ecology Social Media Coordinators Needed

Avian Conservation and Ecology (ACE) - Écologie et conservation des oiseaux (ÉCO), http://www.ace-eco.org/, is Canada's scientific journal for avian conservation and ecology. As one of the supporting organizations, SCO-SOC is looking for several students to run the Facebook and Twitter accounts for ACE and more broadly for other major SCO-SOC events such as the annual meetings. SCO will offer a free 1-year student membership to persons who would like to take on this role. The work effort will be modest, involving tweeting and re-tweeting or sharing Facebook posts for ornithology-conservation-related topics with a focus on Canadian Ornithology or the work of Canadian Ornithologists, and posting on both Facebook and Twitter each time ACE publishes a new paper, or on other notable ornithological events and achievements. Interested students should contact Kathy Martin (Kathy.Martin@ubc.ca), and put "ACE-ECO Social Media Coordinator" in the subject header.

SCO-SOC President's Report – 2015

Greg Robertson

The 2014-15 year was another positive year for the SCO-SOC on a number of fronts, but as always, a few challenges emerged. In my first year as President, one thing that I did not quite expect was that managing the society is a 'full-time' task (at least full-time for a volunteer position), and the time I have devoted to the SCO-SOC has not been on new initiatives but on maintaining current activities. I think that is a healthy position, and shows the maturity of our society where we are active on a number of fronts. But for the SCO-SOC to grow, it will not be on the shoulders of the current executive who are fully engaged, but on the backs of members and councillors to take on new challenges.

In 2015 we celebrate the 10th anniversary of ACE. The publishing landscape is a moving target these days, and getting through our first 10 years is a significant accomplishment. This last year saw a lot of discussion with the SCO-SOC, the joint BSC/SCO-SOC journal committee and the journal editors on various aspects of the journal. A declining and disappointing impact factor for 2013 was one motivator for these discussions. The journal committee has provided an extensive report, and I feel their work is positioning ACE well to succeed in the future. In an April 2015 council meeting, the council agreed that the editors of ACE should be ex-officio councillors, recognizing the growing importance of the journal in the business of the SCO-SOC. Some promotional material for ACE will be presented at the Wolfville meeting in an attempt to increase submission rates.

Meeting planning is a significant job of the President, to ensure the needs and views of the society are captured as meetings are planned. Overall meeting planning has proceeded very well. We are expecting 225+ attendees for the Wolfville meeting, clearly showing the benefit of joint meetings (stand-alone meetings garner 100-130 attendees). Dave Shutler and his local committee's efforts to pull this meeting together are to be congratulated. After a busy 2014 of NAOC 2016 planning to get the big decisions out of the way (venue, focus, budgeting), 2015 has been quieter. However, with the conclusion of the 2015 meetings of the participating societies, planning for the NAOC 2016 will kick in to high gear. I have every confidence Pete Marra will pull together a highly memorable event. In 2017 the SCO-SOC will again join the AOU and the COS, this time at Michigan State, in East Lansing, MI.

This year it was announced that the 2018 IOC will be held in Vancouver, and a congratulations to Bob Elner and his steering committee for putting together the successful bid. The SCO-SOC's role in the IOC is yet to be determined but I foresee IOC planning becoming a significant item in SCO-SOC business in the coming years.

Financially the SOC-SCO is holding its own. Revenue to expenditure ratios are about equal (considering we are expecting the NAOC 2016 contribution of 15K to be returned), which is good sign in spite of the significant increases the SCO-SOC has put towards conference events. We now commit $2700 to student travel and presentation awards alone, and are still maintaining a balanced budget. Personally, I would like to see the SCO-SOC grow to exceed the 100K mark, which would give us more flexibility in the activities we could pursue on behalf of the membership.

The single largest activity in 2014-2015 was renewing the SCO-SOC as a not-for-profit corporation in Canada under the new Not-for-Profit Act. I failed to understand the breadth of this renewal, and there was a slight panic in October 2014 to provide industry Canada all the required documents, but I am happy to say we made the deadline and the SCO-SOC still exists! At the time we were required to amend the by-laws, largely to include standard wording to comply with the new Act, and took the opportunity to look at the structure of the society and its directors. The council held a special meeting in April 2015 to discuss possible changes. In general, a significant overhaul was not seen as necessary, but rather a few minor adjustments seemed in order. A further discussion of the bylaws will take place at the council meeting and AGM in Wolfville, and we'll have a new set of bylaws ready for a special ballot of the AGM at the 2016 meeting.

Taking advantage of the new communication technologies is a future challenge for the society. Our web presence needs to be updated, which has become a task beyond what somebody can do off the side of someone's desk. A clear strategy to update and improve our communication to the membership is a focus for me in the next year.

A renewal of our standing committees is in order for 2015. We have been lucky enough to have had long service on a number of our committees, but it is time for those members to take a well-deserved break and bring in new members. The Speirs award committee, the student awards committee and the journal committee all need new members. I would like those who have served on these committees, Speirs (Bob Clark and Mark Brigham), student awards (Karen Wiebe, Marc Avey and Ryan Fisher) and the journal committee (Charles Francis, Pierre Drapeau and Nicky Koper). The student affairs committee will likely need to be re-instated for the 2016 NAOC.

Various permitting issues have been discussed in recent years, and I think we need to further engage the Ornithological Council on these matters. They have been making good progress south of the border, and I suspect their experience can assist with the issues we are having here in Canada.

Overall I feel the SCO-SOC is in a solid position and the next few years will be quite exciting. We are now engaged as full partners in all joint meetings, we have 10 years of scientific publishing under our belt and we are hosting the ornithology world in 2018 – all achievements we can be proud of. Personally I am particularly looking forward to celebrating the 100 year anniversary of the signing of the 1916 Migratory Bird Convention, a landmark treaty that set the stage for bird conservation in North America.

FRANÇAIS— *SCO-SOC Rapport du président– 2015 par Greg Robertson*

2014-15 a été une autre année positive pour la SCO-SOC sur un certain nombre de fronts, mais comme toujours, quelques défis ont émergé. Dans ma première année en tant que président, une chose dont je ne m'attendais pas était que la gestion de la société est une tâche «à temps plein» (au moins à temps plein pour un poste de bénévole) et que le temps que j'ai consacré à la SCO-SOC n'a pas été sur de nouvelles initiatives, mais sur le maintien des activités courantes. Je pense que cela démontre que la société est en santé et mature alors que nous sommes actifs sur un certain nombre de fronts. Toutefois, la poursuite de la croissance de la société ne repose pas sur les épaules de l'exécutif actuel, qui sont pleinement engagés, mais sur les membres et les conseillers afin qu'ils relèvent de nouveaux défis.

En 2015, nous célébrons le 10e anniversaire de l'ACE. Le contexte de la publication est une cible mouvante ces temps-ci et le passage de nos 10 premières années est une réalisation importante. Il y a eu beaucoup de discussion cette dernière année entre la SCO-SOC, le comité mixte de la revue SCO-SOC /BSC et les éditeurs de ACE sur divers aspects de la revue. Un facteur d'impact à la baisse et décevant pour 2013 était un élément motivant ces discussions. Le comité de la revue a fourni un rapport détaillé et je sens que leur travail positionnera ACE pour réussir dans l'avenir. Lors d'une réunion du conseil en avril 2015, le conseil a convenu que les éditeurs d'ACE devraient être élus d'office, en reconnaissant l'importance croissante de la revue dans les affaires de la SCO-SOC. Certains matériels promotionnels pour ACE sera présenté lors de la conférence de Wolfville dans une tentative d'augmenter le taux de soumission.

La planification de conférences est une tâche importante du président, afin de s'assurer que les besoins et les opinions de la société sont exprimés. La planification globale des conférences s'est bien déroulée. Nous prévoyons plus de 225 participants à la conférence de Wolfville, démontrant clairement l'avantage des conférences communes (les conférences de la SOC-SCO uniquement regroupent entre 100-130 participants). Il est essentiel de souligner et féliciter les efforts de Dave Shutler et du comité local dans la planification de cette conférence. Après une année2014 chargée pour la planification de NAOC 2016 afin de déterminer les grandes lignes (lieu, orientation, budget), l'année 2015 a été plus calme. Cependant, avec la conclusion des réunions de 2015 des sociétés participantes, la planification de NAOC 2016 s'est grandement accélérée. Je suis convaincu que Pete Marra mettra en place un événement mémorable. En 2017, la SCO-SOC rejoindra de nouveau l'AOU et la COS, cette fois dans l'État du Michigan, à East Lansing.

Cette année, il a été annoncé que l'IOC 2018 aura lieu à Vancouver et félicitations à Bob Elner et son comité de direction pour la soumission retenue. Le rôle de la SCO-SOC au sein de l'IOC est encore à déterminer, mais je prévois que la planification de l'IOC 2018 deviendra un élément important des affaires de la SCO-SOC dans les années à venir.

Financièrement, la SOC-SCO tient bon. Les ratios revenu/ dépenses sont à peu près égale (considérant que nous nous attendons le retour de la contribution de 15k à la NAOC 2016), ce qui est bon signe malgré que la SCO-SOC a augmenté considérablement ses

contributions aux conférences. Nous engageons maintenant 2700$ spécifiquement aux voyages étudiant et prix pour les présentations et maintenons toujours un budget équilibré. Personnellement, j'aimerais voir la SCO-SOC excéder la barre des 100K, ce qui nous donnerait plus de souplesse dans les activités que nous souhaitons poursuivre au nom des membres.

L'activité la plus importante en 2014-2015 a été le renouvellement de la SCO-SOC comme société sans but lucratif au Canada en vertu de la nouvelle loi sur les organisations à but non lucratif. Je n'ai pas compris l'ampleur de ce renouvellement et il y a eu une légère panique en octobre 2014 pour fournir à Industrie Canada tous les documents requis, mais je suis heureux de vous dire que nous avons tout soumis avant la date limite et que la SCO-SOC existe encore! À ce moment, nous devions modifier les règlements, en grande partie pour inclure un libellé pour se conformer à la nouvelle loi et nous avons profité de l'occasion pour examiner la structure de la société et de ses administrateurs. Le conseil a tenu une réunion spéciale en avril 2015 afin de discuter des changements possibles. En général, une refonte significative n'a pas été considérée nécessaire, mais nous avons apporté plutôt quelques ajustements mineurs. Une autre discussion des règlements aura lieu lors de la réunion du conseil et de l'AGA de Wolfville et nous aurons un nouvel ensemble de règlements prêt pour un bulletin de vote spécial de l'AGA à la réunion 2016.

L'utilisation des nouvelles technologies de la communication est un enjeu d'avenir pour la société. Notre présence sur le Web doit être mise à jour, laquelle est devenu une tâche au-delà de ce qu'une personne peut faire à temps perdu. Une de nos priorités dans la prochaine année est de mettre à jour et améliorer notre communication aux membres.

Un renouvellement de nos comités permanents est à l'ordre du jour pour 2015. Nous avons eu la chance d'avoir eu des services de longue durée sur un certain nombre de nos comités, mais il est temps pour ces membres de prendre une pause bien méritée et attirer de nouveaux membres. Le comité d'attribution Speirs, le comité des bourses d'études et le comité de la revue ont tous besoin de nouveaux membres. Je voudrais remercier ceux qui ont servi à ces comités : Speirs (Bob Clark et Mark Brigham), bourses d'études (Karen Wiebe, Marc Avey et Ryan Fisher) et le comité de la revue (Charles Francis, Pierre Drapeau et Nicky Koper). Le comité des affaires étudiantes aura probablement besoin d'être rétabli pour NAOC 2016.

Diverses questions de permis ont été discutées au cours des dernières années et je pense que nous devons nous engager davantage le conseil ornithologique sur ces aspects. Ils ont fait de bons progrès au sud de la frontière et je soupçonne que leur expérience pourrait aider sur les questions que nous avons ici au Canada.

Globalement, j'estime que la SCO-SOC est dans une position solide et les prochaines années seront tout à fait passionnantes. Nous sommes maintenant engagés comme partenaires à part entière dans toutes les conférences conjointes, nous avons 10 ans d'édition scientifique à notre actif et nous accueilleront le monde de l'ornithologie en 2018 - nous pouvons être fiers de toutes ces réalisations. Personnellement, je suis particulièrement impatient de célébrer le 100e anniversaire de la signature de la Convention concernant les oiseaux migrateurs de 1916, un traité historique qui a ouvert la voie pour la conservation des oiseaux en Amérique du Nord.

Steller's Jay. Photo by Yousif Attia.

2014 Fred Cooke Research Award Report

The Town Bird and the Country Bird: cognition and immunocompetence vary with urbanization in an insular endemic opportunistic bullfinch.

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Introduction

Urbanization is considered one of the most severe threats to biodiversity and it was demonstrated that it could dramatically alter the abundance and diversity of animal species by extinction of native species, or a change in their distribution (Case 1996; Crooks et al. 2004; Sol et al. 2014). Understanding the behavioral and physiological characteristics that allow species to adapt to these environments is crucial to eventually be able to establish conservation plans.

Among the personality traits known to vary following urbanization, boldness, which is a measure of tolerance to human presence, is generally higher in urban areas (Cooke 1980; Knight et al. 1987; Valcarcel and Fernández-Juricic 2009; Evans et al. 2010; Lowry et al. 2011; Atwell et al. 2012; Møller and Tryjanowski 2014). For neophobia, or the fear of novelty, the picture is less clear, with some studies showing that it is lower in urban areas (Sol et al. 2011), others higher (Roth et al. 2010), and others unchanged (Kozlovsky et al. 2015; Bokony et al. 2012). Cognitive abilities are presumably advantageous in urban environments, increasing the ability to solve problems related to changing habitats and the predisposition to take advantage of new sources of food (i.e., foraging innovations).

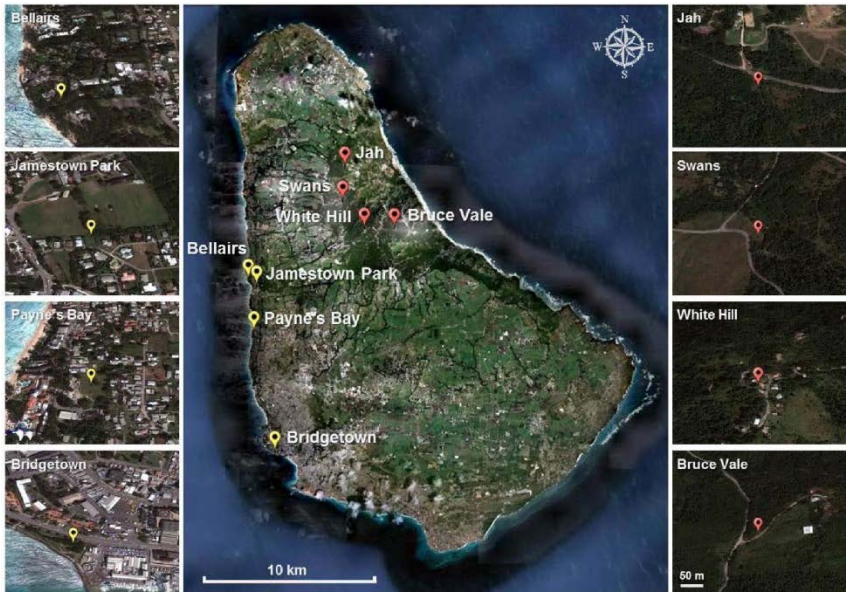

Figure 1. Map of Barbados with the 8 capture sites. Four panels on the left, yellow markers on the map: sites that are more urbanized (i.e., with a percentage of anthropic features greater than 18 %). Four panels on the right, red markers on the map: sites that are more rural (i.e., with a percentage of anthropic features smaller than 6 %). Source: Google Earth 7.1.2, DigitalGlobe 2014. Barbados 8/9/2013. http://www.google.com/earth [6/13/2014].

However, empirical measures of the ability to solve problems by urban animals, compared to rural animals, have virtually failed to detect individual difference (Liker and Bokony 2009; Papp et al. 2014; but see Sol et al. 2011). Finally, urbanization potentially influences immunocompetence, either because of increased exposure to parasites (Garamszegi et al. 2007; Vas et al. 2011; Soler et al. 2011) or by the existence of a trade-off between cognitive abilities and immune investment.

In short, 53 Barbados bullfinch (*Loxigilla barbadensis*) birds were captured in eight different sites in Barbados: four urban and four rural (Figure 1). In captivity, we submitted them to tasks measuring their temperament, problem-solving and learning abilities (Figure 2). Immunocompetence was quantified with an injection of PHA, after which the intensity of the inflammatory response was measured.

For each variable in this study, linear models were built, including all potential bias variables: sex, body weight, body condition and temperament (for problem solving and learning). The results presented here were obtained with urbanization considered as a binary variable (rural / urban). Using the degree of urbanization as a linear variable generated similar results.

Results

Boldness was higher in birds living in urban environments than in birds living in rural environments: urban birds were faster at eating after human disturbance compared to rural birds (Figure 3A, left panel). After stepwise selection of potential confounding variables, only urbanization remained significant (t = 2.91, P = 0.0056). In contrast, neophobia was higher in urban birds (Figure 3A, right panel). Following stepwise selection of variables, urbanization was the only significant explanatory variable for neophobia (t = -3.42, P = 0.0014).

Latency to succeed at the two problem-solving tasks (lid-drawer and tunnel) varied significantly with urbanization (lid-drawer: t = 2.18, p = 0.0338; tunnel: t = 2.39, p = 0.0206; Figure 3B, PC1 for the two problem-solving tasks: t = 2.94, p = 0.0049). In contrast, acquisition learning scores did not differ between birds living in the two environments (Figure 3C, left panel) and models yielded no significant effect for all tested predictors (urbanization: t = -0.00, p = 0.9989). Similarly, reversal learning did not significantly vary with urbanization (Figure 3C, right panel) nor with any other tested predictor (urbanization: t = -1.22, p = 0. 2275).

When comparing birds from both environments, urban birds had a 2.6-fold stronger PHA reaction than rural birds (Figure 3D). Following stepwise selection of variables in a linear model, only urbanization remained as a significant factor explaining PHA response (t = 5.10, P < 0.0001).

For more details on this project, please see our forthcoming publication in a peer-reviewed journal: "The Town and the Country Bird: cognition and immunocompetence vary with urbanization in an insular endemic opportunistic bullfinch." by J.-N Audet, S. Ducatez and L. Lefebvre.

Figure 2. Behavioural tasks. A) Dish used to feed birds and to assess boldness. B) Setup for neophobia assessment. C) Colored platforms for acquisition learning and reversal learning. D) Lid-drawer problem solving task. E) Tunnel problem-solving task as presented to the birds and F) when it is successfully opened.

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FRANÇAIS—*L'oiseau de ville et l'oiseau des champs: cognition et immunocompétence varient en fonction de l'urbanisation chez un oiseau opportuniste insulaire endémique.*

L'urbanisation est considérée comme étant l'une des menaces les plus sévères pour la biodiversité et il a été démontré qu'elle pouvait dramatiquement altérer l'abondance et la diversité des espèces animales par l'extinction des espèces natives ou un changement dans leur distribution (Case 1996; Crooks et al. 2004; Sol et al. 2014). Comprendre les traits comportementaux et physiologiques qui permettent aux espèces de s'adapter à de tels environnements est crucial pour éventuellement être en mesure d'établir des plans de conservation.

Parmi les traits de personnalité connus comme étant variables en fonction de l'urbanisation, l'audace (boldness), une mesure de tolérance de la présence humaine, est connue comme étant généralement plus élevée en milieu urbain (Cooke 1980; Knight et al. 1987; Valcarcel and Fernández-Juricic 2009; Evans et al. 2010; Lowry et al. 2011; Atwell et al. 2012; Møller and Tryjanowski 2014). Pour ce qui est de la néophobie, une mesure de peur de la nouveauté, le portrait est moins clair, certaines études montrant qu'elle est plus faible en milieu urbain (Sol et al. 2011), d'autres plus élevée (Roth et al. 2010) et d'autres inchangée (Kozlovsky et al. 2015; Bókony et al. 2012). D'autre part, les capacités cognitives sont vraisemblablement un avantage en milieu urbain, en augmentant l'aptitude à résoudre des problèmes liés à des habitats changeants, ainsi que la prédisposition à profiter de nouvelles sources de nourritures (i.e. innovations alimentaires). Toutefois, les mesures empiriques de l'habileté à résoudre des problèmes par des animaux urbains, comparés aux animaux ruraux, n'ont pratiquement pas réussi à détecter de différence individuelles (Liker and Bókony 2009; Papp et al. 2014; mais voir Sol et al. 2011). Finalement, l'urbanisation a le potentiel d'influencer l'immunocompétence également, soit à cause d'une exposition accrue aux parasites (Garamszegi et al. 2007; Vas et al. 2011; Soler et al. 2011), soit via l'existence d'un compromis (trade-off) entre les capacités cognitives et l'investissement immunitaire.

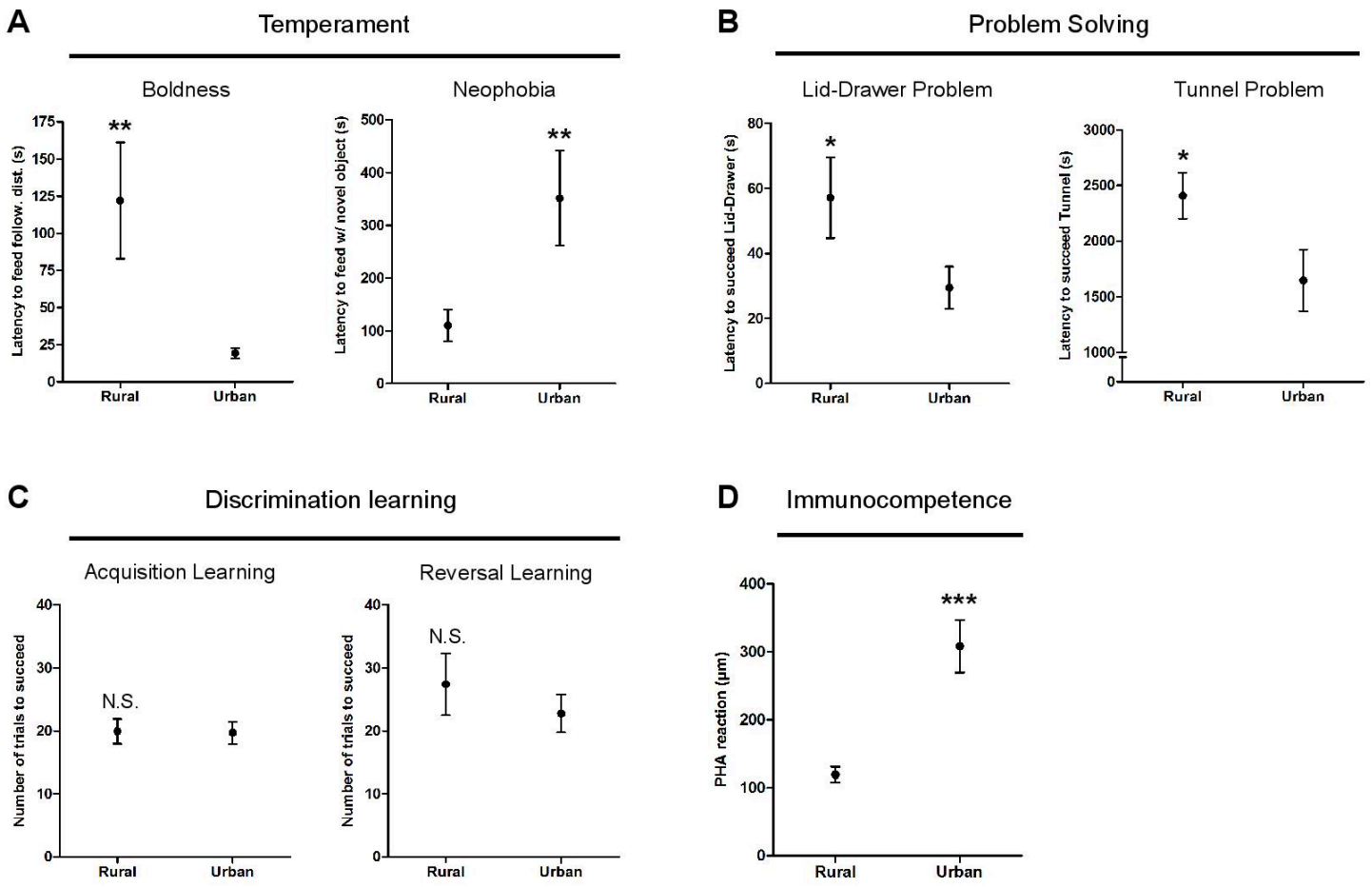


Figure 3. Behavior and immunity in urban versus rural environments. A) Temperament. Boldness (latency to feed following human disturbance) is higher in birds coming from urban environments than birds from rural environments (p = 0.0056). Neophobia (latency to feed in the presence of a novel object) is higher in urban birds compared to rural birds (P = 0.0014). B) Problem solving. In both problem solving tasks, the latency to succeed is lower in urban individuals compared to their rural counterparts (Lid-drawer P = 0.0338; Tunnel P = 0.0206). C) Discrimination learning.

En bref, 53 oiseaux Pèrenoir de Barbade (*Loxigilla barbadensis*) ont été capturés sur huit différents sites à la Barbade: quatre ruraux et quatre urbains (Figure 1). En captivité, nous les avons soumis à des tâches mesurant leur tempérament, leurs capacités de résolution de problème et d'apprentissage (Figure 2). L'immunocompétence a été quantifiée avec une injection de PHA, suite à laquelle l'intensité de la réaction inflammatoire a été mesurée.

Pour chaque variable à l'étude, des modèles linéaires ont été construits, en incluant toutes les variables potentielles de biais: sexe, poids, condition corporelle et tempérament (pour la résolution de problème et l'apprentissage). Les résultats présentés ici ont été obtenus avec l'urbanisation considérée comme variable binaire (rural/urbain). L'utilisation du degré d'urbanisation comme variable linéaire a généré des résultats très similaires.

Résultats

L'audace (boldness) est plus élevée chez les oiseaux provenant d'environnements urbains (Figure 3A, panneau de gauche). Les modèles incluant toutes les variables potentielles de biais ont déterminé que seulement l'urbanisation pouvait significativement expliquer l'audace (t = 2,91, P = 0,0056). De façon surprenante, la néophobie s'est avérée être aussi plus élevé chez les oiseaux urbain (t = -3,42, P = 0,0014, Figure 3A, panneau de droite).

La latence de réussite pour les deux tâches de résolution de problème varient de manière significative avec l'urbanisation (lid/drawer: t = 2,18, P = 0,0338; tunnel: t = 2,39, P = 0,0206; Figure 3B, PC1 pour les deux tâches de résolution de problème t = 2,94, P = 0,0049). En revanche, les scores à l'acquisition de apprentissage associatif ne diffèrent pas entre les oiseaux vivant dans les deux environnements (Figure 3C, panneau de gauche) et les modèles n'ont donné aucun effet significatif pour tous les prédicteurs testés (urbanisation: t = -0,00, P = 0,9989). De même, l'apprentissage inversé ne varie pas significativement avec l'urbanisation (Figure 3C, panneau de droite), ni avec tout autre prédicteur testé (urbanisation: t = -1,22, P = 0,2275).

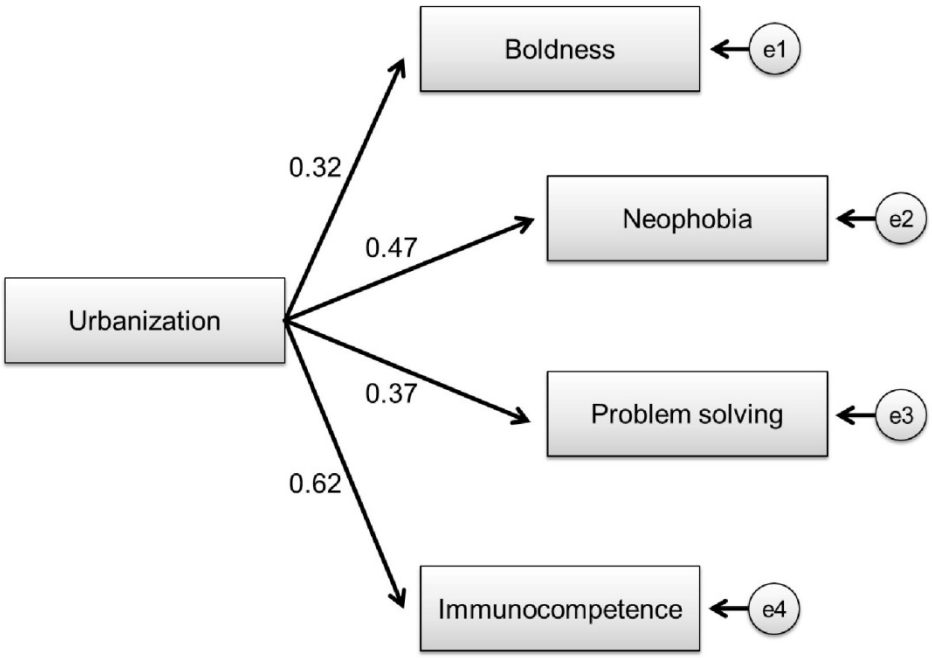


Figure 4. Path analysis showing dependencies between variables. Every plausible path was tested and this model is the only one in which all paths are significant. The model suggests that behavioral variables and immunocompetence are not directly affecting each other and that urbanization is the main variable influencing the measured variables. Variables e1 to e4 represent the error terms. Model statistics: Chi-square = 1, 302; Degrees of freedom = 6; Model probability level = 0.972; AIC = 29.302; BCC = 32.662; All individual paths P < 0.01.

Au niveau de l'immunité, lorsque l'on compare les oiseaux des deux environnements, les oiseaux urbains ont eu une réaction de PHA 2,6 fois plus fort que les oiseaux ruraux (Figure 3D). Après sélection des variables dans un modèle linéaire, seule l'urbanisation est restée comme un facteur significatif expliquant la réponse de PHA (t = 5,10, P < 0,0001).

Finalement, pour résumer nos résultats et vérifier les dépendances entre les variables, nous avons construit une analyse de piste. Nous avons testé chaque piste plausible entre les variables et le modèle présenté dans la Figure 4 est le seul dans lequel toutes les pistes étaient significatives (P < 0,01, voir légende pour toutes les statistiques de modèle). Cela suggère que, conformément à nos modèles linéaires, il n'y a pas de corrélation et / ou d'interaction parmi les variables comportementales significatives et l'immunocompétence, et que l'urbanisation est le seul effet de variation des traits que nous avons mesurés.

Pour plus de détails sur ce projet, veuillez suive la publication à paraître prochainement dans une revue à comité de pairs : « The Town Bird and the Country Bird: cognition and immunocompetence vary with urbanization in an insular endemic opportunistic bullfinch. » par J.-N, Audet, S. Ducatez et L. Lefebvre.

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 1000 words long, again preferably accompanied by one or two photos. See page 18 for submission details.

Recent Canadian Ornithology Theses

Tomás Ibarra. 2015. Andean temperate forest owls: detectability, habitat relationships and reliability as biodiversity surrogates. Ph.D. Dissertation. University of British Columbia, Vancouver, BC.

South American temperate forests are globally exceptional for their high concentration of endemic species. These forests are among the most endangered ecosystems on Earth because nearly 70% of them have been lost. Current knowledge of most Neotropical forest owls is limited. I studied how environmental and habitat conditions may influence the ecology of two sympatric forest owls, and evaluated whether owls can be used as surrogates for temperate forest biodiversity. Specifically, I examined (i) factors associated with the detectability, (ii) occurrence rates and habitat-resource utilization across spatial scales, and (iii) surrogacy reliability of the habitat-specialist rufous-legged owl (*Strix rufipes*) and the habitat-generalist austral pygmy-owl (*Glaucidium nana*) in southern Chile. During 2011-2013, I conducted 1,145 owl surveys, 505 vegetation surveys and 505 avian point-transects across 101 sites comprising a range of conditions from degraded habitat to structurally complex old-growth forest stands. I recorded 292 detections of *S. rufipes* and 334 detections of *G. nana*. Detectability for both owls increased with greater moonlight and decreased with environmental noise, and greater wind speed decreased detectability for *G. nana*. Detection of both species was positively correlated with the detection of the other species. For *S. rufipes*, occurrence probability ranged from 0.05-1 across sites, and was positively associated with bamboo density and the variability in diameter at breast height of trees (multi-aged, structurally complex forest-stands). For *G. nana*, occurrence ranged from 0.67-0.98, but no habitat characteristic was related to this species' occurrence. I found that only *S. rufipes* was a reliable surrogate for all avian biodiversity measures, including species richness, endemism and functional diversity. With increasing occurrence of habitat-specialist owls, the density of ecologically specialized biodiversity (including avian guilds and communities) increased non-linearly and peaked at the least degraded sites. This "specialist aggregation" was driven by forest-stand structural complexity. Forest management practices that maintain multi-aged stands with large trees and high bamboo cover will benefit both owl species, and likely will benefit vulnerable endemic species and specialized avian communities in temperate forests.

Structurally complex and old-growth Monkey-puzzle tree (*Araucaria araucana*) forests occur at the highlands of Andean temperate ecosystems. Photo by Antonia Barreau.

Rufous-legged owl. Photo by Peter Damerell.

Jason H. Unruh. 2015. Effects of oil development on grassland songbirds and their avian predators. M.Sc. Thesis. University of Regina, Regina, SK.

Oil development is expanding rapidly in Saskatchewan (the province had over 30,000 productive oil wells in 2014), and the quantity and quality of Saskatchewan's remaining grassland may be threatened by oil extraction. Grassland songbird populations are declining and oil development may be contributing to their declines. I examined grassland songbird abundance, vegetation structure, habitat type (native and planted grasslands), and avian predator occurrence across a gradient of oil disturbance to determine the extent to which oil well proximity, density, and cumulative disturbance influences the abundance of grassland songbirds or the occurrence of avian predators. I

conducted 486 point counts in 243 sample sites (259 ha) at varying distances from oil wells, and in areas with varying well densities (0-48 wells/259 ha). The abundance of Baird's Sparrow (*Ammodramus bairdii*), Bobolink (*Dolichonyx oryzivorus*), Chestnut-collared Longspur (*Calcarius ornatus*), Sprague's Pipit (*Anthus spragueii*), Savannah Sparrow (*Passerculus sandwichensis*), Western Meadowlark (*Sturnella neglecta*) and Grasshopper Sparrow (*Ammodramus savannarum*) was reduced near oil wells or in areas with higher well densities. Clay-colored Sparrow (*Spizella pallida*) and Horned Lark (*Eremophila alpestris*) abundance was not influenced by oil wells, whereas the abundance of Brown-headed Cowbird (*Molothrus ater*) and Vesper Sparrow (*Pooecetes gramineus*) increased in the presence of oil wells and with greater well density, respectively. Three species also exhibited reduced abundance with greater cumulative disturbance, while two species exhibited reduced abundance when the area covered by well pads or oil access roads increased. I also found evidence that the abundance of four species was lowest in planted grassland compared to native grassland in the presence of oil development. However, Bobolink abundance was greater in planted grassland compared to native grassland in areas with oil development. My results indicate that oil development influenced vegetation structure, which likely influenced grassland songbird abundance to some degree. However, structural changes in vegetation did not account for all observed variation in songbird abundance. Finally, my results provide evidence that Northern Harrier occurrence is negatively influenced by oil development but that buteos and corvids are not affected. Northern Harrier occurrence is possibly influenced by habitat fragmentation caused by oil development since they are known to be area sensitive. The occurrence of buteos and corvids may not have been influenced by oil development because of an abundance of perch and nest sites not associated with oil development. As oil development increases in grassland habitat, its negative impacts on grassland songbirds will likely become more pronounced. Efforts should be made to limit well density and the cumulative area of disturbance on the landscape, and to avoid development on native grasslands.

Bobolink. Photo by Gloria Herron.

Laura Koloski. 2015. Sexual dimorphism and population dynamics of sub-arctic breeding Dunlin (*Calidris alpina hudsonia*) near Churchill, Manitoba, Canada. M.Sc. Thesis. Trent University, Peterborough, ON.

Around the world, many populations of migratory shorebirds appear to be declining. Conservation strategies to reverse declining trends rely on, among other information, a firm understanding of breeding ground population dynamics. From 2010 to 2014, I studied a breeding population of Dunlin (*Calidris alpina hudsonia*) near Churchill, Manitoba using mark-recapture methods. I found that females were significantly larger than males. I subsequently developed an equation based on morphological features that successfully classified 87.1% of females and 92.6% of males, sexed using molecular techniques. Using program MARK, I quantified the annual apparent survival of adults (± SE) within the breeding population (0.82 ± 0.063 for males, 0.73 ± 0.12 for females). Transient adults made up a significant percentage of the female population (32%, $P = 0.011$), but non-significant in the male population (12%, $P > 0.05$). Re-sight rate was high for both sexes, and ranged from 0.86-0.90 per year. Sex, year, and nest initiation date were the factors that had the greatest influence on annual returns. There was no significant difference in mean inter-annual nest site distance between sexes (male: 82.01 ± 13.42 m, female: 208.38 ± 55.88 m, $P > 0.05$). The high survival estimates obtained in this study suggest that the breeding population is stable and may not be contributing to suspected population declines within the subspecies.

Dunlin. Photo by Laura Koloski.

Rachel Adams. 2015. Landscape genetics of a North American songbird, the Black-capped Chickadee (*Poecile atricapillus*). Ph.D. Dissertation. University of Lethbridge, Lethbridge, AB.

Understanding landscape influences on the spatial distribution of genetic variation in species is necessary for their successful conservation and preservation. This study investigated both range-wide and fine-scale patterns of population genetic structure of a small resident passerine to North America, the black-capped chickadee (*Poecile atricapillus*). Microsatellite data revealed high levels of genetic differentiation across their geographical range, particularly in the west resulting from a combination of historical (e.g., glaciers) and contemporary (e.g., mountains) barriers. Cryptic genetic structure was also observed at smaller spatial scales. Populations in British Columbia are genetically isolated owing to the province's highly complex landscape, with gene flow restricted to low-elevation valleys with sufficient forest cover. In southern Alberta, not only is gene flow restricted to riparian corridors, but it is also influenced by natural/ anthropogenic breaks within these continuous linear features as well as ecological zonation, suggesting that chickadees are dependent on habitat quality for dispersal.

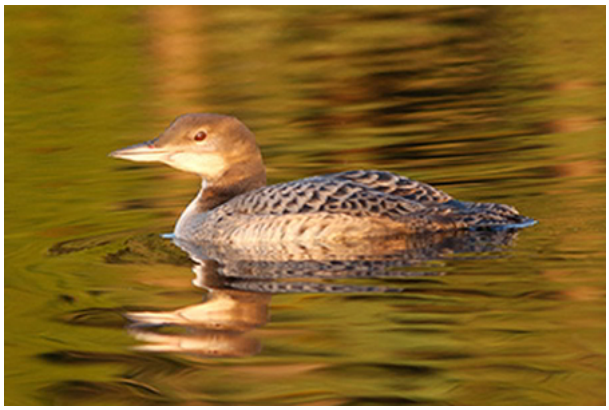
Black-capped Chickadee. Photo by Missy Mandel.

Male Hooded Merganser. Photo by Martin Jalkotzy.

Canadian Ornithological News and Announcements

2015 Canadian Lakes Loon Survey Season is Complete

The 35th season of the Canadian Lakes Loon Survey (http://watch.birds.cornell.edu/PFW/ExploreData) ended on September 15, with over 700 Citizen Scientists in participation across the country. This program is supported by Bird Studies Canada members and the Kenneth M. Molson Foundation. Results of the survey, including a 32-year report on long-term trends and conservation, can be found at http://www.birdscanada.org/volunteer/clls/index.jsp?targetpg=cllsreports.



Juvenile Common Loon. Photo by Sandra Horvath.

Recent COSEWIC and SARA Reports on Birds

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) released status reports for Cassin's Auklet (*Ptychoramphus aleuticus*), Red-necked Phalarope (*Phalaropus lobatus*), and Black Swift (*Cypseloides niger*) in December. The reports can be viewed at http://www.sararegistry.gc.ca/search/advSearchResults_e.cfm?sType=doc&advkeywords=&startDate=&endDate=&docID=18&page=1.

The federal management plan for Rusty Blackbird (*Euphagus carolinus*) was released on July 31, 2015. The report can be viewed on the Species at Risk Public Registry at http://www.registrelep-sararegistry.gc.ca/document/default_e.cfm?documentID=1528.

Birds of North America Online Actively Revising Accounts

The Birds of North America Online is in the process of revision, with several revised accounts being published monthly. See http://bna.birds.cornell.edu/bna/news/news-and-updates-to-bna-online for a full list of revised accounts since 2008.

Join Project FeederWatch

The 29th season of Project FeederWatch began on November 14, but it is not too late to join thousands of volunteers across North America who have turned their bird feeding hobby into research for bird conservation. Your counts will help scientists monitor changes in winter feeder-bird populations. Results are published in BirdWatch Canada and Winter Bird Highlights – the FeederWatch magazine.

Anyone with an interest in birds and nature is invited to join Project FeederWatch and become a Citizen Scientist. Participants are asked to select a two-day count period once every two weeks and count birds for at least 15 minutes (or as long as they wish) on one or both days. It is a great way to connect with nature, have fun, and help birds, and there is no need to be an expert. To learn more or to sign up, visit the Bird Studies Canada website at http://www.birdscanada.org/pfw.html or call 1-888-448-2473. Your $35 donation defrays the cost of the materials and data analysis (participation is free for members of Bird Studies Canada). Project FeederWatch is a joint program of Bird Studies Canada and the Cornell Lab of Ornithology.

Bird Studies Canada Distance Learning Program Now Available

Bird Studies Canada (BSC) recently launched its distance learning program, Virtual Ornithology (http://www.birdscanada.org/education/school/index.jsp?targetpg=learning). This interactive program connects students from coast to coast with BSC biologists through virtual field trips and engaging lessons focussed on Canada's birds. Visit the BSC website for more information or to participate in the program.

Bird Poetry

*Long term trend of interspecies competition between the Red-headed Woodpeckers (*Melanerpes erythrocephalus*) and European Starlings (*Sturnus vulgaris*)*

By Maureen Jackson

The Red-headed Woodpecker has declined significantly,
Across the species range, in forests and cities.
The number one reason for this decline is unknown,
So let me shed some light on current data that's been shown.
The habitat decline across North America is evident,
Alterations from logging and clear cutting negligence.
The Red-headed Woodpecker has less places to go,
And must compete with other species for their cavity homes.

European Starlings are interference competitors,
Known to harass primary cavity nesters.

Previous studies looked at competition between,
Red-headed Woodpeckers and European Starlings.
But many of these studies were only short term,
And data was variable, it has not been confirmed.
Whether or not the Starlings truly affect,
The woodpecker species declining subject.

I hypothesize that, the abundance and frequency,
Of Red-headed Woodpeckers will be effected consistently.
By the rising abundance and frequency of,
Starling populations that are rising above.

The predictions are, that increased European Starlings,
Will cause a decline in Red-headed Woodpeckers, from sparring.
The interspecies competition between these two birds,
Will cause the decline seen in woodpeckers.

Using the values from the eBird database,
Abundance and frequency were put into place.
Values from Central Ohio counties were collected,
Delaware, Franklin, and Union fit the objective.
The area in Ohio has seen species decline,
For Red-headed Woodpeckers it's hard to survive.
Both frequency and abundance values were needed,
To see if both rate and quantity depleted.
Breeding season from May to July was chosen,
To examine competition for nests that've been stolen.
The values were taken 2000 to 2015,
To map long term decline for the woodpecker species.

The p values were calculated, using regression analysis,
Significance was found, supported hypothesis.
This relationship shows that the effect is seen,
Between these two competing species.
However significant, data also shows,
That in this area woodpeckers aren't low.
Instead of decreasing they actually increase,
From the year 2000 to 2015.

This could be explained, by numerous reasons,
Why the woodpeckers increased throughout breeding season.
Many conservation efforts have been put into place,
To assist the woodpeckers in this competitive race.
Many cities are incorporating woodpecker objectives,
Like golf course bird boxes and urban directives.

The results support the hypothesis, but not the predictions,
The data, however, has some minor restrictions.
The values from eBird could possibly be skewed,
For the number of woodpeckers, that have been viewed.
As we all know this woodpecker's attractive,
Which could cause its birding to become highly active.
People could purposely seek out this bird,
And explain increased abundance and frequency occurred.

The results from this study tell us many things,
The relationship between species and effects that it brings.
More research studies need to be conducted,
To show other factors influencing the fluxes.

An Ontario study showed European Starling predation,
To be the leading cause in Woodpecker deflation.
A combination of predation and habitat factors,
Influence the woodpecker population patterns.

Combining these factors with long term trends,
Will help decrease decline, even put to end.

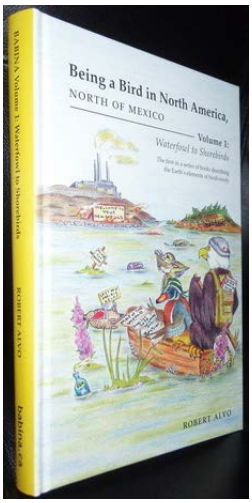
Red-headed Woodpecker. Photo by Barbara Frei.

Book Review

Being a Bird in North America, North of Mexico Volume 1: Waterfowl to Shorebirds

By Robert Alvo

Self-published in 2015, Ottawa, ON. 256 pages.



This is the first volume in a series of three books on Northern American birds and their current conservation status and challenges. It is definitely not a field or a bird identification guide. First-time readers should read the introduction. In the introduction, the author explains in detail the purpose and geographic scope of the book, how species were included in or excluded from the book, and the structure for the 206 single-page species accounts. Groups covered in this volume include waterfowl, shorebirds, grebes, loons, cranes, diurnal raptors (vultures, hawks, eagles, and kites), gamebirds (grouse and allies), pelagic seabirds, and other waterbirds (coots, pelicans, cormorants, bitterns and herons).

Each single-page species account includes the English common name, scientific name, French common name and Spanish common name (used in Mexico); a global range map; one or two colour photos; a cartoon; and NatureServe conservation ranks (Global, Canada, USA, Mexico). The brief text in the species accounts focuses on the unique features, habitats and conservation challenges of each species. These accounts are well written without errors and backed up by a number of references in the text linked to the 12-page literature cited section near the end of the book. Thankfully, the detailed literature cited section will help readers find more information on the species of interest. The relatively small global range maps can only provide the general locations where species occur on continents and oceans. You will need other sources to see more precise range maps.

The cartoons are a unique feature that strengthens the book. The author commissioned a cartoon for each species account. These cartoons are the collective work of 15 cartoonists. These colourful cartoons generally work in provoking both thought and laughter from the reader.

This self-published book does contain several page-sized ads from conservation organizations, namely the Nature Conservancy of Canada, Bird Studies Canada, American Birding Association and NatureServe. I have no problem with these ads as they do not compromise the integrity of the book. Without the support of these organizations, this book series promoting bird conservation would likely not exist.

At the end of the book there is the 12-page literature cited section followed by an appendix of regularly occurring non-breeding, accidentally occurring, casually occurring and introduced species. In addition, biographies of the author, Robert Alvo, and numerous other book contributors are included. The book concludes with handy subject indexes in English, French and Spanish.

If you are interested in North American birds and their conservation, I recommend this unique book and I look forward to future volumes of this book series. The book is now available for sale at www.babina.ca. Please contact the author and publisher Robert Alvo (robalvo1@gmail.com) if you do not see a Buy Button on the website.

Reviewed by Rob Warnock, e-mail: warnockr@accesscomm.ca

Do You Have a Book Review You Would Like to Share?

If so, we would love to hear from you! Some recent and upcoming releases in ornithological literature include *One Wild Bird at a Time: Portraits of Individual Lives* by Bernd Heinrich; and *Welcome to Subirdia: Sharing Our Neighborhoods with Wrens, Robins, Woodpeckers, and Other Wildlife* by John M. Marzluff.

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Membership Information

www.sco-soc.ca/membership.html

SCO-SOC membership forms can be found at the link above. Current membership rates are as follows:

Student	$10.00/year
Regular	$25.00/year ($35.00/year international)
Sustaining	$50.00/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.

To suggest any additions or edits for the website, contact Joe Nocera at joe.nocera@ontario.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 3-4 weeks later. Please send all submissions to Rob Warnock at warnockr@accesscomm.ca.

Disclaimer:

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