Publications:

NOTE: Superscript [U] indicates undergraduate advisee, [G] indicates graduate advisee, [P] indicates postdoctoral advisee; corresponding author on multiple-author papers is underlined.

2021 Gilbert, K. J., S. Zdraljevic, D. E. Cook, A. D. Cutter, E. C. Andersen, and **C. F. Baer**. 2021. The distribution of mutational effects on fitness in *Caenorhabditis elegans* inferred from standing genetic variation. *Genetics*. https://doi.org/10.1093/genetics/iyab166. PMID: 34791202.

Rajaei, M.[G], A. S. Saxena[G], L. M. Johnson[G], M. C. Snyder, T. A. Crombie[P], R. E. Tanny, E. C. Andersen, J. Joyner-Matos, and **C. F. Baer**. 2021. Mutability of mononucleotide repeats, not oxidative stress, explains the discrepancy between laboratory-accumulated mutations and the natural allele-frequency spectrum in *C. elegans*. *Genome Research.* https://www.genome.org/cgi/doi/10.1101/gr.275372.121. PMID: 34404692.

Purkayastha, P., K. Pendyala, A. S. Saxena[G], H. Hakimjavadi, S. Chamala, **C. F. Baer**, and T. P. Lele. 2021. Reverse plasticity underlies rapid evolution by clonal selection within populations of fibroblasts propagated on a novel soft substrate. *Molecular Biology and Evolution* 38: 3279–3293. PMID: 33871606.

2020 Johnson, L. M.[G], O. J. Smith[U], D. A. Hahn, and **C. F. Baer**. 2020. Short-term heritable variation overwhelms 200 generations of mutational variance for metabolic traits in *Caenorhabditis elegans*. *Evolution* 74: 2451–2464. PMID: 32989734.

2019 **Baer, C. F.** 2019. Evolution: Environmental dependence of the mutational process. *Current Biology* 29, R415–R417. PMID: 31163145. Invited commentary.

Saxena, A. S.[G], M. P. Salomon[G], C. Matsuba[P], S-D. Yeh[P], and **C. F. Baer**. 2019. Evolution of the mutational process under relaxed selection in *Caenorhabditis elegans*. *Molecular Biology and Evolution* 36:239–251. PMID: 30445510.

2018 Crombie, T. A.[P], S. Saber, A. S[G]. Saxena[G], R. Egan[U], and **C. F. Baer**. 2018. Head-to-head comparison of three experimental methods of quantifying competitive fitness in *C. elegans. PLoS ONE* 13(10): e0201507. PMID: 30339672.

Johnson, L. M.[G], L. M. Chandler[G], S. K. Davies, and **C. F. Baer**. 2018. Network architecture and mutational sensitivity of the *C. elegans* metabolome. *Frontiers in Molecular Biosciences – Metabolomics,* 5: 69. doi: 10.3389/fmolb.2018.00069. Invited contribution. PMID: 30109234.

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H. Teotónio, S. Estes, P. Phillips and **C. F. Baer**. 2017. Experimental evolution with *Caenorhabditis* nematodes. *Genetics*, 206: 691–716. Invited contribution to Wormbook. PMID: 28592504.

Reed, L. R., **C. F. Baer**, and A. S. Edison. 2017. Considerations when choosing a genetic model organism for metabolomics studies. *Current Opinion in Chemical Biology*, 36:7–14. Invited contribution. PMID: 28025166.

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2015 Andrew, J. R., M. M. Dossey, V. Garza, M. Keller, **C. F. Baer**, and J. Joyner-Matos. 2015. Stressful environmental conditions do not decrease the relative fitness of deleterious alleles. *Heredity*, 115: 503-508; doi:10.1038/hdy.2015.51. PMID: 26103946.

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2009 Denver, D. R., P. C. Dolan, L. J. Wilhelm, W. Sung, J. I. Lucas-Lledó, D. K. Howe, S. C. Lewis, K. Okamoto, M. Lynch, W. K. Thomas, and **C. F. Baer**. 2009. Mutational bias in *Caenorhabditis elegans* nuclear genomes. *Proc. Natl. Acad. Sci. USA* 106: 16310-16314. PMID: 19805298. Faculty of 1000 selection.

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2006 **Baer, C. F.**, N. Phillips[P], D. Ostrow, A. Avalos[U], D. Blanton[U], A. Boggs[U], T. Keller[U], L. Levy[U], and E. Mezerhane[U]. 2006. Cumulative effects of spontaneous mutations for fitness in Caenorhabditis: role of genotype, environment and stress. *Genetics* 174: 1387-1395. PMID: 16888328.

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