

Daniel E. Ruzzante

Killam Professor
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Education:

Ph.D. Biology Department of Biology, Dalhousie University (Sep 1986 -1991)

M.Sc. Biology Department of Biology, Dalhousie University (1984 - 1986)

Lic. en Ciencias Biologicas, Univ. Nacional Buenos Aires, Buenos Aires, Argentina (1973 - 1979)

Positions:

Professor, Dalhousie University, Department of Biology (2010 -)

Associate Professor (2002 – 2010)

Senior Scientist, Danish Institute for Fisheries Research, Denmark (1998 – 2002)

Adjunct Professor, Dalhousie University, Department of Biology (1997 – 2002)

Honorary Research Scientist, Universidad Nacional del Comahue, Argentina (1995 -)

Research Associate in Genetics, Marine Gene Probe Laboratory, Dalhousie University
Departments of Biology and Oceanography (1994 – 1998).

Recognition:

- Canada Research Chair (Tier II) in Marine Conservation Genetics (2002-2012)
- Killam Professor (2014-2019)

Service (from 2013):**Department**

2012 – Present: Chair of the Graduate Students Admission Committee, Department of Biology, Dalhousie University.

2009 – Present: Appointments and Awards Committee, Department of Biology, Dalhousie University – Member at large

2012 – 2015: Chair of the Departmental Seminar Committee - Dalhousie University

External

2017 – : Member of the Conservation Genetics Specialist Group of IUCN (International Union for the Conservation of Nature)

2016 - : Member of the Review Oversight Committee for Genome Ontario

2013 – 2017: COSEWIC (Committee for the Status of Endangered Wildlife in Canada (COSEWIC), Marine Fish Species Subcommittee - Member at Large

Editorial work

2017 – Present: Associate Editor: *Biol J Linnean Society*

2010-2016: Associate Editor for *Proceedings of the Royal Society of London B*

2012 – Present: Editorial Board *Molecular Ecology*

2011: Guest Editor for a Special Issue of *Biol J Linnean Society* on Patagonian palaeoclimatology and palaeogeography: Implications for biodiversity.
2004 – 2011: Associate Editor, *Conservation Genetics*

Teaching:

2015 – PRESENT: BIOL 5700 COMMUNICATIONS (GRAD STUDENTS) 100%
2003 - PRESENT: BIOL 3042-5042 MOLEC. ECOLOGY/MAR. CONSERVATION (50%) GENETICS
2002 – 2014: BIOL 2060 INTRODUCTORY ECOLOGY (50%)

HQP:

Graduate students: PhD (7 completed; 4 in progress); MSc (4 completed; 0 in progress).
Post-docs & Research Associates: Past: 5. Current: 1
Honours students: Past: 13. Current: 1
Technicians & Research Assistants: Past: 7. Current: 1
Visiting graduate students & post-docs: 2

Funding (from 2010):

Research operations

Total, \$1,315,200 (NSERC, \$715,200; other, \$600,000)

Citation metrics (Google Scholar):

Citations, total: 8549; since 2014: 3277; h-index: 51 (google scholar) 52 (researchgate); i10-index: 87

Refereed publications (total, 122; from 2013: 38)

12 notable publications since 2013

- 1) Ruzzante DE, McCracken GR, Førland B, MacMillan J, **Notte D**, Buhariwalla C, Mills Flemming J, Skaug H. (2019) Validation of close-kin mark-recapture (CKMR) methods for estimating population abundance. *Methods in Ecology and Evolution*, <https://besjournals.onlinelibrary.wiley.com/doi/epdf/10.1111/2041-210X.13243>
- 2) Ruzzante DE, GR McCracken, **SJ Salisbury**, **H Brewis**, D Keefe, OE Gaggiotti, R Perry (2019) Landscape, colonization and life history: Their effects on genetic diversity in four sympatric species inhabiting a dendritic system. <https://doi.org/10.1139/cjfas-2018-0416>
- 3) **Vera-Escalona I**, Habit E, Ruzzante DE. (2019) Invasive species and postglacial colonization: their effects on the genetic diversity of a Patagonian fish. *Proc. R. Soc. B* 286: 20182567. <http://dx.doi.org/10.1098/rspb.2018.2567>
- 4) **Kerr QR**, **Fuentes-Pardo AP**, **Kho J**, J McDermid, DE Ruzzante (2019) Temporal Stability of Genomic Differentiation between Spawning Season Components in Atlantic Herring (*Clupea harengus*). *Ecology and Evolution* 9: 500–510. <https://onlinelibrary.wiley.com/doi/10.1002/ece3.4768>
- 5) **Vera-Escalona I**, **Senthivassan S**, Habit E, DE Ruzzante (2018) Past, present and future of a freshwater fish metapopulation in a threatened landscape. *Conservation Biology* 32(4):849-859.
- 6) **Salisbury SJ**, **C Booker**, *GR McCracken*, *D Keefe*, T Knight, R Perry, DE Ruzzante (2018) genetic divergence among and within landlocked and anadromous Arctic char (*Salvelinus alpinus*) populations in Labrador, Canada. *Canadian Journal of Fisheries and Aquatic Sciences*, 75(8):1256-1269. <https://doi.org/10.1139/cjfas-2017-0163>

- 7) **Fuentes-Pardo AP**, DE Ruzzante. (2017) Whole-genome sequencing approaches for conservation biology: advantages, limitations, and practical recommendations. *Molecular Ecology*, **26**: 5369–5406. *Invited review*
- 8) **Lamichhane S, Fuentes-Pardo AP**, Rafati N, Ryman N, McCracken GR, Bourne C, Singh R, Ruzzante DE and L Andersson (2017) Parallel adaptive evolution of geographically distant herring populations on both sides of the North Atlantic Ocean. *PNAS*, *114*(17): E3452-E3461
<http://www.pnas.org/lookup/suppl/doi:10.1073/pnas.1617728114/-/DCSupplemental>
- 9) **Salisbury SJ, GR McCracken**, D Keefe, R Perry, DE Ruzzante (2016) Portrait of a sucker: the landscape genetics of longnose sucker (*Catostomus catostomus*) in a spatially fragmented system. *Molecular Ecology* **25**: 4116-4125.
- 10) Ruzzante DE, G McCracken*, S Parmelee*, K Hill*, A Corrigan*, J MacMillan, SJ Walde. (2016). Effective number of breeders, effective population size and their relationship with census size in an iteroparous species, *Salvelinus fontinalis*. *Proceedings of the Royal Society of London*, **B**, 283, DOI: 10.1098/rspb.2015.2601.
- 11) **Vera-Escalona* I**, E Habit, DE Ruzzante. (2015). Echoes of a distant time: effects of historical processes on contemporary genetic patterns in *Galaxias platei* in Patagonia. *Molecular Ecology*, **24**, 4112-4128.
- 12) **Johnstone* D**, MF O’Connell, FP Palstra* & DE Ruzzante. (2013). Mature male parr contribution to the effective size of an anadromous Atlantic salmon (*Salmo salar*) population over 30 years. *Molecular Ecology*, **22**: 2394 - 2407.

7 other notable publications (HQP author*)

- 1) **Trovant B**, JM (Lobo) Orensanz, DE Ruzzante, W Stotz, N Basso. 2015. Scorched Mussels (Bivalvia: Mtytilidae: Brachidontinae) from the Temperate Coasts of South-America: Phylogenetic relationships, trans-Pacific Connections and the fingerprints of Quaternary Glaciations. *Molecular Phylogenetics and Evolution*, **82**, 60-74. DOI: 10.1016/j.ympev.2014.10.002
- 2) Bradbury IR, S Bowman, T Borza, PVR Snelgrove, JA Hutchings, PR Berg, N Rodríguez-Ezpeleta, J Lighten, DE Ruzzante, CT Taggart, P Bentzen. 2014. Long distance linkage disequilibrium and limited hybridization suggest cryptic speciation in Atlantic cod. *PLOS ONE* DOI: 10.1371/journal.pone.0106380
- 3) **Palstra* FP**, DE Ruzzante. 2008. Genetic estimates of contemporary effective population size: what can they tell us about the importance of genetic stochasticity for population persistence in the wild? *Molecular Ecology*, **17**: 3428 – 3447 (*Invited Review*). Number of citations: 403
- 4) Ruzzante DE, SJ Walde, JC Gosse, VE Cussac, E Habit, **TS Zemplak***, **EDM Adams***. 2008. Climate Control on Ancestral Population Dynamics: Insight from Patagonian Fish Phylogeography. *Molecular Ecology* **17**: 2234 - 2244. Number of citations: 146
- 5) Ruzzante DE, Mariani S, D Bekkevold, *et al (17 authors in totl)* 2006. Biocomplexity in a highly migratory pelagic marine fish, Atlantic herring. *Proc R. Soc London* **B**, **273**:1459– 1464. Number of citations: 219
- 6) Ruzzante DE, CT Taggart, D Cook. 1998. A nuclear DNA basis for shelf- and bank-scale population structure in NW Atlantic cod (*Gadus morhua*): Labrador to Georges Bank. *Molecular Ecology*, **7**: 1663-1680. [Cover issue] Number of citations: 226

- 7) Ruzzante DE, CT Taggart, D Cook, SV Goddard. **1996**. Genetic differentiation between inshore and offshore Atlantic cod (*Gadus morhua*) off Newfoundland: microsatellite DNA variation and antifreeze protein levels. *Can. J. Fish. Aquat. Sci.*, **53**: 634-645.
Number of citations: 265

Other assorted publications since 2015

- (119) **Salisbury SJ**, GR McCracken, D Keefe, R Perry, DE Ruzzante (2019) Extensive Secondary Contact among Three Glacial Lineages of Arctic Char (*Salvelinus alpinus*) in Newfoundland and Labrador. *Ecology & Evolution* 9: 2031–2045. DOI: 10.1002/ece3.4893
- (117) **Sinclair-Waters M**, Bradbury IR, Morris CJ, Ruzzante DR and P Bentzen (2018). Genomic tools for management and conservation of Atlantic Cod in a coastal marine protected area. *Canadian Journal of Fisheries and Aquatic Sciences*, 75(11): 1915-1925, <https://doi.org/10.1139/cjfas-2017-0254>
- (111) **Trovant B**, F Márquez, C del Río, DE Ruzzante, S Martínez, JM (Lobo) Orensanz. (2017) Insights on the history of the scorched mussel *Brachidontes rodriguezii* (Bivalvia: Mytilidae) in the Southwest Atlantic: A geometric morphometrics perspective. *Historical Biology* (<http://dx.doi.org/10.1080/08912963.2017.1306699>)
- (110) Górski K, González JF, Vivancos A, Habit EM, DE Ruzzante. (2017). Young-of-the-year Coho salmon *Oncorhynchus kisutch* recruit in fresh waters of remote Patagonian fjords in southern Chile (51°S). *Biological Invasions* 19: 1127. doi:10.1007/s10530-016-1341-9
- (106) Trovant B, NG Basso, JM (Lobo) Orensanz, E Lessa, F Dincao, DE Ruzzante. 2016. Scorched Mussels (*Brachidontes* spp., Bivalvia: Mytilidae) from the Tropical and Warm-temperate Southwestern Atlantic: The role of the Amazon river in their speciation. *Ecology and Evolution* (first available online: 18 FEB 2016 | DOI: 10.1002/ece3.2016).
- (105) Ruzzante DE, G McCracken, S Parmelee, K Hill, A Corrigan, J MacMillan, SJ Walde. 2016. Effective number of breeders, effective population size and their relationship with census size in an iteroparous species, *Salvelinus fontinalis*. *Proceedings of the Royal Society of London*, **B**, 283, DOI: 10.1098/rspb.2015.2601.
- (104) Rodríguez-Clark KM, MA Olivera-Miranda, M Aguilera, Á Martino, M Mendez, C Miyaki, MG Montiel-Villalobos, RM de Oliveira-Miranda, E Poulin, DE Ruzzante, A Solé-Cava. 2015. Finding the Conservation in Conservation Genetics – Progress in Latin America. *Journal of Heredity*, 106 Suppl 1(S1):423-427.
- (103) **Roy D**, MA Treble, DC Hardie, JD Reist, DE Ruzzante. 2015. Panmixia and incomplete lineage sorting can give similar mtDNA signals: Response to comments by Carr and Davidson (2015). *Canadian Journal of Fisheries and Aquatic Sciences*, **72**, 1122-1123.
- (102) **Vera-Escalona I**, E Habit, DE Ruzzante. 2015. Echoes of a distant time: effects of historical processes on contemporary genetic patterns in *Galaxias platei* in Patagonia. *Molecular Ecology*, **24**, 4112-4128.
- (101) **Trovant B**, JM (Lobo) Orensanz, DE Ruzzante, W Stotz, N Basso. 2015. Scorched Mussels (Bivalvia: Mtytilidae: Brachidontinae) from the Temperate Coasts of South-America: Pylogenetic relationships, trans-Pacific Connections and the fingerprints of Quaternary Glaciations. *Molecular Phylogenetics and Evolution*, **82**, 60-74. DOI: 10.1016/j.ympev.2014.10.002