

CURRICULUM VITAE
Christopher Bisset Sturdy

Personal Information

Current Address and Contact Information

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Biographical Details

- Born, London, Ontario, Canada, 1971; Canadian Citizen; Married to Lisa Sturdy; we have two daughters, Mackenzie and Meghan

Current Positions

- **Professor**, Department of Psychology, University of Alberta, 1 July 2013-present
- **Member**, Neuroscience and Mental Health Institute, Department of Psychology, University of Alberta, October 2002-present
- **Tier 1 Canada Research Chair in Animal Cognition, Communication, and Neuroethology**, 1 April 2020-present

Research Interests

I am interested in the neuroethology of songbird acoustic communication. I use several empirical approaches, from bioacoustic analyses of vocalizations and operant discrimination paradigms, to electrophysiological and neuroanatomical techniques as well as artificial neural network approaches, with the long-term goal of understanding the behavioural, cognitive and neural substrates underlying songbird vocal production and perception, auditory perception and cognition.

Previous Positions

- **Chair**, Department of Psychology, University of Alberta, 1 July 2016-30 June 2019
- **Acting Associate Dean (International and Graduate Affairs)**, Faculty of Science, University of Alberta, 1 July 2015-30 June 2016
- **Associate Chair (Graduate Studies)**, Department of Psychology, University of Alberta, 1 July 2014-30 June 2015
- **Associate Chair (Research)**, Department of Psychology, University of Alberta, 1 July 2012-30 June 2014
- **Associate Professor**, Department of Psychology, University of Alberta, 1 July 2008-30 June 2013
- **Assistant Professor**, Department of Psychology, University of Alberta, January 2002-30 June 2008
- **NSERC Postdoctoral Fellow**, Departments of Biology and Neurobiology, Duke University, Drs. S. Nowicki and R. Mooney (advisors), 1 January 2000-31 December 2001
- **Graduate Student**, Department of Psychology, Queen's University, Dr. R.G. Weisman (advisor), 1 September 1994-31 December 1999
- **Visiting Scientist**, Johns Hopkins University, Department of Psychology, Dr. G.F. Ball (advisor), March 1996-April 1996
- **Undergraduate Research Assistant and Honours Student**, Department of Psychology, University of Windsor, January 1993-August 1994, Dr. J.S. Cohen (advisor)
- **Child Relief Worker**, Maryvale Child and Family Services/Good Shepherd Center, Windsor, Ontario, GERALYN Leblanc and Terry Bouchard (supervisors), December 1993-August 1994

Education

- **Ph.D.** (2000) Queen's University, Psychology (Brain, Behaviour, and Cognitive Science-Behavioural Neuroscience)
- **M.A.** (1997) Queen's University, Psychology (Basic and Applied)
- **B.A.** (1994) University of Windsor, Psychology (Honours with Thesis)

Professional Training (not including lab and field safety training)

- **Completed: University of Alberta Office of Safe Disclosure and Human Rights Being Anti-Racist Workshop;** 7 February 2025
- **Completed: Comparative Cognition Society Allyship Training (Including Beyond Microsoft's Allyship training course and Inclusion and Allyship training module);** January and March 2024

- **EDI Ally, International Conference on Comparative Cognition, 2024, 2025**
- **Completed: University of Alberta Equity, Diversity, and Inclusion Module; May 2023**
- **Viewed: University of Alberta Launch of the Indigenous Strategic Plan; June 2022**
- **Attended: The University of Alberta's Plan for Equity, Diversity and Inclusivity (EDI) Strategic Plan & Your Teaching Practice Series, Webinette 1 Etiquette; February 2022**
- **Viewed: CURED; February 2022**
- **Attended: UNCOVERED: Truths About Indian Residential Schools webinar; November 2021**
- **Attended: Engineering at Alberta Reconciliation Circle; September 2021**
- **Attended: Receiving and Responding to Disclosures Workshop; August 2021**
- **Attended: Live panel discussion: When You Picture a Scientist, Who Do You See? March 2021**
- **Attended: Black Men in White Coats viewing and post-viewing discussion; February 2021**
- **Attended: Truth and Reconciliation: Jessica's Teachings; January 2021-June 2021**
- **Completed: Indigenous Canada MOOC; February 2021**
- **Attended and assisted coordinating: Picture a Scientist viewing and two post-viewing discussions; November 2020**
- **Attended: SFN Black Lives Matter and Neuroscience: Why This Moment Matters; July 2020**
- **Attended: SMRTS webinar: Black, Indigenous, People of Colour Experiences in STEM: Confronting Racism in Academia; October 2020**
- **Attended: The science backing up EDI webinar; September 2019**
- **Attended: Members of visible minorities and the EDI Strategic Plan Focus: Women and the EDI Strategic Plan for University of Alberta; January 2019**
- **Completed: CRC/Tri-council Bias in Peer Review Module; February 2019**
- **Completed: GBA+ (Gender-Based Analysis Plus); February 2019**
- **Standard First Aid (Level C), CPR, AED; 15 January 2019-15 January 2022**
- **Gold College Comprehensive Leadership Program, University of Alberta (Office of the Provost, VP Academic, Human Resource Services), July 2015-June 2016**

Professional Activities, Highlights (for details, see Service Dossier)

- **Consulting Editor, *Journal of Comparative Psychology*, January 2023-present**
- **Editorial Board Member, *Canadian Journal of Experimental Psychology*, January 2023-present**
- **Associate Editor, *Animal Behavior & Cognition*, May 2022-present**
- **Editorial Board Member, *Animal Behavior & Cognition*, January 2021-April 2022**
- **Guest Co-Editor (with Lauren Guillette) for Special Issue on Comparative Cognition & Cognitive Ecology:**
 - Unifying psychological and biological approaches to understanding animal cognition in *Canadian Journal of Experimental Psychology* (Action Co-Editor/reviewer; May 2019-September 2020)
- **Faculty Instructor, *Acoustical Society of America ASA School 2016*, 22-23 May 2016**
- **Editorial Board Member, *Behavioural Processes*, June 2012-present**
- **Comparative Cognition Society Executive Committee, *Elected Member at Large*, August 2010-July 2012**
- **Co-Editor, *Comparative Cognition and Behavior Reviews*, July 2010-June 2016**
- **Associate Editor, *Frontiers of Comparative Psychology*, July 2010-present**
- **Editorial Board Member, *Comparative Cognition and Behavior Reviews*, December 2004-July 2010**
- **Production Editor, *Comparative Cognition and Behavior Reviews*, December 2004-July 2010**
- **Guest Editor, *Special issue of Behavioural Processes*, "Thinking outside the box: in honour of the contributions of Ronald Weisman", in honour of the contributions of Ronald Weisman, October 2006-March 2008**
- **Peer review of journal articles for:** *Acoustics Research Letters Online, Animal Behaviour, Animal Cognition, Behaviour, Behavioral Ecology and Sociobiology, Behavioural Brain Research, Behavioural Processes, Biology Letters, Comptes rendus Biologies, Ethology, European Journal of Neuroscience, Experimental Psychology, Journal of Animal Ecology, Journal of Experimental Psychology: Animal Behavior Processes, Journal of Comparative Psychology, Journal of Experimental Biology, Journal of the Acoustical Society of America, National Geographic Society, Nature, Naturwissenschaften, Neurobiology of Learning & Memory, PLoS ONE, Psychonomic Bulletin & Review, Proceedings of the Royal Society B: Biological Sciences, Science, Scientific Reports, The Condor*
- **Peer review of book chapters/proposals for:** *Cambridge University Press, Oxford University Press*
- **Peer review of grant/fellowship/award applications for:** *Canadian Institutes of Health Research (CIHR), National Science Foundation (NSF), Natural Sciences and Engineering Research Council of Canada (NSERC), Netherlands Organisation for Scientific Research (NWO)*

Grant Support/Funding

- **Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant (DG), Neuroethology of Songbird Acoustic Communication: Behaviour, Cognition, and Neurobiology**, University of Alberta, \$275,000 (\$55,000/year); 2022-2027
- **Tier 1 Canada Research Chair in Animal Cognition, Communication, and Neuroethology**, Department of Psychology, University of Alberta, \$1,400,000 (\$200,000/year) 1 April 2020-present
- **Faculty of Science Research Stipend (Tier 1 Canada Research Chair, Department of Psychology)**, University of Alberta, \$280,000; 2020-2027
- **Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant (DG), Songbird BioCognition: An integrative approach to understanding songbird communication**, University of Alberta, \$246,000 (\$41,000/year); 2016-2022
- **Faculty of Arts, Faculty of Science Research Stipend (Chair, Department of Psychology)**, University of Alberta, \$123,000; 2016-2019
- **Faculty of Science Research Stipend (Associate Dean, Graduate and International)**, University of Alberta, \$15,000; 2015-2016
- **Faculty of Science Graduate Mentoring Award**, University of Alberta, \$2,000; 2013
- **Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Accelerator Supplement (DAS), Songbird BioCognition: An integrative approach to understanding songbird communication**, University of Alberta, \$120,000 (\$40,000/year); 2011-2014
- **Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant (DG), Songbird BioCognition: An integrative approach to understanding songbird communication**, University of Alberta, \$280,000 (\$56,000/year); 2011-2016
- **Canada Foundation for Innovation (CFI) Infrastructure Operating Fund (IOF) for Cellular and Systems Neurobiology and Behaviour Laboratory**, University of Alberta, \$76,800; 2007-2012
- **Distinguished Visitors Fund**, Office of the Vice-President (Research), University of Alberta (\$9,610), 2006-2007
- **Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant (DG), Neuroethology of songbird acoustic communication**, University of Alberta, \$166,550 (\$33,310/year); 2006-2011
- **Natural Sciences and Engineering Research Council of Canada (NSERC) Operating Grant, Neuroethology of Parid acoustic communication**, University of Alberta, \$116,000 (\$29,000/year); 2002-2006
- **Natural Sciences and Engineering Research Council of Canada (NSERC) Equipment Grant, Intracellular electrophysiology equipment for songbirds**, University of Alberta, \$63,410; 2002-2003
- **Canada Foundation for Innovation (CFI) New Opportunities Fund (NOF), Cellular and Systems Neurobiology and Behaviour Laboratory**, University of Alberta, \$256,000; 2003-2009
- **Canada Foundation for Innovation (CFI) Partner Funding for Cellular and Systems Neurobiology and Behaviour Laboratory**, University of Alberta, \$151,000; 2003-2009
- **Alberta Ingenuity Fund New Faculty Grant, Neuroethology of Songbird Acoustic Communication: From the Beak to the Brain and Back**, University of Alberta, \$110,000 (\$55,000/year); 2003-2005
- **University of Alberta Start-up Funding**, University of Alberta, \$100,000; 2002-2004

Awards, Academic Honours, and Fellowships

- **Tier 1 Canada Research Chair in Animal Cognition, Communication, and Neuroethology**, Department of Psychology, University of Alberta, 1 April 2020-present
- **Tier I Canada Research Chair in Animal Cognition, Communication, and Neuroethology (nominated)**, Department of Psychology, University of Alberta, 5 July 2019
- **Section on Women & Psychology (SWAP) Feminist Mentoring Award (nominated)**, Department of Psychology, University of Alberta, 2018
- **Faculty of Science Graduate Mentoring Award**, Department of Psychology, University of Alberta, 2013
- **Natural Sciences and Engineering Research Council of Canada (NSERC) Postdoctoral Fellowship (PDF)**, Duke University, 2000-2001
- **Ontario Graduate Scholarship (declined)**, Department of Psychology, Queen's University, 1999-2000
- **Queen's Graduate Award**, Department of Psychology, Queen's University, 1999
- **D.O. Hebb Student Award for Best Student Presentation** (at the annual meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science), Department of Psychology, Queen's University, 1998
- **Queen's Dean's Travel Grant**, Department of Psychology, Queen's University, 1998-1999
- **Queen's Graduate Award**, Department of Psychology, Queen's University, 1998-1999
- **Ontario Graduate Scholarship**, Department of Psychology, Queen's University, 1998-1999
- **Natural Sciences and Engineering Research Council of Canada (NSERC) Postgraduate Scholarship (PGS B)**, Department of Psychology, Queen's University, 1996-1998
- **Ontario Graduate Scholarship (declined)**, Department of Psychology, Queen's University 1996-1997

- **Queen's Graduate Award**, Department of Psychology, Queen's University, 1996-1997
- **Queen's Graduate Award**, Department of Psychology, Queen's University, 1995-1996
- **Queen's Graduate Award**, Queen's University, 1994-1995
- **Queen's Dean's Award**, Department of Psychology, Queen's University, 1994-1995

Theses

- Ph.D. thesis: Implications of Vocal Categories and Reduced Social Interaction on Songbird Auditory Perception, Dr. R.G. Weisman (advisor), Department of Psychology, Queen's University, defended December 1999
- M.A. thesis: The harmonic structure and organization of Zebra Finch song (*Taeniopygia guttata*): A Bioacoustic Analysis, Dr. R.G. Weisman (advisor), Department of Psychology, Queen's University, defended October 1996
- B.A. thesis: Reduction of proactive interference in the radial maze through manipulation of extra-maze stimuli, Dr. J.S. Cohen (advisor), Department of Psychology, University of Windsor, completed April 1994

Professional Affiliations

- Animal Behavior Society (member)
- Canadian Association for Neuroscience (member)
- Canadian Society for Brain, Behaviour, and Cognitive Science (member)
- Comparative Cognition Society (member)
- International Society for Neuroethology (member)
- Psychonomic Society (member)
- Society for Neuroscience (member)

PUBLICATIONS (underlined names are trainees)

Refereed Journal Publications (114)

1. Smeltz, S.M.L., Deimeke, M.J., Montenegro, C., Sahu, P.K., Stenstrom, K.H., Camacho-Alpizar, A., & **Sturdy, C.B.** (Accepted 8 April 2025). Individual vocal identity may be obscured following colony assembly in captive black-capped chickadees. Manuscript to appear in Ethology.
2. Smeltz, S.M.L., Deimeke, M.J., Sahu, P.K., Montenegro, C., Stenstrom, K.H., Starenchak, I., Rennie, V., Ebrahim, I.M., Jones, J.A., & Sturdy, C.B. (2025). Individual vocal identity may be obscured following colony assembly in captive black-capped chickadees. Behavioural Processes, 225. DOI: <https://doi.org/10.1016/j.beproc.2025.105151>
3. Campbell, K.A., Hoeschele, M., Mann, D., Congdon, J.V., Scully, E.N., Mischler, S.K., Montenegro, C., Service, W.D., & Sturdy, C.B. (2023). Black-capped chickadees (*Poecile atricapillus*) discriminate between naturally-ordered and scramble-ordered *chick-a-dee* calls and individual preference is related to rate of learning. Behavioural Processes. DOI: <https://doi.org/10.1016/j.beproc.2023.104842>
4. Sahu, P.K., Montenegro, C., Lambert, C.T., Oprea, A., Deimeke, M., Rennie, V., Smeltz, S., Benowicz, T.J., Patel, D., Phillmore, L.S., & Sturdy, C.B. (2022). Effect of feed-time duration on discrimination of vocalizations in a go/no-go operant paradigm. Behavioural Processes. DOI: <https://doi.org/10.1016/j.beproc.2022.104777>
5. Congdon, J.V., Hahn, A.H., Campbell, K.A., Scully, E.N., Mischler, S.K., Montenegro, C., Service, W.D., & Sturdy, C.B. (2022). Discrimination of high- and low-threat vocalizations: An examination of referential communication in black-capped chickadee (*Poecile atricapillus*) mobbing calls. Animal Behavior and Cognition, 9(3):298-315. DOI: <https://doi.org/10.26451/abc.09.03.04.2022>
6. Wagner, B., **Sturdy, C.B.**, Weisman, R.G., Hoeschele, M. (2022). Pitch chroma information is processed in addition to pitch height information with more than two pitch range categories. Attention, Perception, and Psychophysics. DOI: <https://doi.org/10.3758/s13414-022-02496-1>
7. Sahu, P.K., Campbell, K.A., Oprea, A., Phillmore, L.S. & Sturdy, C.B. (2022). Comparing methodologies for classification of zebra finch distance calls. Journal of the Acoustical Society of America. DOI: <https://doi.org/10.1121/10.0011401>

8. Lambert, C.T., Sahu, P.K., **Sturdy, C.B.**, & Guillette, L.M. (2022). Among-individual differences in auditory and physical cognitive abilities in zebra finches. Learning & Behavior. DOI: <https://doi.org/10.3758/s13420-022-00520-w>
9. Congdon, J.V., Hahn, A.H., Campbell, K.A., Scully, E.N., Yip, D.A., Bayne, E.M. & **Sturdy, C.B.** (2021). Can you hear me now? The effect of signal degradation on perceived predator threat in black-capped chickadees. Animal Cognition, 24, 193-204. DOI: <https://link.springer.com/article/10.1007/s10071-020-01433-9>
10. Montenegro, C., Sahu, P.K., & **Sturdy, C.B.** (2021). Individual acoustic differences in female black-capped chickadee (*Poecile atricapillus*) fee-bee songs. Journal of the Acoustical Society of America, 150(4) 3038-3046. DOI: <https://doi.org/10.1121/10.0006532>
11. Montenegro, C., Service, W.D., Scully, E.N., Mischler, S.K., Benowicz, T., Fox, K.V., Sahu, P.K., & **Sturdy, C.B.** (2021). The impact of anthropogenic noise on individual identification via female song in black-capped chickadees (*Poecile atricapillus*). Scientific Reports. DOI : <https://doi.org/10.1038/s41598-021-96504-3>
12. Campbell, K.A., Hahn, A.H., Congdon, J.V., Scully, E.N., & **Sturdy, C.B.** (2020). Perception of sex differences in black-capped chickadee (*Poecile atricapillus*) chick-a-dee calls. Animal Behavior and Cognition, 7(4), 514-530. DOI: <https://doi.org/10.26451/abc.07.04.04.2020>
13. Congdon, J.V., Hahn, A.H., Campbell, K.A., Scully, E.N., Yip, D.A., Bayne, E.M., & **Sturdy, C.B.** (2020). Acoustic discrimination of predators by black-capped chickadees (*Poecile atricapillus*). Animal Cognition, 23, 595-611. DOI: [10.1007/s10071-020-01364-5](https://doi.org/10.1007/s10071-020-01364-5)
14. Montenegro, C., Service, W.D., Scully, E.N., Mischler, S.K., Campbell, K.A., & **Sturdy, C.B.** (2020). Black-capped chickadees (*Poecile atricapillus*) can identify individual females by their fee-bee songs. The Auk, 137(3), 1-10. DOI: <https://doi.org/10.1093/auk/ukaa028> (Invited blog post: <https://americanornithology.org/investigating-female-song-use-in-black-capped-chickadees/>)
15. Scully, E.N., Campbell, K.A., Congdon, J.V., & **Sturdy, C.B.** (2020). Discrimination of black-capped chickadee (*Poecile atricapillus*) chick-a-dee calls produced across seasons. Animal Behavior and Cognition, 7(2), 247-256. DOI: <https://doi.org/10.26451/abc.07.02.14.2020> * Special Issue – Communication in Nonhumans: The Forty Year Anniversary of Seyfarth, Cheney, and Marler
16. Scully, E.N., Montenegro, C., & **Sturdy, C.B.** (2020). Differential immediate early gene activity revealed by playback of male and female incomplete chick-a-dee calls. Behavioral Brain Research, 393, 1-5. DOI: <https://doi.org/10.1016/j.bbr.2020.112775>
17. Campbell, K.A., Thunberg, S., & **Sturdy, C.B.** (2019). Features of male and female-produced song in black-capped chickadees (*Poecile atricapillus*) change between seasons. Canadian Acoustics - Acoustique Canadienne, 47(3), 36-37.
18. Congdon, J.V., Hahn, A. H.*, Filippi, P.*, Campbell, K.A.*, Hoang, J., Scully, E.N., Bowling, D.L., Reber, S.A., & **Sturdy, C.B.** (2019). Hear them roar: A comparison of black-capped chickadee (*Poecile atricapillus*) and human (*Homo sapiens*) perception of arousal in vocalizations across all classes of terrestrial vertebrates. Journal of Comparative Psychology, 133(4), 520–541. DOI: <http://dx.doi.org/10.1037/com0000187>
19. Scully, E.N., Montoya Sanchez, J., & **Sturdy, C.B.** (2019). Abcam Monoclonal Egr-1 ab133695 is an effective primary antibody replacement for Santa Cruz sc-189 polyclonal Egr-1 in songbirds. Heliyon, 5, 1-6. e02938. DOI: <https://doi.org/10.1016/j.heliyon.2019.e02938>
20. Scully, E.N., Schuldhuis, B.C., Congdon, J.V., Hahn, A.H., Campbell, K.A., Wilson, D.R., & **Sturdy, C.B.** (2019). ZENK expression in the auditory pathway of black-capped chickadees (*Poecile atricapillus*) as a function of D note number and duty cycle of chick-a-dee calls. Behavioural Brain Research, 356, 490-494. DOI: <https://doi.org/10.1016/j.bbr.2018.06.006>

21. **Sturdy, C.B.** & **Congdon, J.V.** (2019). Sometimes a stick is just a stick. *Learning & Behavior*, 47, 115-116. DOI: [10.3758/s13420-019-00378-5](https://doi.org/10.3758/s13420-019-00378-5)
22. **Campbell, K.A.**, **Proppe, D.S.**, **Congdon, J.V.**, **Scully, E.N.**, **Mischler, S.K.**, & **Sturdy, C.B.** (2018). The effects of anthropogenic noise on feeding behaviour in black-capped chickadees (*Poecile atricapillus*). *Behavioural Processes*, 158, 53-58. DOI: <https://doi.org/10.1016/j.beproc.2018.10.015>
23. **Apol, C.A.**, **Sturdy, C.B.**, & **Proppe, D.S.** (2017). Seasonal variability in habitat structure may have shaped acoustic signals and repertoires in the black-capped and boreal chickadees. *Evolutionary Ecology*, 32, 57-74. DOI: [10.1007/s10682-017-9921-4](https://doi.org/10.1007/s10682-017-9921-4)
24. **Filippi, P.**, **Congdon, J.V.**, **Hoang, J.**, **Bowling, D.**, **Reber, S.**, **Pasukonis, A.**, **Hoeschele, M.**, **Ocklenburg, S.**, **de Boer, B.**, **Sturdy, C.B.**, **Newen, A.** & **Güntürkün, O.** (2017). Humans recognize emotional arousal in vocalizations across all classes of terrestrial vertebrates: Evidence for acoustic universals. *Proceedings of the Royal Society: Series B*, 284(1859), 20170990. DOI: <https://doi.org/10.1098/rspb.2017.0990>
25. **Guillette, L.M.**, **Baron, D.M.**, **Sturdy, C.B.**, & **Spetch, M.L.** (2017). Fast- and slow-exploring pigeons differ in how they use previously learned rules. *Behavioural Processes*, 134, 54-62. DOI: <http://dx.doi.org/10.1016/j.beproc.2016.07.006>
26. **Hahn, A.H.**, **Campbell, K.A.**, **Congdon, J.V.**, **Hoang, J.**, **McMillan, N.**, **Scully, E.N.**, **Yong, J.J.H.**, **Elie, J.E.**, & **Sturdy, C.B.** (2017). Discrimination of acoustically similar conspecific and heterospecific vocalizations by black-capped chickadees (*Poecile atricapillus*). *Animal Cognition*, 20, 639-654. DOI: [10.1007/s10071-017-1087-5](https://doi.org/10.1007/s10071-017-1087-5)
27. **Hahn, A.H.**, **Guillette, L.M.**, **Hoeschele, M.**, **Otter, K.A.**, **Ratcliffe, L.M.**, & **Sturdy, C.B.** (2017). Discrimination of male black-capped chickadee songs: Relationship between acoustic preference and performance accuracy. *Animal Behaviour*, 126, 107-121. DOI: <http://dx.doi.org/10.1016/j.anbehav.2017.02.001>
28. **Mercado, E. III**, **Wisniewski, M.G.**, **McIntosh, B.**, **Guillette, L.M.**, **Hahn, A.H.**, & **Sturdy, C.B.** (2017). Chickadee songs provide hidden clues to singers' locations. *Animal Behavior and Cognition*, 4(3), 301-313. DOI: <https://doi.org/10.26451/abc.04.03.08.2017>
29. **McMillan, N.**, **Hahn, A.H.**, **Congdon, J.V.**, **Campbell, K.A.**, **Hoang, J.**, **Scully, E.N.**, **Spetch, M.L.**, & **Sturdy, C.B.** (2017). Chickadees discriminate contingency reversals presented consistently, but not frequently. *Animal Cognition*, 20, 655-663. DOI: [10.1007/s10071-017-1088-4](https://doi.org/10.1007/s10071-017-1088-4)
30. **McMillan, N.**, **Spetch, M.L.**, **Sturdy, C.B.**, & **Roberts, W.A.** (2017). It's all a matter of time: Interval timing and competition for stimulus control. *Comparative Cognition & Behavior Reviews*, 12, 83-103. DOI: [10.3819/CCBR.2017.120007](https://doi.org/10.3819/CCBR.2017.120007)
31. **Proppe, D.S.**, **McMillan, N.**, **Congdon, J.V.**, & **Sturdy, C.B.** (2017). Mitigating road impacts on animals through learning principles. *Animal Cognition*, 20, 19-31. DOI: [10.1007/s10071-016-0989-y](https://doi.org/10.1007/s10071-016-0989-y)
32. **Scully, E.N.**, **Hahn, A.H.**, **Campbell, K.A.**, **McMillan, N.**, **Congdon, J.V.**, & **Sturdy, C.B.** (2017). ZENK expression following conspecific and heterospecific playback in the zebra finch auditory forebrain. *Behavioral Brain Research*, 331, 151-158. DOI: <https://doi.org/10.1016/j.bbr.2017.05.023>
33. **Sturdy, C.B.**, **Campbell, K.A.**, **Congdon, J.V.**, **Hahn, A.H.**, **McMillan, N.**, & **Scully, E.N.** (2017). Moving from perceptual to functional categories in songbirds. *International Journal of Comparative Psychology*, 30, 1-14. DOI: <http://escholarship.org/uc/item/7tt6p5qt>
34. **Sturdy, C.B.**, & **Nicoladis, E.N.** (2017). How much of language acquisition does operant conditioning explain? *Frontiers in Psychology*, 8, 1-5. DOI: [10.3389/fpsyg.2017.01918](https://doi.org/10.3389/fpsyg.2017.01918)
35. **Campbell, K.A.**, **Hahn, A.H.**, **Congdon, J.V.**, & **Sturdy, C.B.** (2016). An investigation of sex differences in acoustic features in black-capped chickadee (*Poecile atricapillus*) chick-a-dee calls. *Journal of the Acoustical Society of America*, 140, 1598-1608. DOI: [http://dx.doi.org/10.1121/1.4962281](https://doi.org/10.1121/1.4962281)

36. Congdon, J.V., Hahn, A.H., McMillan, N., Avey, M.T., & Sturdy, C.B. (2016). Chickadee behavioural response to varying threat levels of predator and conspecific calls. *International Journal of Comparative Psychology*, 29, 1-20. DOI: <http://escholarship.org/uc/item/4rd8324f>
37. Hahn, A.H., Hoeschele, M., Guillette, L.M., Hoang, J., McMillan, N., Congdon, J.V., Campbell, K.A., Mennill, D.J., Otter, K.A., Grava, T., Ratcliffe, L.M., & Sturdy, C.B. (2016). Black-capped chickadees categorize songs based on features that vary geographically. *Animal Behaviour*, 112, 93-104. DOI: [10.1016/j.anbehav.2015.11.017](https://doi.org/10.1016/j.anbehav.2015.11.017)
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