

# ANDREW G. McADAM

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## EDUCATION AND DEGREES

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<b>Ph.D.</b>	University of Alberta, Department of Biological Sciences	2003
<b>M.Sc.</b>	University of Western Ontario, Department of Zoology	1998
<b>B.Sc.</b>	McGill University, Department of Biology	1995

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## EMPLOYMENT HISTORY

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Chair, Department of Ecology and Evolutionary Biology, University of Colorado	2023 – present
Interim Chair, Department of Ecology and Evolutionary Biology, University of Colorado	2022 – 2023
Associate Professor, Department of Ecology and Evolutionary Biology, University of Colorado	2020 – present
Associate Director, Mountain Research Station	2020 – 2021
Associate Professor, Department of Integrative Biology, University of Guelph. <i>Parental leave: August – December 2011, Parental leave: January – May 2014.</i>	2011 – 2019
Assistant Professor, Department of Integrative Biology, University of Guelph. <i>Parental leave: January – May 2010.</i>	2008 – 2011
Assistant Professor, Department of Fisheries and Wildlife, Department of Zoology, Michigan State University	2005 – 2008
Visiting Assistant Professor, Department of Fisheries and Wildlife, Department of Zoology, Michigan State University	2004 – 2005
Natural Sciences and Engineering Research Council (NSERC) of Canada Postdoctoral Fellow, University of California, Santa Cruz.	2003 – 2004

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## PUBLICATIONS

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Google Scholar: <https://scholar.google.ca/citations?user=YGcm80oAAAAJ&hl=en>

Notations: \*undergraduate student, \*\*graduate student, \*\*\*postdoc in my lab

### Articles in Review or Under Revision

128. Petruzzo, L., D. Delaney<sup>\*\*\*</sup>, S. Boutin, J. E. Lane, **A. G. McAdam**, and B. Dantzer. A future food boom rescues the negative effects of cumulative early-life adversity on lifespan in a small mammal. Under revision.
127. Tapper, S., J. Bowman, **A. G. McAdam**, and A. I. Schulte-Hostedde. Resilience of a small mammal community to environmental change over 70 years. Revisions submitted to *Ecosphere* (ECS22-0621).

### Peer Reviewed Articles and Book Chapters

126. Hare, A. J.<sup>\*\*</sup>, **A. G. McAdam**, B. Dantzer, J. E. Lane, S. Boutin, and A. E. M. Newman. in press. Reproductive state alters vocal characteristics of female North American red squirrels (*Tamiasciurus hudsonicus*). *Journal of Mammalogy*.
125. Wishart, A. E., A. L. Guerrero-Chacón, R. Smith, D. M. Hawkshaw, **A. G. McAdam**, B. Dantzer, S. Boutin, and J. E. Lane. 2024. Inferring condition in wild mammals: body condition indices confer no benefit over measuring body mass across ecological contexts. *Oecologia* DOI: 10.1101/2023.01.31.524791
124. Halhed, A., L. Petruzzo, S. Boutin, B. Dantzer, **A. G. McAdam**, M. Wu, and K. Cottenie. 2023. Consistent spatial patterns in microbial taxa of red squirrel gut microbiomes. *Environmental Microbiology Reports*, 1–10. DOI: 10.1111/1758-2229.13209.
123. Petruzzo, L., S. Boutin, J. E. Lane, **A. G. McAdam**, and B. Dantzer. 2023. Phenotype-environment mismatch errors enhance lifetime fitness in wild red squirrels. Phenotype-environment mismatch errors enhance lifetime fitness in wild red squirrels. *Science* 379: 269-272. DOI: 10.1126/science.abn0665.
122. Walmsley, S. F., S. Boutin, B. Dantzer, J. E. Lane, D. W. Coltman, and **A. G. McAdam**. 2023. Benefits of living closer to kin vary by genealogical relationship in a territorial mammal. *Proceedings B* 290: 20221569 DOI: 10.1098/rspb.2022.1569.
121. Webber, Q.<sup>\*\*\*</sup>, B. Dantzer, J. Lane, S. Boutin, and **A. G. McAdam**. 2023. Density-dependent plasticity in territoriality revealed using social network analysis. *Journal of Animal Ecology* 92: 207-221. DOI: 10.1111/1365-2656.13846
120. Studd, E. K., M. J. L. Peers, A. K. Menzies, R. Derbyshire, Y. N. Majchrzak, J. Seguin, D. L. Murray, B. Dantzer, J. E. Lane, **A. G. McAdam**, M. M. Humphries, and S. Boutin. 2022. Behavioural adjustments of predators and prey to wind speed in the boreal forest. *Oecologia* 200: 349-358. DOI: 10.1007/s00442-022-05266-w

119. Haines, J. A., D. M. Delaney<sup>\*\*\*</sup>, A. E. Wishart, **A. G. McAdam**, D. W. Coltman, J. E. Lane, B. Dantzer, and S. Boutin. 2022. Sex-specific effects of capital resources in reproductive timing and success in red squirrels. *Behavioral Ecology and Sociobiology* 76: 142. DOI: 10.1007/s00265-022-03245-y
118. Petruccio, L., D. Delaney<sup>\*\*\*</sup>, S. Boutin, **A. G. McAdam**, J. E. Lane, R. Boonstra, R. Palme, and B. Dantzer. 2022. The glucocorticoid response to environmental change is not specific to agents of natural selection in wild red squirrels. *Hormones and Behavior*. 146: 105262. DOI: 10.1016/j.yhbeh.2022.105262
117. Bonnet, T., M. B. Morrissey, P. de Villemereuil, S. C. Alberts, P. Arcese, L. Bailey, S. Boutin, P. Brekke, L. J. Brent, G. Camenisch, A. Charmantier, T. H. Clutton-Brock, A. Cockburn, D. W. Coltman, A. Courtiol, E. Davidian, S. R. Evans, J. G. Ewen, M. Fest-Bianchet, C. de Franceschi, L. Gustafsson, O. P. Honer, T. Houslay, L. F. Keller, M. Manser, **A. G. McAdam**, E. McLean, P. Nietlisbach, H. L. Osmond, J. M. Pemberton, E. Postma, J. M. Reid, A. Rutschmann, A. W. Santure, B. C. Sheldon, J. Slate, C. Teplitsky, M. Visser, B. Wachter, and L. E. B. Kruuk. Genetic variance in fitness indicates rapid contemporary adaptive evolution in wild animals. 2022. *Science* 376: 1012-1016.
116. Martinig, A. R., H. J. Karst, E. R. Siracusa<sup>\*\*</sup>, E. K. Studd, **A. G. McAdam**, B. Dantzer, D. M. Delaney<sup>\*\*\*</sup>, J. E. Lane, P. Pokharel, and S. Boutin. 2022. Animal personality: a comparison of standardized assays and focal observations in North American red squirrels. *Animal Behaviour* 190: 221-232. DOI: 10.1016/j.anbehav.2022.05.012
115. Hackett-Pain, A., and 88 other co-authors (including **A. G. McAdam**). 2022. MASTREE+: time-series of plant reproductive effort from six continents. *Global Change Biology*. DOI: 10.1111/gcb.16130
114. Petruccio, L., T. Ren, M. Wu, R. Boonstra, R. Palme, S. Boutin, **A. G. McAdam**, and B. Dantzer. 2022. Glucocorticoids coordinate changes in gut microbiome composition in wild North American red squirrels. *Scientific Reports* 12: 2605. DOI: 10.1038/s41598-022-06359-5
113. **McAdam, A. G.**, Q. M. R. Webber<sup>\*\*\*</sup>, B. Dantzer, J. E. Lane, and S. Boutin. 2022. Social effects on annual fitness in red squirrels. *Journal of Heredity* 113(1): 69-78. DOI: 10.1093/jhered/esab051
112. Denomme-Brown, S. T.<sup>\*\*</sup>, K. Cottenie, J. B. Falls, E. A. Falls, R. J. Brooks, and **A. G. McAdam**. 2021. Examining the effects of heterospecific abundance on dispersal in forest small mammals. *Journal of Mammalogy* 102(6): 1484-1496. DOI: 10.1093/jmammal/gyab096
111. Hare, A. J.<sup>\*\*</sup>, A. E. M. Newman, B. Dantzer, J. E. Lane, S. Boutin, D. W. Coltman, and **A. G. McAdam**. 2021. An independent experiment does not support stress-mediated kin discrimination through red squirrel vocalizations. *Animal Behaviour* 176: 185-192. DOI: 10.1016/j.anbehav.2021.04.010

110. Westrick, S. E., F. van Kesteren, S. Boutin, J. E. Lane, **A. G. McAdam**, and B. Dantzer. 2021. Maternal glucocorticoids have minimal effects on HPA axis activity and behavior of juvenile wild North American red squirrels. *Journal of Experimental Biology* 224 (10): jeb236620. DOI: 10.1242/jeb.236620
109. Siracusa, E. R.\*\* , S. Boutin, B. Dantzer, J. E. Lane, D. W. Coltman, and **A. G. McAdam**. 2021. Familiar neighbours, but not relatives, enhance fitness in a territorial mammal. *Current Biology* 31 (2): 438-445. DOI: 10.1016/j.cub.2020.10.072
108. de Villemereuil, P., A. Charmantier, D. Arlt, P. Bize, P. Brekke, L. Brouwer, A. Cockburn, S. D. Côte, F. S. Dobson, S. R. Evans, M. Festa-Bianchet, M. Gamelon, S. Hamel, J. Hegelbach, K. Jerstad, B. Kempnaers, L. E. B. Kruuk, J. Kumpula, T. Kvalnes, **A. G. McAdam**, S. E. McFarlane, M. B. Morrissey, T. Part, J. M. Pemberton, A. Qvarnström, O.-W. Røstad, J. Schroeder, J.C. Senar, B. C. Sheldon, M. van de Pol, M. E. Visser, N. T. Wheelwright, J. Tufto, and L.-M. Chevin. 2020. Fluctuating optimum and temporally variable selection in the wild. *Proceedings of the National Academy of Sciences*. 117: 31969-31978. DOI: 10.1073/pnas.2009003117
107. Denomme-Brown, S. T.\*\* , K. Cottenie, J. B. Falls, A. Falls, R. J. Brooks, and **A. G. McAdam**. 2020. Variation in space and time: a long-term examination of density-dependent dispersal in a woodland rodent. *Oecologia* 193: 903-912. DOI: 10.1007/s00442-020-04728-3
106. Dantzer, B., **A. G. McAdam**, M. M. Humphries, J. E. Lane, and S. Boutin. 2020. Decoupling the effects of food and density on life history plasticity of wild animals using field experiments: insights from the steward who sits in the shadow of its tail, the North American red squirrel. *Journal of Animal Ecology* 89: 2397-2414. DOI: 10.1111/1365-2656.13341
105. Menzies, A. K., E. K. Studd, Y. N. Majchrzak, M. J. L. Peers, S. Boutin, B. Dantzer, J. E. Lane, **A. G. McAdam**, and M. M. Humphries. 2020. Body temperature, heart rate, and activity patterns of two boreal homeotherms in winter: homeostasis, allostasis, and ecological coexistence. *Functional Ecology* 34: 2292-2301. DOI: 10.1111/1365-2435.13640.
104. Westrick, S. E., R. W. Taylor\*\* , S. Boutin, J. E. Lane, **A. G. McAdam**, and B. Dantzer. 2020. Attentive red squirrel mothers have faster growing pups and higher lifetime reproductive success. *Behavioral Ecology and Sociobiology* 74:72. DOI: /10.1007/s00265-020-02856-7
103. Haines, J. A., S. E. Nason, A. M. M. Skurdal, T. Bouchier, S. Boutin, R. W. Taylor\*\* , **A. G. McAdam**, J. E. Lane, A. D. Kelley, M. M. Humphries, J. C. Gorrell, B. Dantzer, D. W. Coltman, and A. Hämäläinen. 2020. Sex- and context-specific associations between personality and a measure of fitness but no link with life history traits. *Animal Behaviour* 167: 23-39. DOI: /10.1016/j.anbehav.2020.06.013

102. Studd, E. K., A. K. Menzies, E. R. Siracusa\*\*, B. Dantzer, J. E. Lane, **A. G. McAdam**, S. Boutin, and M. M. Humphries. 2020. Optimisation of energetic and reproductive gains explains behavioural responses to environmental variation across seasons and years. *Ecology Letters* 23 (5): 841-850. DOI: 10.1111/ele.13494
101. Hendrix, J. G.\*\*, D. N. Fisher\*\*\*, A. R. Martinig, S. Boutin, B. Dantzer, J. E. Lane, and **A. G. McAdam**. 2020. Territory acquisition mediates the influence of predators and climate on juvenile red squirrel survival. *Journal of Animal Ecology* 89: 1408-1418. DOI: 10.1111/1365-2656.13209
100. Dantzer, B., F. van Kesteren, S. Westrick, S. Boutin **A. G. McAdam**, J. E. Lane, R. Gillespie, A. Majer, M. F. Hausmann, and P. Monaghan. 2020. Maternal glucocorticoids promote offspring growth without inducing oxidative stress or shortening telomeres in wild red squirrels. *Journal of Experimental Biology*. 223: jeb212373. DOI: 10.1242/jeb.212373
99. Martinig, A. R., **A. G. McAdam**, B. Dantzer, J. E. Lane, D. W. Coltman, and S. Boutin. 2020. The new kid on the block: immigrant males win big whereas females pay fitness costs after dispersal. *Ecology Letters* 23 (3): 430-438. DOI: 10.1111/ele.13436
98. Brady, S. P., D. I. Bolnick, A. L. Angert, A. Gonzalez, R. D. H. Barrett, E. Crispo, A. M. Derry, C. G. Eckert, D. J. Fraser, G. F. Fussmann, F. Guichard, T. Lamy, **A. G. McAdam**, A. E. M. Newman, A. Paccard, G. Rolshausen, A. M. Simons, and A. P. Hendry. 2019. Causes of maladaptation. *Evolutionary Applications*. 12: 1229-1242. DOI: 10.1111/eva.12844
97. Westrick, S. E., F. van Kesteren, R. Palme, R. Boonstra, J. E. Lane, S. Boutin, **A. G. McAdam**, and B. Dantzer. 2019. Stress activity is not predictive of coping style in North American red squirrels. *Behavioral Ecology and Sociobiology*. 73: 113. DOI: 10.1007/s00265-019-2728-2
96. Kilgour, R. J.\*\*, D. R. Norris, and **A. G. McAdam**. 2019. Carry-over effects of resource competition and social environment on aggression. *Behavioural Ecology* 31: 140-151. DOI: 10.1093/beheco/arz170
95. Guindre-Parker, S.\*\*\*, **A. G. McAdam**, F. van Kesteren, R. Palme, R. Boonstra, S. Boutin, J. E. Lane, and B. Dantzer. 2019. Individual variation in phenotypic plasticity in the stress axis. *Biology Letters* 15:20190260. DOI: 10.1098/rsbl.2019.0260
94. van Kesteren, F., B. Delehanty, S. E. Westrick, R. Palme, R. Boonstra, J. E. Lane, S. Boutin, M. M. Humphries, **A. G. McAdam**, and B. Dantzer. 2019. Experimental increases in stress hormones alter function of the neuroendocrine stress axis in wild red squirrels without negatively impacting survival and reproduction. *Physiological and Biochemical Zoology* 92: 445-458. DOI: 10.1086/705121

93. Brady, S. P., D. I. Bolnick, R. D. H. Barrett, L. J. Chapman, E. Crispo, A. M. Derry, C. G. Eckert, D. J. Fraser, G. F. Fussmann, A. Gonzalez, F. Guichard, T. Lamy, J. E. Lane, **A. G. McAdam**, A. E. M. Newman, A. Paccard, B. A. Robertson, G. Rolshausen, P. M. Schulte, A. M. Simons, M. Vellend, and A. P. Hendry. 2019. Understanding maladaptation by uniting ecological and evolutionary perspectives. *The American Naturalist* 194: 495-515. DOI: 10.1086/705020
92. Sehrsweeney, M., D.R. Wilson, M. Bain\*\*, S. Boutin, J. E. Lane, **A. G. McAdam** and B. Dantzer. 2019. The effects of stress and glucocorticoids on vocalizations: a test in North American red squirrels. *Behavioural Ecology* 30: 1030-1040. DOI:10.1093/beheco/arz044
91. **McAdam, A. G.**, S. Boutin, B. Dantzer, J. E. Lane, and M. M. Humphries. 2019. Seed masting causes fluctuations in optimum litter size and lag load in a seed predator. *The American Naturalist* 194: 574-589. DOI: 10.1086/703743
90. Siracusa, E. R.\*\* , D. R. Wilson, E. K. Studd, S. Boutin, M. M. Humphries, B. Dantzer, J. E. Lane, and **A. G. McAdam**. 2019. Red squirrels mitigate costs of territory defence through social plasticity. *Animal Behaviour*. 151: 29-42. DOI: 10.1016/j.anbehav.2019.02.014.
89. Fisher, D. N.\*\*\*, A. J. Wilson, S. Boutin, B. Dantzer, M. M. Humphries, J. E. Lane, D. W. Coltman, J. C. Gorrell, and **A. G. McAdam**. 2019. Social effects of territorial neighbours on the timing of spring breeding in North American red squirrels. *Journal of Evolutionary Biology* 32: 559-571. DOI: 10.1111/jeb.13437
88. Fisher, D. N.\*\*\*, J. A. Haines, S. Boutin, B. Dantzer, J. E. Lane, M. M. Humphries, D. W. Coltman, and **A. G. McAdam**. 2019. Indirect effects on fitness between individuals that have never met via an extended phenotype. *Ecology Letters* 22: 697-706. DOI: 10.1111/ele.13230
87. Fisher, D. N.\*\*\*, and **A. G. McAdam**. 2019. Indirect genetic effects clarify how traits can evolve even when fitness does not. *Evolution Letters* 3: 4-14. DOI: 10.1002/evl3.98
86. Studd, E., M. Landry-Cuerrier, A. Menzies, S. Boutin, **A. G. McAdam**, B. Dantzer, J. Lane, and M. M. Humphries. 2019. Behavioral classification of low frequency acceleration and temperature data from a free ranging small mammal. *Ecology and Evolution* 9: 619-630. DOI: 10.1002/ece3.478
85. Wishart, A., C. Williams, **A. G. McAdam**, S. Boutin, B. Dantzer, M. M. Humphries, D. W. Coltman, and J. E. Lane. 2018. Is biasing offspring sex ratio adaptive? A test of Fisher's principle across multiple generations of a wild mammal in a fluctuating environment. *Proceedings B* 285: 20181251. DOI: 10.1098/rspb.2018.1251
84. Robertson, J. G.\*\* , S. Boutin, M. M. Humphries, B. Dantzer, J. E. Lane, and **A. G. McAdam**. 2018. Individual variation in the dear enemy phenomenon via

- territorial vocalizations in red squirrels. *Behaviour* 155: 1073-1096. DOI: 10.1163/1568539X-00003524
83. Lane, J. E., **A. G. McAdam**, S. E. McFarlane\*\*, C. T. Williams, M. M. Humphries, D. W. Coltman, J. C. Gorrell, and S. Boutin. 2018. Phenological shifts in North American red squirrels: disentangling the roles of phenotypic plasticity and microevolution. *Journal of Evolutionary Biology* 31: 810-821. DOI: 10.1111/jeb.13263
  82. Kilgour, J.\*\*, **A. G. McAdam**, G. Betini\*, and D. R. Norris. 2018. Experimental evidence that density mediates negative frequency-dependent selection on aggression. *Journal of Animal Ecology* 87: 1091-1101. DOI: 10.1111/1365-2656.12813
  81. Haines, J. A., D. W. Coltman, B. Dantzer, J. C. Gorrell, M. M. Humphries, J. E. Lane, **A. G. McAdam**, and S. Boutin. 2018. Sexually-selected infanticide by male red squirrels in advance of a mast year. *Ecology* 99: 1242-1244. DOI: 10.1002/ecy.2158
  80. Fiorino, G. E.\*\*, and **A. G. McAdam**. 2018. Local differentiation in the defensive morphology of an invasive zooplankton species is not genetically based. *Biological Invasions*, 20: 235-250. DOI: 10.1007/s10530-017-1530-1
  79. Ren, T., S. Boutin, M. M. Humphries, B. Dantzer, J. C. Gorrell, D. W. Coltman, **A. G. McAdam**, and M. Wu. 2017. Seasonal, spatial and maternal effects on gut microbiome in wild red squirrels. *Microbiome*. DOI: 10.1186/s40168-017-0382-3
  78. Fisher, D. N.\*\*\* and **A. G. McAdam**. 2017. Social traits, social networks, and evolutionary biology. *Journal of Evolutionary Biology*. 30 (12): 2088-2103. DOI: 10.1111/jeb.13195
  77. Siracusa, E.\*\*, M. Morandini, S. Boutin, M. M. Humphries, B. Dantzer, J. E. Lane, and **A. G. McAdam**. 2017. Red squirrel territorial vocalizations deter intrusions by conspecific rivals. *Behaviour*. DOI: 10.1163/1568539X-00003467
  76. Prentice, M. B., J. Bowman, J. L. Lalor, M. M. McKay, L. A. Thomson, C. M. Watt, **A. G. McAdam**, D. L. Murray, and P. J. Wilson. 2017. Signatures of selection in mammalian clock genes with coding trinucleotide repeats: Implications for studying the genomics of high-pace adaptation. *Ecology and Evolution*, 7 (18): 7254-7276. DOI: 10.1002/ece3.3223
  75. Cooper, E. B.\*, R. W. Taylor, A. D. Kelley, A. R. Martinig, S. Boutin, M. M. Humphries, B. Dantzer, J. E. Lane, and **A. G. McAdam**. 2017. Personality is correlated with natal dispersal in North American red squirrels (*Tamiasciurus hudsonicus*). *Behaviour*. 154: 939-961. DOI: 10.1163/1568539X-00003450
  74. Hämäläinen, A., **A. G. McAdam**, B. Dantzer, J. E. Lane, J. A. Haines, M. M. Humphries, and S. Boutin. 2017. Fitness consequences of peak reproductive

- effort in a resource pulse system. *Scientific Reports*. DOI:10.1038/s41598-017-09724-x
73. Siracusa, E.\*\* , S. Boutin, M. M. Humphries, J. C. Gorrell, D. W. Coltman, B. Dantzer, J. E. Lane, and **A. G. McAdam**. 2017. Familiarity with neighbours affects intrusion risk in a territorial squirrel (*Tamiasciurus hudsonicus*). *Animal Behaviour* 113:11-20. DOI: 10.1016/j.anbehav.2017.08.024
  72. Fisher, D. N.\*\*\*, S. Boutin, B. Dantzer, M. M. Humphries, J. E. Lane, and **A. G. McAdam**. 2017. Multilevel and sex-specific selection on competitive traits in North American red squirrels. *Evolution* 71: 1841-1854. DOI: 10.1111/evo.13270
  71. Stewart, F. E. C.\*\* , and **A. G. McAdam**. 2017. Wild *Peromyscus* adjust maternal nest-building behaviour in response to ambient temperature. *Canadian Journal of Zoology*. 95: 411-415. DOI: 10.1139/cjz-2016-0236
  70. Betini, G. S.\*\*\*, **A. G. McAdam**, C. K. Griswold, and D. R. Norris. 2017. A fitness trade-off between seasons causes multigenerational cycles in phenotype and population size. *eLife* DOI: 10.7554/eLife.18770
  69. Shonfield, J.\*\* , J. C. Gorrell, D. W. Coltman, S. Boutin, M. M. Humphries, D. Wilson, and **A. G. McAdam**. 2017. Using playback of territorial calls to investigate mechanisms of kin discrimination in red squirrels. *Behavioral Ecology*. 28: 382-390. DOI: 10.1093/beheco/arw165
  68. Studd, E., S. Boutin, **A. G. McAdam**, and M. M. Humphries. 2016. Nest attendance of lactating red squirrels: influence of biological and environmental correlates. *Journal of Mammalogy* 97 (3): 806-814. DOI: 10.1093/jmammal/gyw010
  67. Mills, J. A., C. Teplitsky, *et al.* 2016. Solutions for archiving data in long-term studies: A reply to Whitlock *et al.* *Trends in Ecology and Evolution* 31 (2): 85-87. DOI: 10.1016/j.tree.2015.12.004
  66. Mills, J. A., C. Teplitsky, *et al.* 2015. Archiving primary data: solutions for long-term studies. *Trends in Ecology and Evolution* 30 (10): 581-589. DOI: 10.1016/j.tree.2015.07.006
  65. Kelley, A. D., M. M. Humphries, **A. G. McAdam**, and S. Boutin. 2015. Changes in wild red squirrel personality across ontogeny: activity and aggression regress towards the mean. *Behaviour*, 152: 1291-1306.
  64. Wilson, D. R.\*\*\*, A. R. Goble, S. Boutin, M. M. Humphries, D. W. Coltman, J. C. Gorrell, J. Shonfield, and **A. G. McAdam**. 2015. Red squirrels use territorial vocalizations for kin discrimination. *Animal Behaviour*, 107: 79-85.
  63. Miehl, A. L. J.\*\* , S. D. Peacor, L. Valliant\* and **A. G. McAdam**. 2015 Evolutionary stasis despite selection on a heritable trait in an invasive



- zooplankton. *Journal of Evolutionary Biology*. 28 (5): 1091-1102. DOI: 10.1111/jeb.12632
62. Lane, J. E., **A. G. McAdam**, A. Charmantier, M. M. Humphries, D. W. Coltman, J. C. Gorrell, and S. Boutin. 2015. Post-weaning parental care increases fitness but is not heritable in North American red squirrels. *Journal of Evolutionary Biology* 28 (6): 1203-1212. DOI: 10.1111/jeb.12633
  61. McFarlane, S. E.\*\* , J. C. Gorrell, D. W. Coltman, M. M. Humphries, S. Boutin, and **A. G. McAdam**. 2015. The nature of nurture in a wild mammal's fitness. *Proceedings B* 282 (1806): p. 20142422.
  60. Fletcher, Q. E., J. R. Speakman, S. Boutin, J. E. Lane, **A. G. McAdam**, J. C. Gorrell, D. W. Coltman, and M. M. Humphries. 2015. Daily energy expenditure during lactation is strongly selected in a free-living mammal. *Functional Ecology* 29: 195-208.
  59. Jacobs, S. R., S. Bender and **A. G. McAdam**. 2015. The Dandelion Evolution Outreach Program: Learning through inquiry-based community engagement. *Evolution: Education and Outreach*. 8: 4 DOI 10.1186/s12052-015-0033-8.
  58. Studd, E. K., S. Boutin, **A. G. McAdam**, C. J. Krebs, and M. M. Humphries. 2015. Predators, energetics and fitness drive neonatal reproductive failure in red squirrels. *Journal of Animal Ecology* 84: 249-259.
  57. Williams, C. T, K. Wilsterman, A. D. Kelley, A. R. Breton, H. Stark, M. M. Humphries, **A. G. McAdam**, B. M. Barnes, S. Boutin, and C. L. Buck. 2014. Light loggers reveal weather-driven changes in the daily activity patterns of arboreal and semi-fossorial rodents. *Journal of Mammalogy* 95 (6): 1230-1239.
  56. Taylor, R. W.\*\* , S. Boutin, M. M. Humphries, J. C. Gorrell, D. W. Coltman, and **A. G. McAdam**. 2014. Selection on female behaviour fluctuates with offspring environment. *Journal of Evolutionary Biology* 27: 2308–2321. doi: 10.1111/jeb.12495
  55. Stewart, F. E. C.\*\* , R. J. Brooks, and **A. G. McAdam**. 2014. Seasonal adjustment of sex ratio and offspring masculinity by female deer mice is inconsistent with local resource competition. *Evolutionary Ecology Research* 16 (2): 153-164.
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12. Berteaux, D., D. Réale, **A. G. McAdam** and S. Boutin. 2004. Keeping pace with fast climate change: can arctic life count on evolution? *Integrative and Comparative Biology* 44: 140-151.
11. **McAdam, A. G.** and S. Boutin. 2004. Maternal effects and the response to selection in red squirrels. *Proceedings of the Royal Society of London, Series B.* 271: 75-79.
10. Réale, D., D. Berteaux, **A. G. McAdam** and S. Boutin. 2003. Lifetime selection on heritable life-history traits in a natural population of red squirrels. *Evolution* 57: 2416-2423.
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8. **McAdam, A. G.** and S. Boutin. 2003. Variation in viability selection among cohorts of juvenile red squirrels (*Tamiasciurus hudsonicus*). *Evolution* 57: 1689-1697.
7. Réale, D., **A. G. McAdam**, S. Boutin, and D. Berteaux. 2003. Genetic and plastic responses of a northern mammal to climate change. *Proceedings of the Royal Society of London, Series B.* 270: 591-596.

6. **McAdam, A. G.**, S. Boutin, D. Réale, and D. Berteaux. 2002. Maternal effects and the potential for evolution in a natural population of animals. *Evolution* 56: 846-851.
5. Millar, J. S., and **A. G. McAdam**. 2001. Life on the edge: the demography of short-season populations of deer mice. *Oikos* 93: 69-76.
4. **McAdam, A. G.**, and J. S. Millar. 1999. The effects of dietary protein content on growth and maturation in deer mice. *Canadian Journal of Zoology* 77: 1822-1828.
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2. **McAdam, A. G.**, and J. S. Millar. 1999. Dietary protein constraint on age at maturity: an experimental test with wild deer mice. *Journal of Animal Ecology* 68: 733-740.
1. **McAdam, A. G.**, and D. L. Kramer. 1998. Vigilance as a benefit of intermittent locomotion in small mammals. *Animal Behaviour* 55: 109-117.

#### Book Chapters and Other Articles

- 3c. Svensson, E. I., P. Blaimont, R. Calsbeek, L. T. Lancaster, **A. G. McAdam**, S. C. Mills. 2021. In Memorium: Barry Sinervo 1961-2021. *Evolution*. doi:10.1111/evo.14416
- 2c. **McAdam, A. G.**, D. Garant, and A. J. Wilson. 2014. The effects of others' genes: maternal and other indirect genetic effects. In *Quantitative Genetics in the Wild*. Oxford University Press.
- 1c. **McAdam, A. G.** 2009. Maternal effects on evolutionary dynamics in wild small mammals. In *Maternal Effects in Mammals*. Edited by D. Maestripieri and J.M. Mateo. University of Chicago Press.

RESEARCH GRANTS	AMOUNT	DATE
<i>National Science Foundation – Long Term Research in Environmental Biology. A. G. McAdam &amp; B. Dantzer.</i> LTREB: The importance of resource availability, acquisition, and mobilization to the evolution of life history trade-offs in a variable environment.	\$460,855	2024 - 2029
<i>NSERC Discovery Grant. A. G. McAdam.</i> Maternal and social effects on adaptation. (RGPIN-2015-04707)	\$245,000	2015 – 2020

<i>NSERC Discovery Accelerator Supplement</i> (RGPAS 478027-2015)	\$120,000	
	\$87,500	
<i>NSERC Northern Research Supplement</i> (RGPNS-2015-377988)		
<i>NSERC Discovery Grant. A. G. McAdam.</i> The Ecology of Adaptations in Wild Animals. (RGPIN 371579-2009)	\$174,000	2009 - 2015
<i>NSERC Northern Research Supplement</i> (RGPNS-377988-2009)	\$75,120	
<i>Ontario Ministry of Research and Innovation, Early Researcher Award. A. G. McAdam.</i> Contemporary adaptation in wild animals. (ER08-05-119)	\$150,000	2009 - 2014
<i>Canadian Association for Humane Trapping. A. G. McAdam.</i> Effects of mealworm bait supplements on small mammal capture rates.	\$23,128	2012
<i>Canadian Association for Humane Trapping. A. G. McAdam.</i> Reducing shrew mortality rates associated with small mammal live-trapping: a meta-analysis and experimental field study.	\$42,145	2011
<i>Canada Foundation for Innovation/Ontario Ministry of Innovation - Leaders Opportunity Fund. A. G. McAdam.</i> Field data acquisition, integration and communication infrastructure for studying adaptation in action.	\$138,425	2011
<i>Great Lakes Fishery Commission. A. G. McAdam &amp; S. D. Peacor.</i> Evolution of trophic linkages in an invaded food web.	\$121,647	2007 - 2010
<i>Michigan State University Intramural Research Program Grant. A. G. McAdam.</i> The coevolution of handedness in red squirrels and spruce cones.	\$37,413	2007 - 2008
<i>National Science Foundation. A. G. McAdam.</i> Testing Ecological Mechanisms of Adaptation in Red Squirrels. DEB-0515849.	\$299,929	2005 – 2008
Research Experience for Undergraduates supplements:		
DEB-0724743	\$6,000	2007
DEB-0620870	\$6,000	2006

<i>National Science Foundation – Long Term Research in Environmental Biology. B. Sinervo &amp; A. G. McAdam. Relatedness Asymmetries, Antagonistic Natural Selection and Nonmendelian Inheritance in a Natural Population of Lizards. DEB-0515973.</i>	\$299,990	2006 - 2010
Several small research grants from: <i>Circumpolar/Boreal Alberta Research, Northern Scientific Training Program, Arctic Institute of North America, and American Society of Mammalogists.</i>	\$12,190	1999 - 2002

<b>SCHOLARSHIPS AND AWARDS</b>	<b>AWARDING AGENCY</b>	<b>DATE</b>
Early Researcher Award	Ontario Ministry of Research and Innovation	2009
NSERC Postdoctoral Fellowship	NSERC	2003 – 2004
NSERC Doctoral Prize - excellence in student research in the natural sciences.	University of Alberta nominee	
Fellowship in Mammalogy	American Society of Mammalogists	2002 – 2003
Dissertation Fellowship	University of Alberta	2002 – 2003
Andrew Stewart Memorial Graduate Prize - excellence in doctoral research	University of Alberta	2002
Izaak Walton Killam Memorial Scholarship	The Killam Trusts	2000 – 2002
Walter H. Johns Graduate Fellowship	University of Alberta	1998 – 2000
NSERC Postgraduate Scholarship	NSERC	1998 – 2000
Faculty of Science Graduate Scholarship	University of Alberta	1998
Detwiler Award - best thesis and defence in Zoology	University of Western Ontario	1998



**TEACHING EXPERIENCE**

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**Courses Taught**

*Evolutionary Biology* (EBIO\*3080; University of Colorado). This course focuses on the study of the principles of evolution and covers such topics as the origin and fate of variation, the role of natural selection and genetic drift in populations, the origin and evolution of phenotypes, and the history of biological diversity on the planet from the origin of life to the present. (Fall 2021: 98 students)

*Biological Statistics* (EBIO\*4410/5410; University of Colorado). The overall goal of this course is to create an interactive environment that will promote statistical thinking and introduce students to the use of statistical models for investigating biological data and making decisions in the presence of uncertainty. Statistics is a foundational tool for much of biology; we use statistics to test our hypotheses and learn about the world. Knowledge of statistics is therefore necessary for students who wish to pursue a career in the sciences. It is also enormously useful for people in non-scientific careers, particularly in thinking about how to critically evaluate evidence as citizens. (Fall 2020: 27 students; Spring 2021: 18 students; Spring 2022: 30 students)

*Evolution* (BIOL\*2400; University of Guelph). This course provides a broad overview of evolutionary biology. It examines the concepts and mechanisms that explain evolutionary change and the evolution of biological diversity at different levels of biological organization (gene to ecosystem) and across space and time. It also introduces historical forms of scientific inquiry, unique to biology. The course is designed to be of interest to students with general interests in science and in research in all areas of biology. (Winter 2015: 202 students; Winter 2016: 163 students; Fall 2016: 389 students; Fall 2017: 435 students)

*Ecology* (BIOL\*2060; University of Guelph) This course introduces students to the basic concepts, theories and evidence about ecological processes that determine the distribution and abundance of organisms. We include a mix of theory and field and laboratory techniques presented in lecture and discussed in tutorials. We also take time during lectures to apply principles to topics related to conservation, resource use, and human impacts on the biosphere. (Winter 2017: 233 students; Winter 2018: 224 students; Fall 2018: 300 students)

*Biostatistics for Integrative Biology* (STAT\*2230; University of Guelph). This course introduces students to the design, completion and interpretation of research projects, including identifying categories of research questions, types of data, data gathering methods, efficient graphic and numeric methods to summarize data, standard statistical analyses involving parameter estimation and hypothesis tests and interpreting results in the context of research goals. Statistical concepts underlying practical aspects of

biological research will be emphasized. Computer-intensive laboratory sessions will focus on practical data organization, visualization, statistical analysis using software, and interpretation and communication of statistical results. (Winter 2016: 168 students; Winter 2017: 172 students; Winter 2018: 173 students; Winter 2019: 165 students)

*Advances in Ecology and Behaviour* (IBIO\*6000; University of Guelph). This is a general course code for a graduate course in Integrative Biology, but I have taught this course as a graduate statistics course. The objective of this course was to provide students with a practical introduction to ecological data analysis using R. The course was based on a series of teaching modules that covered a variety of topics relevant to graduate statistics (general linear models, model selection, generalized linear models, mixed-effect models). (Fall 2012: 16 students; Fall 2015: 14 students; Winter 2019: 22 students)

*Advances in Ecology and Behaviour* (IBIO\*6000; University of Guelph). This is a general course code for a graduate course in Integrative Biology. In fall 2019 I led a discussion-based course on the role of Bayesian updating in behaviour, ecology and evolution. (Fall 2019: 11 students)

*Evolutionary Ecology* (BIOL\*4120; University of Guelph). This undergraduate course in evolutionary ecology examines the ways in which organisms have responded to the selective pressures imposed by their environment. We address both theoretical and empirical issues in evolutionary ecology, with an emphasis on the process of scientific inquiry. (Winter 2009: 64 students; Fall 2009: 46 students; Winter 2011: 65 students; Winter 2012: 75 students; Winter 2013: 85 students)

*Lab Studies in Mammalogy* (BIOL\*4950; University of Guelph). This course provides a practical experience in the study of Mammalogy. Using University collections of prepared and preserved specimens and field observations where possible, students will develop and apply skills in identification and sampling, explore relations between species diversity and habitat, and investigate through guided study, the extent of anatomical, skeletal, reproductive and morphological variation and its functional and evolutionary causes. (Winter 2012: 91 students; Winter 2013: 85 students).

*Alpine Ecology Field Course* (ZOO\*4700; University of Guelph). This course was taught between August 21 and September 5, 2009 with Jack Millar (University of Western Ontario) in Kananaskis Alberta as part of the Ontario University Program in Field Biology. This course surveyed the flora and fauna of subalpine and alpine environments. Activities included visits to different alpine areas during the first week, to learn the flora and fauna of alpine terrestrial and aquatic environments. Comparisons over elevational gradients were emphasized. Students conducted an independent field project during the second week of the course (Summer 2009: 16 students).

*Evolution* (ZOL 445; Michigan State University). This undergraduate course in evolutionary biology forms the foundation of many majors in biological sciences at Michigan State University. The course is fundamentally about patterns of descent with

modification, which has generated the biological diversity that we see in the world today, as well as the fundamental process responsible for these patterns. (Fall 2007: 90 students)

*Quantitative Methods in Ecology and Evolution* (ZOL 851; Michigan State University). This graduate course covered the interpretation and analysis of ecological and evolutionary data using the statistical software package R. Topics included the philosophy of statistics, general linear models, generalized linear models and mixed effect models (Fall 2005: 27 students; Fall 2006: 24 students; Fall 2007: 35 students)

*Anthro-Evo: Humans as a Contemporary Evolutionary Force* (FW893; Michigan State University). This graduate seminar offered in the spring of 2007 surveyed the literature focused on human impacts on evolutionary change in the wild. As a product of the course, we hope to produce an online meta-data and bibliographic database of published research on human-induced evolutionary change. (Winter 2007: 18 students)

## **SUPERVISORY AND MENTORING EXPERIENCE**

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### **Post-doctoral Researchers**

Dr. David Delaney (2020 – 2023). *Currently a Postdoctoral Researcher at the Iowa Department of Natural Resources and Iowa State University.*

Dr. Quinn Webber (2020 – 2022). *Currently an Assistant Professor, University of Guelph.*

Dr. Sarah Guindre-Parker (2017 – 2019) *Currently an Assistant Professor at Kennesaw State University.*

Dr. David Fisher (2016 – 2018) *Currently a Lecturer, University of Aberdeen.*

Dr. Gustavo Betini (2014 - 2015) *Currently a Ph.D. student in the School of Public Health, University of Waterloo.*

Dr. David Wilson (2014) *Currently an Associate Professor at Memorial University.*

Dr. Amy Newman (2009 – 2012) *Currently an Associate Professor, University of Guelph.*

### **Graduate Students Supervised**

#### *Current Graduate Students*

Gladiana Spitz Ph.D. (2021 to present). The evolution of territoriality in red squirrels.

Katherine Kariatsumari Ph.D. (2020 to present). The role of small mammal granivores in evolutionary divergence of two sunflower ecotypes

Alex Hare Ph.D. (2018 to present). Interactions between stress physiology and social information in the North American red squirrel.

#### *Previous PhD Students*

Shelby Bohn Ph.D. (2023). The effects of individual and environmental variation on a food hoarding rodent's stored resources.

- Simon Denommé-Brown – Ph.D. (2022). Variable density-dependent dispersal and its metapopulation level consequences.
- Julia Kilgour – Ph.D. (2019). The role of group composition and resource availability on selection for aggression. *Currently a postdoctoral researcher at Purdue University.*
- Erin Siracusa – Ph.D. (2018). Effects of the social environment on the behaviour and fitness of a territorial squirrel. *Currently a postdoctoral researcher at the University of Exeter.*
- Van La – Ph.D. (2015). Empirical tests of predictive models to advance waterbird monitoring in wetlands within forested landscapes. Department of Integrative Biology, University of Guelph. Note: I stepped in and provided supervision to Van at the very end of her degree following the retirement of her advisor. *Currently a sessional lecturer, University of Guelph.*
- Andrea Jaeger Miehl - Ph.D. (2012) Preventing predation: evolution and adaptive plasticity in morphological defence of an invasive species. Department of Fisheries and Wildlife, Michigan State University. *Currently a communications associate, US Geological Survey.*
- Ryan Taylor - Ph.D. (2012) Quantitative genetics, selection, mate choice and red squirrel behavior in a fluctuating environment. Department of Zoology, Michigan State University. *Founder and owner of End2End Genomics.*
- Ben Dantzer – Ph.D. (2012) Adaptive endocrine and behavioral responses of free-living red squirrels to environmental variation. Department of Zoology, Michigan State University. *Currently an Associate Professor, University of Michigan.*

#### *Previous MSc Students*

- Maggie Bain M.Sc. (2020). Investigating the acoustic niche hypothesis using territorial vocalizations of red squirrels (*Tamiasciurus hudsonicus*). *Currently an MA student in Geography at the University of Guelph.*
- Jack Hendrix (Robertson) M.Sc. (2018). Individual variation in the dear enemy phenomenon via territorial vocalizations in red squirrels. *Currently a PhD student, Memorial University.*
- Giuseppe Fiorino – M.Sc. (2016). Local differentiation in the defensive morphology of an invasive zooplankton species is not genetically based. Department of Integrative Biology, University of Guelph. *Currently a wildlife technician, Canadian Wildlife Service*
- Morgan Trotter – M.Sc. (2015). The effects of acute noise on shrew mortality. Animal Behaviour and Welfare Program, University of Guelph. *Currently the Standard Operating Procedure Coordinator, Animal Health Unit, University of Calgary.*

- Kayla Deasley – M.Sc. (2014). Red squirrels cause balancing selection on the length of white spruce cones. Department of Integrative Biology, University of Guelph. *Currently a research technician, University of Alberta.*
- Gillian Merritt – M.Sc. (2014). Effects of population density on stress and maternal care in a wild rodent (*Peromyscus maniculatus*). Department of Integrative Biology, University of Guelph. *Currently an insurance analyst.*
- Frances Stewart – M.Sc. (2012) Plasticity of maternal care and seasonal manipulation of masculinity in *Peromyscus maniculatus*. Department of Integrative Biology, University of Guelph. *Currently an Assistant Professor, Wilfred Laurier University.*
- Eryn McFarlane – M.Sc. (2012) Mechanisms maintaining additive genetic variance in fitness in red squirrels. Department of Integrative Biology, University of Guelph. *Currently an Assistant Professor at York University, Toronto.*
- Randy Do – M.Sc. (2011) The effects of bait and water provisioning on by-catch shrew mortality rates associated with small mammal live-trapping. Animal Behaviour and Welfare Program, University of Guelph. *Currently a veterinarian.*
- Julia Shonfield – M.Sc. (2010) Territorial defence behaviour and a test of the mechanism of kin recognition in red squirrels. Department of Integrative Biology, University of Guelph. *Currently a Terrestrial Ecologist, LGL environmental consulting.*
- Lauri Torgerson – M.Sc. (2010) Personality in Michigan's *Peromyscus*. Department of Zoology, Michigan State University. *Currently a biology instructor, Macomb Community College.*
- Elizabeth L. Ball - M.Sc. (2008) Preferences and harvest intentions of hunters in Michigan and their effects on white-tailed deer harvest outcomes. Department of Fisheries and Wildlife, Michigan State University.
- Adam R. Goble - M.Sc. (2008) Signature signals in the territorial vocalizations of red squirrels (*Tamiasciurus hudsonicus*) and their use in kin recognition. Department of Zoology, Michigan State University. *Currently a high school biology teacher in West Virginia.*

#### *Previous Undergraduate Researchers*

- Katie Kariatsumari (2019) Effects of a long-term food supplementation experiment on population dynamics in an age-structured, wild population of North American red squirrels. University of Guelph. *Currently a PhD student at the University of Colorado.*
- Nana Fukushima (2017) The presence of North American red squirrel territory owners deters intrusions by unfamiliar neighbours. University of Guelph.
- Eve Cooper (2016) The role of personality in determining territory acquisition strategy in North American red squirrels (*Tamiasciurus hudsonicus*). University of Guelph. *Currently a postdoctoral researcher at New York University.*

- Jack Hendrix (Robertson) (2015) Selection on growth rate and parturition date of juvenile red squirrels (*Tamiasciurus hudsonicus*) occurs prior to, but not during, competition for territories. University of Guelph. *Currently a PhD student, Memorial University of Newfoundland.*
- Mya Van Woudenberg (2015) The causes and consequences of maternal care in red squirrels (*Tamiasciurus hudsonicus*). University of Guelph.
- Dylan Pond (2012) Density-dependent habitat selection reduces the variability of *Peromyscus maniculatus* populations in preferred habitats in Algonquin Park. University of Guelph. *Currently an MSc student, University of Manitoba.*
- Ariel Nelson (Porty) (2012) Red squirrel (*Tamiasciurus hudsonicus*) individuality encoded in territorial acoustic information. University of Guelph. *Completed an MSc at Laurentian University. Currently a biodiversity research assistant, City of Sudbury.*
- Julia Maniecki (2010) Red squirrel (*Tamiasciurus hudsonicus*) cone preference and the implications for white spruce (*Picea glauca*) fitness. University of Guelph.
- Eryn McFarlane (2009) The heritability of multiple male mating in red squirrels (*Tamiasciurus hudsonicus*). University of Guelph. *Completed a PhD at Uppsala University. Currently an Assistant Professor at York University, Toronto.*
- Lindsey Valliant (2009) Trade-offs between predator defense and resource acquisition in an invasive zooplankton, *Bythotrephes longimanus*. University of Guelph. *Completed an MSc, Western University.*
- Amanda Cheeseman (2008) Selective Predation of White Spruce cones by Red Squirrels. Michigan State University. *Currently an Assistant Professor, South Dakota State University.*
- Jennifer Pellegrini (2007) An Analysis of Concerns Regarding White-tailed Deer Hunting Issues by Michigan Firearm Hunters. Michigan State University.
- Rachel Bricklin (2006) Animal model approaches to estimating heritabilities in wild deer mice. Michigan State University. *Completed a PhD, Fordham University.*
- Jacqueline Campos (2004) Phenotypic and genomic matching in side-blotched lizards (*Uta stansburiana*). University of California, Santa Cruz.

## INVITED PRESENTATIONS

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### Invited conference presentations

*American Genetics Association, President's Symposium.* Virtual. Indirect Genetic Effects. November 2020.

*American Genetics Association, President's Symposium.* Toronto, ON. Maternal effects in wild mammals. March 2018.

*Wildlife70: A symposium on long-term research.* Peterborough, Ontario. Measuring changes in natural selection and evolution using long-term studies. May 2017.

*European Meeting of PhD Students in Evolutionary Biology (EMPSEB 22).* Gotland, Sweden. Adaptation in a changeable world: lessons from red squirrels and white spruce. September 2016.

- Canadian Society for Ecology and Evolution*. Saskatoon, SK. Understanding Individuals to Conserve Populations: Lessons learned from evolutionary biology and inter-individual variance in fitness. May 2015.
- INTECOL. Symposium: Ecological Consequences of Evolutionary Change*. London, UK. Fluctuating selection caused by masting leads to the maladaptation of a seed predator. August 2013.
- Workshop of the Animal Behaviour Group - Phenotypic plasticity and flexibility: When and why are early acquired traits reversible?* Bielefeld, Germany. Adaptive life history plasticity within and across generations in a fluctuating environment. May 2012.
- Ninth International Mammalogical Congress*. Sapporo, Japan. Life history adjustments of North American red squirrels to food abundance. August 2005.
- 83<sup>rd</sup> Annual Meeting of the American Society of Mammalogists*. Lubbock, Texas. Maternal effects and the response to selection in red squirrels. June 2003.
- Gordon Research Conference in Quantitative Genetics and Genomics*. Ventura, California. Maternal effects and the potential for evolution in a natural population of animals. February 2001.

### **Invited external seminars**

- Evolutionary consequences of wearing someone else's genes: Lessons from a long-term study of red squirrels. Queen's University. May 2023.
- Plastic responses to cues of natural selection in a wild population of red squirrels. Groupement de Recherche de Plasticité Phénotypique, France, November 2021. [<https://youtu.be/-WD-xMRyqCw>]
- Social interactions can affect evolution despite physical distancing: Lessons from a long-term study of territorial red squirrels. Colorado State University, September 2020.
- Social interactions can affect evolution despite social distancing: Lessons from a long-term study of territorial red squirrels. @EvoEcoSeminars April 2020 [<https://youtu.be/JAeKR3tmvb0>; 3,000 views as of July 2023].
- Evolution in a Social Context: Lessons from a long-term study of red squirrels. University of Rochester. November 2019.
- Evolution in a Social Context: Lessons from a long-term study of red squirrels. University of Toronto. October 2019.
- Evolution in a social context: the importance of indirect genetic effects in red squirrels. University of Windsor. November 2017.
- Maternal effect evolution in wild rodents. Department of Biology, Queens University. November 2015.
- Maternal effect evolution in wild rodents. Département de Biologie, Université de Sherbrooke. April 2015.
- Maternal effect evolution in wild rodents. Department of Biology, Wilfred Laurier University. March 2015.
- Maternal effect evolution in wild rodents. University of Aberdeen. November 2014.
- Maternal effects in wild rodents. Institute of Evolutionary Biology, University of Edinburgh. October 2014.

- Maternal effect evolution in wild rodents. Department of Biology, University of North Carolina Greensboro. February 2014.
- Maternal effect evolution in wild rodents. Department of Biology, University of Virginia. October 2013.
- Spruce masting induces a cost of adaptation in red squirrels. Département de Biologie, Université de Sherbrooke. February 2011.
- Spruce masting causes feedbacks between ecology and evolution in red squirrels. Ecology and Evolutionary Biology and Behaviour series, McMaster University. October 2010.
- Masting and eco-evolutionary feedbacks in red squirrels. Department of Ecology and Evolution. University of Toronto. January 2010.
- Evolutionary interactions between red squirrels and white spruce. Department of Biology. University of Western Ontario, January 2008.
- Ecology, Evolution and Energetics of Red Squirrels. Department of Biological Sciences. Purdue University, April 2006.
- The Ecology of Adaptation in Red Squirrels. Laurentian University, Department of Biology, October 2004.
- Genetic and maternal effects on juvenile growth in red squirrels. McGill University, Department of Natural Resource Sciences Seminar Series, November 1999.
- Internal or other invited talks**
- Evolutionary interactions between white spruce and red squirrels. Hanover Forest Science Seminar Series. Michigan State University, April 2008.
- Ecology, evolution and energetics of red squirrels. Kellogg Biological Station, Michigan State University. April 2006.
- Red Squirrels: Using a long-term study to investigate short-term evolution. A presentation to the Fisheries and Wildlife Club, Michigan State University, March 2006.
- Managing anthropogenic evolution: lessons from evolutionary stasis in non-game species. Department of Fisheries and Wildlife, Michigan State University, April 2005.
- Fluctuating selection and the evolution of non-Mendelian inheritance. Behavioral Biology Group, Michigan State University, November 2004.
- The ecology of adaptation in red squirrels. Ecology, Evolutionary Biology and Behavior seminar series, Michigan State University, October 2004.
- Maternal effects and the response to natural selection in red squirrels. University of California, Santa Cruz, Ecology and Evolutionary Biology Seminar Series, March 2004.
- The nature of nurture: evolution by maternal effects in a natural population of red squirrels. University of Alberta, Biological Sciences Departmental Seminar, Ecology Series, April 2002.
- Dietary protein constraint on the maturation of female deer mice. University of Alberta, Biological Sciences Departmental Seminar, Ecology Series, October 1999.



## CONFERENCE PRESENTATIONS

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- McAdam, A. G.**, S. Boutin, B. Dantzer, and J. E. Lane. Seed masting causes fluctuations in optimum litter size and lag load in red squirrels. *American Society of Mammalogists*, Washington D.C., June 2019.
- McAdam, A. G.**, S. Boutin, B. Dantzer, and J. E. Lane. Seed masting causes fluctuations in optimum litter size and lag load in red squirrels. *Society for the Study of Evolution*, Providence, R.I., June 2019.
- Studd, E. K., A. K. Menzies, E. R. Siracusa, R. Derbyshire, D. L. Murray, J. E. Lane, B. Dantzer, **A. G. McAdam**, S. Boutin, and M. M. Humphries. Seasonality of behaviour and species interactions in a boreal forest food web. *Canadian Society of Ecology and Evolution*, Fredericton, NB, August 2019.
- Bain, M., D. R. Wilson, S. Boutin, M. M. Humphries, B. Dantzer, J. E. Lane, and **A. G. McAdam**. Investigating effects of the social environment on variation in territorial vocalizations of red squirrels (*Tamiasciurus hudsonicus*). *Ontario Ecology, Ethology, and Evolution Colloquium*, London, ON, May 2018.
- Bain, M., D. R. Wilson, S. Boutin, M. M. Humphries, B. Dantzer, J. E. Lane, and **A. G. McAdam**. Investigating effects of the social environment on variation in territorial vocalizations of red squirrels (*Tamiasciurus hudsonicus*). *Canadian Society for Ecology and Evolution*, Guelph, ON, July 2018.
- Denomme-Brown, S.T., Cottenie, K. and **A. G. McAdam**. Variation in space and time: examining conspecific and heterospecific density-dependent dispersal in woodland rodents. *American Society of Mammalogists*, Manhattan, KS, June 2018.
- Denomme-Brown, S.T., Cottenie, K. and **A. G. McAdam**. Community level consequences of density-dependent dispersal. *Canadian Society for Ecology and Evolution*, Guelph, ON, July 2018.
- Fisher, D. N., S. Boutin, B. Dantzer, M. M. Humphries, J. E. Lane, D. W. Coltman, and **A. G. McAdam**. Do extended phenotypes allow dead squirrels to effect living ones? *Canadian Society for Ecology and Evolution*, Guelph, On, July 2018
- Fisher, D. N., S. Boutin, B. Dantzer, M. M. Humphries, J. E. Lane, D. W. Coltman, and **A. G. McAdam**. Social interactions from beyond the grave: Do extended phenotypes allow dead squirrels to influence live ones? *Animal Behaviour Society*, Milwaukee, WI, August, 2018
- Robertson, J. G., S. Boutin, M. M. Humphries, B. Dantzer, J. E. Lane, and **A. G. McAdam**. Individual variation in the dear enemy phenomenon in red squirrels. *Ontario Ecology, Ethology, and Evolution Colloquium*, London, ON, May 2018.
- Robertson, J. G., S. Boutin, M. M. Humphries, B. Dantzer, J. E. Lane, and **A. G. McAdam**. Individual variation in the dear enemy phenomenon in red squirrels. *Canadian Society for Ecology and Evolution*, Guelph, ON, July 2018.
- Robertson, J. G., E. Siracusa, M. K. Bain, M. Sehrsweeney, S. Boutin, M. M. Humphries, D. W. Coltman, B. Dantzer, J. E. Lane, D. Wilson, and **A. G. McAdam**. Importance of social information in vocalizations of a territorial rodent, *Tamiasciurus hudsonicus*. *II Joint Congress on Evolutionary Biology*, Montpellier, France, August 2018.

- Siracusa E.R., S. Boutin, M.M. Humphries, B. Dantzer, J. Lane, D.W. Coltman, and **A.G. McAdam**. Does the social environment matter to solitary animals? Fitness benefits of familiarity in red squirrels. *American Society of Mammalogists*. Manhattan, KS, June 2018.
- Siracusa E.R., S. Boutin, M.M. Humphries, B. Dantzer, J. Lane, D.W. Coltman, and **A.G. McAdam**. Does the social environment matter to solitary animals? Fitness benefits of familiarity in red squirrels. *Canadian Society for Ecology and Evolution*. Guelph, ON, July, 2018.
- Siracusa E.R., S. Boutin, M.M. Humphries, B. Dantzer, J. Lane, D.W. Coltman, and **A.G. McAdam**. Long-term social relationships affect reproductive success and survival in a territorial squirrel. *Animal Behavior Society*. Milwaukee, WI, August, 2018.
- Siracusa E.R., S. Boutin, M.M. Humphries, B. Dantzer, J. Lane, D.W. Coltman, and **A.G. McAdam**. The lasting effects of ‘dear enemies’: stable social relationships have fitness benefits for a territorial squirrel. *European Conference on Behavioural Biology*. Liverpool, UK, August, 2018.
- Kilgour, R. J., **A. G. McAdam**, and D. R. Norris. Competitive interactions and the mechanisms behind negative frequency-dependent selection on aggression. *Canadian Society of Ecology and Evolution*. Victoria, BC, May 2017.
- Fisher, D. N., S. Boutin, B. Dantzer, M. M. Humphries, J. E. Lane, and **A. G. McAdam**. Multilevel and sex-specific selection on competitive traits in North American red squirrels, *Canadian Society for Ecology and Evolution*, Victoria, BC, May 2017.
- Siracusa, E., D. R. Wilson, S. Boutin, M. M. Humphries, J. C. Gorrell, D. W. Coltman, B. Dantzer, J. Lane, and **A. G. McAdam**. Effects of neighbour familiarity on intrusion risk and behavioural time budgets in a territorial squirrel (*Tamiasciurus hudsonicus*). *Canadian Society for Ecology and Evolution*, Victoria, BC, May 2017.
- Fisher, D. N., A. J. Wilson, S. Boutin, B. Dantzer, M. M. Humphries, J. E. Lane, D. W. Coltman, J. C. Gorrell, and **A. G. McAdam**. Indirect genetic effects in North American red squirrels. *Canadian Society for Ecology and Evolution*, Victoria, BC, May 2017.
- Fisher, D. N., A. J. Wilson, S. Boutin, B. Dantzer, M. M. Humphries, J. E. Lane, D. W. Coltman, J. C. Gorrell, and **A. G. McAdam**. Indirect genetic effects in North American red squirrels. *Society for the Study of Evolution*, Portland, OR, June 2017.
- McAdam, A. G.**, M. M. Humphries, B. Dantzer, J. E. Lane, J. C. Gorrell, D. W. Coltman and S. Boutin. Evolutionary responses to population density in red squirrels. *Wild Animal Modelers’ Biannual Meeting*, Saint Michel-des-Saints, QC, July 2017.
- Fisher, D. N., A. J. Wilson, S. Boutin, B. Dantzer, M. M. Humphries, J. E. Lane, D. W. Coltman, J. C. Gorrell, and **A. G. McAdam**. Indirect genetic effects in North American red squirrels. *Wild Animal Modelers’ Biannual Meeting*, Saint Michel-

- des-Saints, QC, July 2017.
- Siracusa, E., D. R. Wilson, S. Boutin, M. M. Humphries, J. C. Gorrell, D. W. Coltman, B. Dantzer, J. Lane, and **A. G. McAdam**. Neighbor familiarity affects intrusion risk and behavioral plasticity in a territorial squirrel (*Tamiasciurus hudsonicus*). *American Society of Mammalogists*, Moscow, ID, June 2017.
- Kilgour, R. J., **A. G. McAdam**, and D. R. Norris. Competitive interactions and the mechanisms behind negative frequency-dependent selection on aggression. *Animal Behaviour Society*, Scarborough, ON, June 2017.
- Fisher, D. N., A. J. Wilson, S. Boutin, B. Dantzer, M. M. Humphries, J. E. Lane, D. W. Coltman, J. C. Gorrell, and **A. G. McAdam**. Indirect genetic effects in North American red squirrels. *Animal Behavior Society*, Toronto, ON, June 2017.
- Siracusa, E., D. R. Wilson, S. Boutin, M. M. Humphries, J. C. Gorrell, D. W. Coltman, B. Dantzer, J. Lane, and **A. G. McAdam**. Effects of neighbor familiarity on intrusion risk and behavioral plasticity in the North American red squirrel. *Animal Behavior Society*, Toronto, ON, June 2017.
- McAdam, A. G.**, D. W. Coltman, B. Dantzer, J. C. Gorrell, M. M. Humphries, J. E. Lane, and S. Boutin. Responses of red squirrels to a longterm manipulation of natural selection. *Canadian Society for Ecology and Evolution*, St. John's, NF, July 2016.
- Denomme-Brown, S.T., Cottenie, K. and **A. G. McAdam**. Negative density-dependent dispersal in a wild small mammal. *Ontario Ecology, Ethology and Evolution Colloquium*. Toronto, ON, May 2016.
- Haines, J. A., D. W. Coltman, B. Dantzer, J. C. Gorrell, M. M. Humphries, J. E. Lane, **A. G. McAdam** and S. Boutin. Effects of food on reproductive success and mating behaviour in red squirrels. *Canadian Society for Ecology and Evolution*, St. John's, NF, July 2016.
- Denomme-Brown, S., K. Cottenie, and **A. G. McAdam**. Negative density-dependent dispersal in a wild small mammal. *Canadian Society for Ecology and Evolution*, St. John's, NF, July 2016.
- Kilgour, R. J., G. S. Betini, **A. G. McAdam**, and D. R. Norris. Selection on aggression depends on social composition. *Canadian Society for Ecology and Evolution*, St. John's, NF, July 2016.
- Betini, G. S., **A. G. McAdam**, C. Griswold, and D. R. Norris. Fitness tradeoffs between seasons lead to multigenerational cycles in phenotype and population size. *Canadian Society for Ecology and Evolution*, St. John's, NF, July 2016. (poster)
- McAdam, A. G.**, B. Dantzer, J. E. Lane, M. M. Humphries, and S. Boutin. The causes of fluctuating selection in red squirrels. *Society for the Study of Evolution*. Austin, TX, June 2016. [<https://youtu.be/STeDPMF5cgl>]
- Kilgour, R. J., G. S. Betini, **A. G. McAdam**, and D. R. Norris. The relationship between group composition, density and the evolution of aggression. *Canadian Society for Ecology and Evolution*, Saskatoon, SK, May 2015.
- Haines, J. A., J. C. Gorrell, **A. G. McAdam**, D. W. Coltman, M. M. Humphries, and S. Boutin. Life history traits and age-related reproduction in male red squirrels.

- Canadian Society for Ecology and Evolution*, Saskatoon, SK, May 2015.
- Denomme-Brown, S.T., Cottenie, K. and **A. G. McAdam**. Dispersal in a terrestrial metacommunity. *Ontario Ecology, Ethology and Evolution Colloquium*. Toronto, ON, May 2015.
- McAdam, A. G.** Alternative recruitment tactics in red squirrels. Wild Animal Model Biennial Annual Meeting, Edinburgh, Scotland, July 2014.
- Boutin, S., M. M. Humphries and **A. G. McAdam**. Maternal responses to resource-pulse dynamics in North American red squirrels. *International Conference on Rodent Biology*. July 2014.
- McAdam, A. G.**, M. M. Humphries, S. Boutin. Fluctuating natural selection in red squirrels: The role of the environment and alternative tactics. *Canadian Society for Ecology and Evolution*, Montreal, PQ May 2014.
- Kelley, A., M. M. Humphries, **A. G. McAdam**, S. Boutin. Juvenile personality correlates with characteristics of the early postnatal environment in free-living North American red squirrels. *Canadian Society for Ecology and Evolution*, Montreal, PQ May 2014.
- Deasley, K., M. M. Humphries, S. Boutin, **A. G. McAdam**. Effects of red squirrel seed predation on natural selection of white spruce cones. *Canadian Society for Ecology and Evolution*, Montreal, PQ May 2014.
- Betini, G. S., **A. G. McAdam**, C. Griswold, D. R. Norris. Eco-evolutionary feedbacks in a seasonal world and Chitty super-cycles. *Canadian Society for Ecology and Evolution*, Montreal, PQ May 2014.
- Merritt, G., A. E. M. Newman, **A. G. McAdam**. From the lab to the real world: Understanding the effects of population density on stress and maternal care in a wild rodent (*Peromyscus maniculatus*). *Canadian Society for Ecology and Evolution*, Montreal, PQ May 2014.
- Fletcher, Q. E., M. Landry-Cuerrier, S. Boutin, **A. G. McAdam**, J. R. Speakman, M. M. Humphries. Reproductive timing and reliance on hoarded capital resources by lactating red squirrels. *Canadian Society for Ecology and Evolution*, Montreal, PQ May 2014.
- Kilgour, J., **A. G. McAdam**, D. R. Norris The persistence of social influences on aggressive behaviour in a seasonal environment (poster). *Canadian Society for Ecology and Evolution*, Montreal, PQ May 2014.
- Bradley, D., **A. G. McAdam**, D. Hussell, F. Bonier, R. Clark, R. Dawson, A. Horn, M. Leonard, W. Rendell, R. Robertson, D. Shutler, D.R. Norris. Plastic responses in the timing of reproduction to annual variation in spring temperature of a migratory songbird across North America. *Canadian Society for Ecology and Evolution*, Montreal, PQ May 2014.
- Boutin, S. J. E. Lane, **A. G. McAdam**, C. T. Williams, M. M. Humphries, D. W. Coltman, J. C. Gorrell. The evolutionary response of red squirrels to climate change revisited. *Canadian Society for Ecology and Evolution*, Kelowna, BC May 2013.
- Taylor, R. W., S. Boutin, M. M. Humphries, J. C. Gorrell, D. W. Coltman, and **A. G. McAdam**. Fluctuating and nonlinear selection on behaviour in a wild

- population of red squirrels. *First Joint Congress on Evolutionary Biology*, Ottawa, ON, July 2012.
- Miehls, A., S. Peacor, and **A. G. McAdam**. Natural selection on the defensive morphology of the invasive spiny water flea (*Bythotrephes longimanus*) and potential for evolutionary adaptation. *First Joint Congress on Evolutionary Biology*, Ottawa, ON, July 2012.
- McFarlane, S. E., J. C. Gorrell, D. W. Coltman, M. M. Humphries, S. Boutin, and **A. G. McAdam**. Maternal genetic effects set the potential for evolution in red squirrels. *First Joint Congress on Evolutionary Biology*, Ottawa, ON, July 2012.
- Stewart, F. E. C. and **A. G. McAdam**. Plasticity of maternal care in a wild rodent. *First Joint Congress on Evolutionary Biology*, Ottawa, ON, July 2012.
- McAdam, A. G.**, S. Boutin and M. M. Humphries. Seed masting causes life history maladaptation in a seed predator and improves seed escape. *First Joint Congress on Evolutionary Biology*, Ottawa, ON, July 2012.
- McFarlane, S. E., J. C. Gorrell, D. W. Coltman, M. M. Humphries, S. Boutin, and **A. G. McAdam**. Maternal genetic effects set the potential for evolution in red squirrels. *4th International Conference on Quantitative Genetics*, Edinburgh, June 2012.
- Newman, A.E.M., Dantzer, B., **A.G. McAdam**. Persistent effects of prenatal stress on offspring physiology in wild red squirrels. *Ontario Ecology, Ethology and Evolution Colloquium*, Hamilton, ON, May 2012.
- Stewart, F. E. C., and **A. G. McAdam**. Contemporary adaptation of offspring sex ratio: Are alterations to masculinity an adaptive mode to sex ratio manipulation? *Ontario Ecology, Ethology, and Evolution Colloquium*, University of McMaster, ON, May 2012.
- McFarlane, S. E., J. C. Gorrell, D. W. Coltman, M. M. Humphries, S. Boutin, and **A. G. McAdam**. Potential mechanisms to maintain additive genetic variance in fitness in a red squirrel (*Tamiasciurus hudsonicus*) population. *Ontario Ecology, Ethology, and Evolution Colloquium*, University of McMaster, ON, May 2012.
- Dantzer, B, A. E. M. Newman, R. Boonstra, S. Boutin, R. Palme, M. M. Humphries, and **A. G. McAdam**. Adaptive hormone-mediated maternal effects in free-ranging red squirrels. *Society for Comparative and Integrative Biology*, Charleston, South Carolina, USA, January 2012.
- McAdam, A. G.** Genetic variation in the acoustics of red squirrel vocalizations. Wild Animal Model Biennial Annual Meeting, Corsica, France, September 2011.
- Miehls, A. L. J., **A. G. McAdam**, and S. D. Peacor. Phenotypically plastic response of an invasive species to temperature but not a predator. *Society for the Study of Evolution*. Norman, OK. June, 2011.
- Dantzer, B., R. Boonstra, S. Boutin, M. M. Humphries, and **A. G. McAdam**. Adaptive hormone-mediated maternal effects in free-ranging red squirrels. *American Society of Mammalogists*, Portland OR, June 2011.
- Taylor, R. W., A. K. Boon, D. Réale, M. M. Humphries, S. Boutin, and **A. G. McAdam**. Maternal and genetic effects on red squirrel behavioral syndromes. *American*

- Society of Mammalogists*, Portland, OR, June 2011.
- Dantzer, B., R. Boonstra, S. Boutin, M. M. Humphries, and **A. G. McAdam**. Adaptive hormone-mediated maternal effects in free-ranging red squirrels. *North American Society of Comparative Endocrinology*, Ann Arbor, MI, July 2011
- Dantzer, B., S. Boutin, M. M. Humphries, and **A. G. McAdam**. The indirect effects of population density on behavior in red squirrels. *Behavior 2011* (Joint Meeting of the International Ethological Conference & Animal Behavior Society), Bloomington, IN, July 2011.
- Miehls, A. L. J., **A. G. McAdam**, and S. D. Peacor. Phenotypically plastic response of an invasive species to temperature but not a predator. *Ecological Society of America*. Austin, TX. August, 2011.
- Taylor, R. W., S. Boutin, M. M. Humphries, and **A. G. McAdam**. Genetic parameters of personality in North American red squirrels. *Society for the Study of Evolution*, Portland, OR, June 2010.
- Miehls, A. L., S. Peacor, and **A. G. McAdam**. Heritability and maternal effects of key traits for interspecific interactions in an invasive species, *Bythotrephes longimanus*. *Society for the Study of Evolution*, Portland, OR, June 2010.
- Shonfield, J., J. Gorrell, S. Boutin, D. Coltman, M. M. Humphries, and **A. G. McAdam**. Behavioural responses of red squirrels to territorial playbacks of kin and non-kin. *Canadian Society for Ecology and Evolution*, Quebec, May 2010.
- McAdam, A. G.**, M. M. Humphries, and S. Boutin. Experimental manipulation of natural selection on red squirrels. *Canadian Society for Ecology and Evolution*, Quebec, May 2010.
- Fletcher, Q. E., S. Boutin, **A. G. McAdam**, J. E. Lane, J. R. Speakman, and M. M. Humphries. Seasonal energetics of a northern free-ranging mammal in a resource pulse system. *Canadian Society for Ecology and Evolution*, Quebec, May 2010.
- Torgerson, L. L., **A. G. McAdam** and B. L. Lundrigan. Personality in two species of sympatric *Peromyscus*. *Annual Meetings of the American Society of Mammalogists*, Fairbanks AK, June 2009.
- Ball, E. L., **A. G. McAdam** and R. B. Peyton. Quantifying hunter-induced selection on White-tailed deer (*Odocoileus virginianus*) in the Saginaw Bay region of Michigan. *The Wildlife Society Meetings*, Tuscon Arizona, September 2007.
- Réale, D., **A. G. McAdam**, D. Berteaux and S. Boutin. Adaptive phenotypic plasticity and microevolution: two ways of responding to climate change, the example of North American red squirrel in Yukon. *NSERC/CWE Environmental Change Meeting*. Vancouver, Canada. March 2006.
- McAdam, A. G.** and B. Sinervo. Fluctuating selection and adaptive parent-specific genetic effects in side-blotched lizards. *Society for the Study of Evolution / American Society of Naturalists*. Fairbanks, Alaska. June 2005.
- McAdam, A. G.** and S. Boutin. Maternal effects and the response to selection in red squirrels. *Ninth Congress of the European Society for Evolutionary Biology*. Leeds, UK. August 2003. (Poster).

- Berteaux, D., D. Réale, **A. G. McAdam** and S. Boutin. Genetic and plastic responses of a northern mammal to climate change. Symposium on the Biology of the Canadian Arctic. *Annual meeting of the Society for Integrative and Comparative Biology*. Toronto, Ontario. January 2003.
- McAdam, A. G.** and S. Boutin. Maternal effects and the dynamics of juvenile growth rates in red squirrels. *American Society of Naturalists*. Banff, Alberta. July 2002.
- Réale, D., **A. G. McAdam**, D. Berteaux and S. Boutin. Selection studies and behavioural ecology: measuring selection on reproductive traits in North American red squirrel. *Ninth Biennial Congress of the International Society for Behavioral Ecology*. Montreal, Quebec. July 2002.
- McAdam, A. G.** and S. Boutin. Masting and the maintenance of genetic variation in red squirrels. *Society for the Study of Evolution / American Society of Naturalists*. Knoxville, Tennessee. June 2001.
- McAdam, A. G.** and S. Boutin. Maternal effects and heritability of nestling growth rates in the red squirrel. *Pacific Ecology Conference*. Parksville, British Columbia, February 1999.
- Millar, J. S., **A. G. McAdam**, and V. E. Collins. Life on the edge: deer mice in the Kananaskis Valley 1979-1997. *Canadian Society of Zoologists*. Kelowna, British Columbia, May 1998.
- McAdam, A. G.** and J. S. Millar. The effects of dietary protein supplementation on the growth and maturation of female young-of-the-year *Peromyscus maniculatus*. *Seventh International Theriological Congress*. Acapulco, Mexico. September 1997. (Poster).
- McAdam, A. G.** and D. L. Kramer. Stop, look, and listen: vigilance and intermittent locomotion in small mammals. *76th Annual Meeting of the American Society of Mammalogists*. Grand Forks, North Dakota. June 1996. (Poster).

## COMMITTEE SERVICE

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### **External Society Committees**

Evolution Letters Oversight Committee (2023 – present)

Guy Cameron Award Committee, *American Society of Mammalogists* (2020-present)

### **University Committees**

EBIO IACUC representative (2021 – 2022)

University of Guelph Co-Ordinator for the Ontario Universities Program in Field Biology (2012)

### **College Committees**

Arts and Sciences Salary Equity Committee, Chair (2024 – present), University of Colorado

BIOS Curriculum Committee (2009-2010, 2015 - 2017), College of Biological Sciences, University of Guelph

Graduate Program Committee (2015 - 2016), College of Biological Sciences, University of Guelph

### **Departmental Committees**

EBIO Merit Review Committee (2022)  
EBIO Justice, Diversity and Equity Committee (2021 – 2022)  
EBIO Taylor PUEC Committee (2021)  
EBIO Executive Committee (2020 – 2021)  
EBIO Faculty Affairs Committee, Chair (2020 – 2021)  
EBIO Graduate Committee (2020)  
Integrative Biology Chair Search Committee, University of Guelph (2018)  
Founder and Chair, Mental Health, Diversity and Equity Committee (2017 - 2019),  
Department of Integrative Biology, University of Guelph  
Wellness at Work Champion (2017 - 2018), Department of Integrative Biology  
Champion (liaison) in the university-wide program, University of Guelph  
Graduate Studies and Awards Committee (2015 - 2018), Department of Integrative  
Biology, University of Guelph  
Graduate Curriculum Committee (2017 - 2018), Department of Integrative Biology,  
University of Guelph  
Chair's Advisory Committee (2014 - 2017), Department of Integrative Biology, University  
of Guelph  
Safety Committee (Winter 2015), Department of Integrative Biology, University of  
Guelph  
Chair, Evolution Curriculum Subcommittee (2010 - 2011), Department of Integrative  
Biology, University of Guelph  
Curriculum Committee (2010 – 2012), Department of Integrative Biology, University of  
Guelph  
Seminar Committee (2009-2010), Department of Integrative Biology, University of  
Guelph  
Chair, Graduate Committee (2008), Department of Zoology, Michigan State University  
Graduate Committee (2005-2008), Department of Zoology, Michigan State University  
Population Genetics Search Committee (2005), Department of Zoology, Michigan State  
University

### **WORKING GROUPS**

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Canadian Institute of Ecology and Evolution, Quebec Centre for Biodiversity Science  
working group on “Adaptation and maladaptation in response to environmental  
change.” (December 2015).

### **MEETING ORGANIZATION**

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Local Organizing Committee. Canadian Society for Ecology and Evolution annual  
meeting, Guelph, Ontario. July 2018. (700 registrants)  
Co-organizer. Peter Yodzis Colloquium in Fundamental Ecology. Theme: Integrating  
The Ecology and Evolution of Social Interactions. July 2018. (200 registrants)



## **EDITORIAL WORK AND PEER REVIEW**

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Handling Editor, *Evolution* (2020 to 2022)

Associate Editor, *Evolution* (2015 to 2017)

Editorial Board member, *Journal of Evolutionary Biology* (2004 – 2007; 2011 – 2015)

NSERC Discovery Grants Review Panel (Ecology and Evolution), 2021

Evolutionary and Population Ecology Panel, *National Science Foundation*, 2007

### **Manuscripts**

Publons reviewer id: [publons.com/a/1197034/](https://publons.com/a/1197034/)

Manuscripts reviewed for: *Acta Theriologica*, *American Midland Naturalist*, *American Naturalist*, *Axios Review*, *Behavioral Ecology*, *Behavioural Ecology and Sociobiology*, *Biology Letters*, *BMC Ecology*, *Ecography*, *Ecology*, *Ecology Letters*, *Écoscience*, *Ethology*, *Evolution*, *Evolution Letters*, *Evolutionary Ecology*, *Forest Ecology and Management*, *Integrative and Comparative Biology*, *Journal of Animal Ecology*, *Journal of Evolutionary Biology*, *Journal of Heredity*, *Journal of Mammalogy*, *Journal of Zoology*, *Mammalia*, *Methods in Ecology & Evolution*, *Molecular Ecology*, *Northeastern Naturalist*, *Oecologia*, *Oikos*, *PlosOne*, *Phil. Trans. Roy. Soc. L.*, *Proceedings B*, *Reproduction, Fertility and Development*, *Science Reports*, *Theriogenology Wild*, *Trends in Ecology and Evolution*.

**Grants:** *Canada Foundation for Innovation*, *National Geographic Society (USA)*, *National Science Foundation (USA)*, *Natural Sciences and Engineering Research Council (Canada)*, *Natural Environment Research Council (UK)*, *Netherlands Organisation for Scientific Research*, *Swiss National Science Foundation*.

## **EXTERNAL EVALUATIONS**

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External assessment of tenure and/or promotion applications: 4

External examination of PhD Candidates:

Colin Garroway (2010) The social and genetic structure of flying squirrel populations. Trent University.

Ross Breckels (2013) The plastic and evolutionary responses of fish to anthropogenic stressors. University of Western Ontario.

Drew Sauve (2023) Environmental correlates of early-life growth, natural selection, and components of phenotypic variation in a long-term experimental study system of black-legged kittiwakes. Queen's University.

External examiner for MSc Candidates:

Mathias Gagnon-Barbin (2022) Les liens entre l'effort reproducteur, les conditions environnementales et la valeur adaptative chez trois populations de mesanges bleues corses. Université du Québec à Montréal.

## **OTHER EXTERNAL SERVICE**

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Scientific advice to the Royal Canadian Mint, 2017

## **SCIENCE OUTREACH**

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*Flying Seed Project.* I initiated the *Flying Seed Project* for grade 11 biology students based around an inquiry-based lesson plan and citizen science model of data collection to test the hypothesis that mowing frequency imposes natural selection on dandelion (*Taraxacum officinale*) growth forms. Together with colleagues at the University of Guelph (S. Jacobs, R. Van Acker) and the Upper Grand District School Board (S. Bender) we developed a lesson plan (see Jacobs et al. 2015), which the national STEM outreach organization *Let's Talk Science* adopted and now implements. Students send us data on mowing frequency and dandelion phenotypes as well as seed from their schoolyards. We are currently growing dandelions in the *Phytotron* at the University of Guelph in a common-garden experiment to test whether phenotypic differences among schoolyards are genetically based.

## **PRESS COVERAGE**

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### **Red squirrel biology and natural history**

- “What Trees Talk About” – documentary on interactions between red squirrels and spruce trees that aired on *CBC* television’s “*The Nature of Things*”, November 2017.
- Red squirrel segment aired on Daily Planet on the *Discovery Channel*, 2008.
- “Mother knows best” by Les Line, *National Wildlife Magazine*, June/July 2005.

### **Adaptive maternal hormone effects on red squirrel growth.**

- Interviewed on *CBC* Radio’s *Quirks and Quarks*, April 2013.
- “Babies of stressed squirrels grow faster” *Nature: Research Highlights*, April 2013.

### **Contemporary Evolution**

- “Evolution: blink and you’ll miss it” *New Scientist*, July 2005.
- “Marmots thriving amid climate change – for now” *LA Times*, July 2010.

### **Anticipation of food resources**

- “Squirrel smarts: In war between spruce, critter, bet on bushy tail” *Lansing State Journal*, January 2007.
- “Squirrels accurately predict bumper harvests” *NewScientist.com*, December 2006.

### **Maternal effects**

- Research reported in *Science (Science Shots)*, *Edmonton Journal*, *Science Daily*, and *Innovations Report*.

**Plastic and genetic responses of red squirrels to climate change**

- “The New Climate Almanac 2007” *Globe and Mail*, February 2007.
- “Discover's guide to the top 100 science stories of 2003” *Discover* magazine, Jan. 2004
- “Red squirrels evolving with global warming” *New Scientist*, Feb. 2003
- I was also interviewed for articles or radio broadcasts by *The Scientist*, *LA Times*, CBC radio (Yukon), KVMR radio, *YES Mag*, *Frontiers in Ecology and the Environment*, and *Alaska Science Forum*. This work was also reported by CBC television (Edmonton), *The Guardian*, *Daily Telegraph*, *National Post* and *Edmonton Journal*.

**Cooperation in side-blotched lizards**

- “True-pal lizards may show odd gene” *Science News*, May 27, 2006.

**Antipredatory benefits of intermittent locomotion**

- “In nature, animals that stop and start with the race” *Science*, 288:83-5.