

## Dan Gabriel Bock

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### PROFESSIONAL SUMMARY

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I am an evolutionary biologist using genetic and genomic data to understand biodiversity, with a focus on invasive species. I combine fieldwork, molecular data and bioinformatics in a range of invasive plants (e.g. sunflowers) and animals (e.g. *Anolis* lizards). My research goal is to understand the introduction of invasive species, as well as evolutionary mechanisms that facilitate their establishment and spread. I have a consistent track record of interdisciplinary research and collaborations with academia and government (e.g. Fisheries and Oceans Canada, Plant Gene Resources of Canada).

### APPOINTMENTS

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Project Manager, BIOSCAN-Canada, University of Guelph, Canada Project Leader: Paul D.N. Hebert (University of Guelph)	2021 – current
Bating Postdoctoral Fellow, Washington University in St. Louis (WU), USA Supervisors: Jonathan B. Losos (WU), Jason J. Kolbe (University of Rhode Island)	2019 – 2021
NSERC Postdoctoral Fellow, Harvard University (HU), USA Supervisors: Jonathan B. Losos (HU), Jason J. Kolbe (University of Rhode Island)	2017 – 2019

### EDUCATION

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<b>PhD</b> Botany, University of British Columbia (UBC), Canada Title: <i>The genetics of contemporary evolution in an invasive perennial sunflower</i> Supervisor: Loren H. Rieseberg	2011 – 2017
<b>MSc</b> Environmental Science, University of Windsor, Canada Title: <i>Invasion genetics of botryllid colonial ascidians in North America</i> Supervisor: Melania E. Cristescu	2008 – 2010
<b>BSc</b> Biology, “Babeş - Bolyai” University, Romania Honours Title: <i>Population genetics of the marine invasive gastropod Rapana venosa</i> Honours Supervisor: Octavian Popescu	2004 – 2008

### FELLOWSHIPS & GRANTS

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#### Major awards (totaling 410,000 CAD)

<i>NSERC Banting Postdoctoral Fellowship</i> , Government of Canada (140,000 CAD) <ul style="list-style-type: none"> <li>The most competitive postdoctoral fellowship offered by the Government of Canada</li> <li>24 awards made annually in Science and Engineering</li> </ul>	2019 – 2021
<i>NSERC Postdoctoral Fellowship</i> , Government of Canada (90,000 CAD) <ul style="list-style-type: none"> <li>Application ranked 4<sup>th</sup> nationally in Ecology and Evolution</li> </ul>	2017 – 2019
<i>Vanier Canada Graduate Scholarship</i> , Government of Canada (150,000 CAD) <ul style="list-style-type: none"> <li>The most prestigious award offered for doctoral-level studies in Canada</li> <li>Application ranked 5<sup>th</sup> nationally in Science and Engineering</li> <li>56 awards made annually in Science and Engineering</li> </ul>	2013 – 2016
<i>Killam Doctoral Fellowship</i> , UBC (30,000 CAD) <ul style="list-style-type: none"> <li>Top-ranked applicant at UBC</li> <li>Awarded the <i>Killam – Donald N. Byers Memorial Prize</i> in recognition of 1<sup>st</sup> place ranking</li> </ul>	2013 – 2015

**Other awards** (totaling ~ 225,000 CAD)

<i>Barbour Award</i> , Museum of Comparative Zoology, Harvard University	2017
<i>Four Year Doctoral Fellowship</i> , UBC	2011 – 2015
<i>PhD International Tuition Scholarship</i> , UBC	2011 – 2015
<i>Killam Fellowship Travel and Research Award</i> , UBC	2014
<i>Faculty of Science Graduate Award</i> , UBC	2013; 2014
<i>Best Poster Award</i> , Canadian Society for Ecology and Evolution meeting, Kelowna, Canada	2013
<i>Tuition Award</i> , Summer Institute in Statistical Genetics, University of Washington	2013
<i>Travel Award</i> , Canadian Society for Ecology and Evolution meeting in Ottawa, Canada	2012
<i>International Postgraduate Research Scholarship</i> , U. of Queensland (declined to accept UBC offer)	2011
Nominee, <i>Governor General's Gold Medal</i> , University of Windsor	2010
<i>Lum Clark Publication Award</i> , University of Windsor	2009; 2010
<i>Graduate Student Travel Award</i> , University of Windsor	2009
<i>International Graduate Excellence Scholarship</i> , University of Windsor	2008 – 2010
<i>International Graduate Student Scholarship</i> , University of Windsor	2008 – 2010
<i>Graiu Romanesc Award</i> , "Graiu Romanesc" Cultural Society, Windsor	2008
<i>Valedictorian Distinction</i> , "Babeş-Bolyai" University	2008
<i>Scientific Performance Scholarship</i> , "Babeş-Bolyai" University	2007 – 2008
<i>Merit-based Scholarship</i> , "Babeş-Bolyai" University	2004 – 2008

**PUBLICATIONS**

2400+ citations, H-index: 21 (October 2021, Google Scholar)

28. **Bock DG**, Baeckens S, Pita-Aquino JN, Chejanovski Z, Michaelides SN, Muralidhar P, Lapiedra O, Park S, DB Menke, Geneva AJ, Losos JB, Kolbe JJ. Changes in selection pressure can facilitate hybridization during biological invasion in a Cuban lizard. *Proceedings of the National Academy of Sciences (USA)*, in press. <https://doi.org/10.1073/pnas.2108638118>.
27. **Bock DG**, Kantar MB, Rieseberg LH. 2020. Population genomics of speciation and adaptation in sunflowers. In: *Population Genomics*. Springer, Cham. [https://doi.org/10.1007/13836\\_2020\\_85](https://doi.org/10.1007/13836_2020_85).
26. Anderson J, Kantar MB, **Bock DG**, Grubbs KC, Schilling E, Rieseberg LH. 2019. Skim-sequencing reveals the likely origin of the enigmatic endangered sunflower *Helianthus schweinitzii*. *Genes*. 10: 1040.
25. Qi F, Baack E, Whitney K, **Bock DG**, Tetreault H, Rieseberg LH, Ungerer M. 2019. Phylogenetic trends and environmental correlates of nuclear genome size variation in *Helianthus* sunflowers. *New Phytologist*. 221: 1609–1618.
24. Kantar MB, Hübner S, Herman A, **Bock DG**, Baute GJ, Betts K, Ott M, Brandvain Y, Wyse D, Stupar D, Rieseberg LH. 2018. Neo-domestication of an interspecific tetraploid *Helianthus annuus* x *Helianthus tuberosus* population that segregates for perennial habit. *Genes*. 9: 422.
23. Hodgins KA\*, **Bock DG**\*, Rieseberg LH. 2018. Trait evolution in invasive species. *Annual Plant Reviews*. 1: 1–37.
  - \* co-first authors
  - Invited review
22. **Bock DG**, Kantar MB, Caseys C, Matthey-Doret R, Rieseberg LH. 2018. Evolution of invasiveness by genetic accommodation. *Nature Ecology and Evolution*. 2: 991–999.
21. Baute GJ, Owens GL, **Bock DG**, Rieseberg LH. 2016. Genome-wide genotyping-by-sequencing data provide a high-resolution view of wild *Helianthus* diversity, genetic structure, and interspecies gene flow. *American Journal of Botany*. 103: 2170–2177.
  - Featured in *American Journal of Botany Highlights*

20. Lacoursière-Roussel A, **Bock DG**, Cristescu ME, Guichard F, McKindsey C. 2016. Effect of shipping traffic on biofouling invasion success at population and community levels. *Biological Invasions*. 18: 3681–3695.
19. Todesco M, Pascual MA, Owens GL, Ostevik KL, Moyers BT, Hübner S, Heredia SM, Hahn MA, Caseys C, **Bock DG**, Rieseberg LH. 2016. Hybridization and extinction. *Evolutionary Applications*. 9: 892–908.
  - Highly cited (Web of Science)
18. Zhan A, Briski E, **Bock DG**, Ghabooli S, Maclsaac HJ. 2015. Ascidiens as models for studying invasion success. *Marine Biology*. 162: 2449–2470.
17. Andrew RL, Albert AYK, Renaut S, Rennison DJ, **Bock DG**, Vines TH. 2015. Assessing the reproducibility of discriminant function analyses. *PeerJ*. 3: e1137.
16. **Bock DG**, Caseys C, Cousens R, Hahn MA, Heredia SM, Hübner S, Turner KG, Whitney K, Rieseberg LH. 2015. What we still don't know about invasion genetics. *Molecular Ecology*. 24: 2277–2297.
  - Paper stemming from working group on invasion biology
  - Highly cited (Web of Science)
15. Hodgins KA, **Bock DG**, Hahn MA, Heredia S, Turner KG, Rieseberg LH. 2015. Comparative genomics in the *Asteraceae* reveals little evidence for parallel evolutionary changes in invasive taxa. *Molecular Ecology*. 24: 2226–2240.
  - Paper stemming from working group on invasion genomics
14. **Bock DG**, Andrew RL, and Rieseberg LH. 2014. On the adaptive value of cytoplasmic genomes in plants. *Molecular Ecology*. 23: 4899–4911.
  - Invited review
  - Highlighted in *The Molecular Ecologist*
13. Vines TH, Albert AYK, Andrew RL, Débarre F, **Bock DG**, Franklin MT, Gilbert KJ, Moore JS, Renaut S, and Rennison DJ. 2014. The availability of research data declines rapidly with article age. *Current Biology*. 24: 94–97.
  - Paper stemming from working group on science reproducibility
  - Highly cited (Web of Science)
  - Featured in *Nature News*, *Science News*, *Nature Medicine*, *Scientific American*
  - Highlighted in *Vancouver Sun*, *The Telegraph*, *Science Daily*
12. **Bock DG**, Kane NC, Ebert DP, and Rieseberg LH. 2014. Genome skimming reveals the origin of the Jerusalem artichoke tuber crop species: neither from Jerusalem nor an Artichoke. *New Phytologist*. 201: 1021–1030.
  - Commentary in *New Phytologist* by Prof. Sandra Knapp
11. Kantar M, Baute GJ, **Bock DG**, and Rieseberg LH. 2014. Genomic variation in *Helianthus*: Learning from the past and looking to the future. *Briefings in Functional Genomics*. 13: 324–340.
10. Vaillant JJ, **Bock DG**, Haffner GD and Cristescu ME. 2013. Speciation patterns and processes in the zooplankton of the ancient lakes of Sulawesi Island, Indonesia. *Ecology and Evolution*. 3: 3083–3094.
  - Undergraduate student mentee is first author
9. Vines TH, Andrew RL, **Bock DG**, Franklin MT, Gilbert KJ, Kane NC, Moore JS, Moyers BT, Renaut S, Rennison DJ, Veen T, and Yeaman S. 2013. Mandated data archiving greatly improves access to research data. *FASEB Journal*. 27: 1304–1308.
  - Paper stemming from working group on science reproducibility
  - Featured in *Scientific American*

8. Gilbert KJ, Andrew RL, **Bock DG**, Franklin MT, Kane NC, Moore JS, Moyers BT, Renaut S, Rennison DJ, Veen T, and Vines TH. 2012. Recommendations for utilizing and reporting population genetic analyses: the reproducibility of genetic clustering using the program STRUCTURE. *Molecular Ecology*. 21: 4925–4930.
  - Paper stemming from working group on science reproducibility
  - Highlighted in *The Molecular Ecologist*
7. **Bock DG**, Maclsaac HJ and Cristescu ME. 2012. Multilocus genetic analyses differentiate between widespread and spatially restricted cryptic species in a model ascidian. *Proceedings of the Royal Society B: Biological Sciences*. 279: 2377–2385.
  - Highlighted in the *University of Windsor Daily News*
6. Lacoursière-Roussel A, **Bock DG**, Cristescu ME, Guichard F, Girard P, Legendre P, and McKindsey CW. 2012. Disentangling invasion processes in a dynamic shipping - boating network. *Molecular Ecology*. 21: 4227–4241.
5. Zhan A, Darling JA, **Bock DG**, Lacoursière-Roussel A, Maclsaac HJ, and Cristescu ME. 2012. Complex genetic patterns in closely related colonizing invasive species. *Ecology and Evolution*. 2: 1331–1346.
4. Cristescu ME, Constantin A, **Bock DG**, Cáceres CE and Crease TJ. 2012. Speciation with gene flow and the genetics of habitat transitions. *Molecular Ecology*. 21: 1411–1422.
3. **Bock DG**, Zhan A, Lejeusne C, Maclsaac HJ and Cristescu ME. 2011. Looking at both sides of the invasion: patterns of colonization in the violet tunicate *Botrylloides violaceus*. *Molecular Ecology*. 20: 503–516.
2. Lejeusne C, **Bock DG**, Maclsaac HJ, Therriault TW, and Cristescu ME. 2011. Comparative phylogeography of two colonial ascidians reveals contrasting invasion histories in North America. *Biological Invasions*. 13: 635–650.
1. Abdoullaye D, Acevedo I, Adebayo AA, Behrmann-Godel J, Benjamin RC, **Bock DG**, Born C, Brouat C, Caccone A *et al.* (82 authors arranged alphabetically). 2010. Permanent Genetic Resources added to Molecular Ecology Resources Database 1 August 2009 - 30 September 2009. *Molecular Ecology Resources*. 10: 232–236.
  - First author of included contribution
  - Undergraduate student mentee is first co-author

### Preprints and journal articles in review:

1. Gao Y, Chen Y, Li S, Huang X, Hu J, **Bock DG**, Maclsaac HJ, Zhan A. Complementary genomic and epigenomic adaptation to environmental heterogeneity (in review at *Molecular Ecology*). *Authorea*. <https://doi.org/10.22541/au.163352215.54408951/v1>.
2. Geneva AJ, Park S, **Bock DG**, de Mello PLH, Sarigol F, Tollis M, Donihue C, Reynolds RG, Feiner N, Rasys A, Lauderdale J, Infante C, Kolbe JJ, Schluter D, Menke DB, Losos JB. Chromosome-scale assembly of the brown anole (*Anolis sagrei*), a model species for evolution and ecology. bioRxiv. <https://doi.org/10.1101/2021.09.28.462146>.

### Manuscripts in preparation

1. **Bock DG**, Kolbe JJ, Losos JB. Constructive and destructive effects of hybridization during biological invasion.
2. **Bock DG**, Muralidhar P, Kolbe JJ, Losos JB. Genomics of parallel adaptation after a severe population bottleneck: a field experiment with lizards.
3. Pita-Aquino JN, **Bock DG**, Chejanovski Z, Baeckens S, Losos JB, Kolbe JJ. Adaptive and non-adaptive drivers of dewlap variation in the invasive brown anole lizard.

**Manuscripts in preparation (continued)**

4. Baeckens S, **Bock DG**, Kolbe JJ, Losos JB. Rapid adaptation of skin form and function in an invasive lizard.
5. Giery ST, Battles A, **Bock DG**, Chejanovski Z, Donihue C, Geneva AJ, Hendry E, Herell A, Johnson M, Kolbe JJ, Pita-Aquino JN, Putman B, Reynolds G, Stroud JT, Swierk L, Thompson M, Wright A. Niche parameter covariance: a study of breadth-position scaling in *Anolis* lizards.

**PRESENTATIONS**


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University of Massachusetts, Dartmouth, USA (upcoming talk, virtual due to COVID19)	2021
University of Saskatchewan, Saskatoon, Canada (upcoming talk, virtual due to COVID19)	2021
Canadian Society for Ecology and Evolution meeting (talk, virtual due to COVID19)	2021
Evolution meeting (talk, virtual due to COVID19)	2021
University of Portsmouth, Portsmouth, UK (talk, virtual due to COVID19)	2021
Plant and Animal Genome Conference, San Diego, USA (talk)	2018
University of British Columbia, Vancouver, Canada (talk)	2017
Plant and Animal Genome Conference, San Diego, CA, USA (talk)	2017
Society for the Study of Evolution, Austin, TX, USA (talk)	2016
Annual Botany Meeting, New Orleans, LN, USA (talk)	2013
Canadian Society for Ecology and Evolution, Kelowna, BC, Canada (poster)	2013
Compositae Genome Project Meeting, UC Davis Genome Center, Davis, CA, USA (talk)	2013
Joint Meeting of SSE, CSEE, and ESEB, Ottawa, ON, Canada (poster)	2012
CAISN Annual General Meeting and Conference, Quebec City, QC, Canada (talk)	2011
CAISN Annual General Meeting and Conference, Victoria, BC, Canada (talk)	2010
GLIER Graduate Student Symposium, Windsor, ON, Canada (talk)	2010
International Conference on Aquatic Invasive Species, Montreal, QC, Canada (talk)	2009
International Conference on Aquatic Invasive Species, Montreal, QC, Canada (poster)	2009
CAISN Annual General Meeting and Conference, Halifax, NS, Canada (talk)	2009
GLIER Graduate Student Symposium, Windsor, ON, Canada (talk)	2009
CAISN Annual General Meeting and Conference, Banff, AB, Canada (poster)	2008
Romanian Society of Cellular Biology Annual Meeting, Cluj-Napoca, Cluj, Romania (talk)	2008

**TEACHING****Guest lectures and workshops** (prepared and delivered lectures, led class discussions)

<i>Evolution and Conservation</i> (BIO 396; University of Rhode Island)	2017
<i>Evolutionary Processes in Plants</i> (BIOL 415; UBC)	2015
<i>Evolutionary Processes in Plants</i> (BIOL 415; UBC)	2014
Genome size estimation using flow cytometry (Techinar Series, UBC)	2012
<i>Microsatellite data collection and analysis</i> workshop (designed and presented; University of Windsor)	2011
<i>Molecular Ecology</i> (03-55-480; University of Windsor)	2010

**Teaching assistantships** (led laboratory and field sessions, graded exams, held office hours)

<i>Fundamentals of Ecology</i> (BIOL 304; UBC)	2011 (F)
<i>Biological Diversity</i> (03-55-140; University of Windsor)	2010 (W)
<i>Genetics</i> (03-55-211; University of Windsor)	2009 (F)
<i>Biological Diversity</i> (03-55-140; University of Windsor)	2009 (W)
<i>GLIER Multidisciplinary Graduate Seminar</i> (09-68-550; University of Windsor)	2008 (F)

**WORKSHOPS ATTENDED**


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CRISPR-Cas9 gene editing, University of Georgia, USA (virtual due to COVID19)	2021
Summer Institute in Statistical Genetics, Seattle, USA	2013
Communicating Science to Society, Ottawa, Canada	2012
Genomics, Cesky Krumlov, Czech Republic	2012
Quantitative Biology, Bucharest, Romania	2007

## **MENTORSHIP**

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(helped students develop research plans, supervised research projects)

Aryeh Miller (graduate student, Washington University in St. Louis)	2020 – current
Ansley Petherick (graduate student, Washington University in St. Louis)	2020 – current
Tyler Devos (graduate student, University of Rhode Island)	2020 – current
Inbar Maayan (graduate student, Harvard University)	2019 – current
Jessica Pita-Aquino (graduate student, University of Rhode Island)	2018 – 2020
Kelly Borkowski (undergraduate student, <i>The Research Experience</i> , UBC)	2014 – 2016
Kate MacDonald (undergraduate student, <i>The Research Experience</i> , UBC)	2014 – 2016
Stella Li (undergraduate student, <i>The Research Experience</i> , UBC)	2014 – 2015
Anita Poon (undergraduate student, <i>The Research Experience</i> , UBC)	2014 – 2015
Christine Phillips (undergraduate work study student, UBC)	2014 – 2015
Caroline Ramsay (undergraduate work study student, UBC)	2014
Pengfei Qiao (volunteer exchange undergraduate student at UBC, Tsinghua University, China)	2014
Chloe Tashlin Fluegel (undergraduate work study student, UBC)	2012 – 2013
Steven Injik (undergraduate thesis student, University of Windsor)	2011
David Persall (undergraduate thesis student, University of Windsor)	2011
Huzaifa Kerai (undergraduate work study student, University of Windsor)	2010 – 2011
Syed Raza (undergraduate work study student, University of Windsor)	2010 – 2011
James J. Vaillant (undergraduate thesis student, University of Windsor)	2009 – 2010
Abisola A. Adebayo (undergraduate thesis student, University of Windsor)	2008 – 2009
Gagandeep Dhaliwal (volunteer undergraduate student, University of Windsor)	2008 – 2009

## **SERVICE AND OUTREACH**

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Chair, Invasive Species Session, Evolution meeting	2021
Contributor, <i>Anole Annals</i> ( <a href="http://anoleannals.org">http://anoleannals.org</a> )	2020
Co-organizer, for Ecology, Evolution, and Biodiversity Evolution lecture, UBC	2016
Mentor, <i>The Research Experience</i> , UBC	2014 – 2016
Organizer, <i>Weekly lab meetings</i> , Rieseberg Lab, UBC	2012 – 2016
Invited Panel Member, “ <i>Beyond the BSc</i> ”, UBC Faculty of Science	2015
Member, <i>UBC Reproducibility in Science Working Group</i>	2011 – 2015
Contributor, <i>Agricultural Biodiversity Weblog</i> ( <a href="http://agro.biodiver.se">http://agro.biodiver.se</a> )	2014
Academic review, <i>Multidisciplinary Undergraduate Research Conference Proceedings</i> , UBC	2013
Judge, <i>Multidisciplinary Undergraduate Research Conference</i> , UBC	2013
Judge, <i>Student Awards Competition</i> , 1 <sup>st</sup> Joint Congress on Evolutionary Biology, Ottawa	2012
Eco Ranger, <i>Stanley Park Ecology Society</i> – Public education on biodiversity	2012
Volunteer, <i>Stanley Park Ecology Society</i> - Invasive plants management program	2012
Judge, <i>Three Minute Thesis Competition</i> (final heat), UBC	2012
Volunteer, <i>Three Minute Thesis Competition</i> (semifinal heats), UBC	2012
Judge and Session Chair, <i>GLIER Graduate Student Symposium</i> , University of Windsor	2011
Organizer, <i>Workshop on microsatellite data collection and analysis</i> , University of Windsor	2011
Organizer, <i>GLIER Multidisciplinary Graduate Seminar</i> , University of Windsor	2008
Volunteer, <i>annual sampling campaign</i> , Marine Biological Station, Agigea, Romania	2007; 2008
Student representative for first year Biology students, “Babeş-Bolyai” University	2004 – 2005

## **PROFESSIONAL MEMBERSHIPS**

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Society for the Study of Evolution; Canadian Society for Ecology and Evolution; European Society for Evolutionary Biology; Society of Systematic Biologists; American Society of Naturalists; Botanical Society of America.

## **EDITORIAL SERVICE**

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<i>Molecular Ecology</i> (Special Issue guest editor)	2021 – 2022
<i>Genome</i> (associate editor); handled 26 manuscripts since Jan 1 <sup>st</sup> , 2019	2019 – current

## REVIEWING

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### **Journals and book chapters** (98 contributed reviews):

*Australia National Science Agency – CSIRO Publishing; Axios Review; Biological Invasions* (11); *Botanical Journal of the Linnean Society; Conservation Genetics* (2); *Contributions to Zoology; Current Zoology* (2); *Diversity and Distributions* (3); *Ecography; Environmental and Experimental Botany; Evolution; Evolutionary Applications* (5); *Genetica* (2); *Heredity; Frontiers in Ecology and the Environment* (2); *International Journal of Molecular Sciences* (4); *John Wiley & Sons; Journal of Animal Ecology; Journal of Applied Ecology; Journal of Biodiversity Management & Forestry; Journal of Ecology* (2); *Journal of Great Lakes Research* (2); *Journal of the Marine Biological Association of the United Kingdom; Marine Biology* (6); *Molecular Biology and Evolution* (2); *Molecular Ecology* (15); *Molecular Ecology Resources* (6); *Nature Ecology and Evolution; PeerJ; Perspectives in Plant Ecology, Evolution and Systematics; Plant Systematics and Evolution; Proceedings of the Royal Society of London B: Biological Sciences; Public Library of Science One* (6); *Scientific Reports* (3); *UBC Multidisciplinary Undergraduate Research Conference Proceedings* (6) *Zoological Journal of the Linnean Society*.

### **Research grants:**

*The National Science Foundation* (NSF - USA), *the Czech Science Foundation* (GACR - Czech Republic), *Connecticut Sea Grant College Program* (University of Connecticut - USA).