

## Contents

December 2020 • VOLUME 10 • ISSUE 12 • [www.g3journal.org](http://www.g3journal.org)

### CALL FOR PAPERS

4297 Neurogenetics: A Call for Papers

### GENOME REPORTS

4299–4314 Draft Genome of the Common Snapping Turtle, *Chelydra serpentina*, a Model for Phenotypic Plasticity in Reptiles  
*Debojyoti Das, Sunil Kumar Singh, Jacob Bierstedt, Alyssa Erickson, Gina L. J. Galli, Dane A. Crossley, II, and Turk Rhen*

### FEATURED ARTICLE

4315–4321 Genome Sequence of the Banana Aphid, *Pentalonia nigronervosa* Coquerel (Hemiptera: Aphididae) and Its Symbionts  
*Thomas C. Mathers, Sam T. Mugford, Saskia A. Hogenhout, and Leena Tripathi*

### MUTANT SCREEN REPORTS

4323–4334 A Genome-Wide RNAi Screen for Enhancers of a Germline Tumor Phenotype Caused by Elevated GLP-1/Notch Signaling in *Caenorhabditis elegans*  
*Diana Dalfó, Yanhui Ding, Qifei Liang, Alex Fong, Patricia Giselle Cipriani, Fabio Piano, Jialin C. Zheng, Zhao Qin, and E. Jane Albert Hubbard*

4335–4345 Chemical-Genetic Interactions with the Proline Analog L-Azetidine-2-Carboxylic Acid in *Saccharomyces cerevisiae*  
*Matthew D. Berg, Yanrui Zhu, Joshua Isaacson, Julie Genereaux, Raphaël Loll-Krippelber, Grant W. Brown, and Christopher J. Brandl*

4347–4357 The Genetic and Physical Interactomes of the *Saccharomyces cerevisiae* Hrq1 Helicase  
*Cody M. Rogers, Elsbeth Sanders, Phoebe A. Nguyen, Whitney Smith-Kinnaman, Amber L. Mosley, and Matthew L. Bochman*

4359–4368 Comprehensive Synthetic Genetic Array Analysis of Alleles That Interact with Mutation of the *Saccharomyces cerevisiae* RecQ Helicases Hrq1 and Sgs1  
*Elsbeth Sanders, Phoebe A. Nguyen, Cody M. Rogers, and Matthew L. Bochman*

### SOFTWARE AND DATA RESOURCES

4369–4372 GWideCodeML: A Python Package for Testing Evolutionary Hypotheses at the Genome-Wide Level  
*Laura G. Macías, Eladio Barrio, and Christina Toft*

### INVESTIGATIONS

4373–4385 Preventing Photomorbidity in Long-Term Multi-color Fluorescence Imaging of *Saccharomyces cerevisiae* and *S. pombe*  
*Gregor W. Schmidt, Andreas P. Cuny, and Fabian Rudolf*

- 4387–4398 **Evolutionary Dynamics of Transposable Elements Following a Shared Polyploidization Event in the Tribe Andropogoneae**  
*Dhanushya Ramachandran, Michael R. McKain, Elizabeth A. Kellogg, and Jennifer S. Hawkins*
- 4399–4410 **Meep, a Novel Regulator of Insulin Signaling, Supports Development and Insulin Sensitivity via Maintenance of Protein Homeostasis in *Drosophila melanogaster***  
*Matthew T. Pereira, Katia Brock, and Laura Palanker Musselman*
- 4411–4424 **Genetic Analysis of Walnut (*Juglans regia* L.) Pellicle Pigment Variation Through a Novel, High-Throughput Phenotyping Platform**  
*Gina M. Sideli, Peter McAtee, Annarita Marrano, Brian J. Allen, Patrick J. Brown, Timothy S. Butterfield, Abhaya M. Dandekar, Charles A. Leslie, and David B. Neale*
- 4425–4438 **Loss of Pseudouridine Synthases in the RluA Family Causes Hypersensitive Nociception in *Drosophila***  
*Wan Song, Susanne Ressler, and W. Daniel Tracey*
- 4439–4448 **A Multiple-Trait Bayesian Variable Selection Regression Method for Integrating Phenotypic Causal Networks in Genome-Wide Association Studies**  
*Zigui Wang, Deborah Chapman, Gota Morota, and Hao Cheng*
- 4449–4457 **Programmed Cell Death 2-Like (*Pdcd2l*) Is Required for Mouse Embryonic Development**  
*Brendan J. Houston, Manon S. Oud, Daniel M. Aguirre, D. Jo Merriner, Anne E. O'Connor, Ozlem Okutman, Stéphane Viville, Richard Burke, Joris A. Veltman, and Moira K. O'Bryan*
- 4459–4471 **Maintenance of Cell Fate by the Polycomb Group Gene Sex Combs Extra Enables a Partial Epithelial Mesenchymal Transition in *Drosophila***  
*Grace Jefferies, Jason Somers, Isabelle Lohrey, Vishal Chaturvedi, Jacob Calabria, Owen J. Marshall, Tony D. Southall, Robert Saint, and Michael J. Murray*
- 4473–4482 **A Mutation in the *Drosophila melanogaster* eve Stripe 2 Minimal Enhancer Is Buffered by Flanking Sequences**  
*Francheska López-Rivera, Olivia K. Foster Rhoades, Ben J. Vincent, Edward C. G. Pym, Meghan D. J. Bragdon, Javier Estrada, Angela H. DePace, and Zeba Wunderlich*
- 4483–4488 **Enhanced Efficiency of flySAM by Optimization of sgRNA Parameters in *Drosophila***  
*Decai Mao, Yu Jia, Ping Peng, Da Shen, Xingjie Ren, Ruibao Zhu, Yuhao Qiu, Yuting Han, Jinchao Yu, Qinyun Che, Yutong Li, Xinyi Lu, Lu-Ping Liu, Zhao Wang, Qingfei Liu, Jin Sun, and Jian-Quan Ni*
- 4489–4503 **Genome-Wide Association Study Reveals the Genetic Architecture of Seed Vigor in Oats**  
*Ching-Ting Huang, Kathy Esvelt Klos, and Yung-Fen Huang*
- 4505–4512 **Dehydrated *Caenorhabditis elegans* Stocks Are Resistant to Multiple Freeze-Thaw Cycles**  
*Patrick D. McClanahan, Richard J. McCloskey, Melanie Ng Tung Hing, David M. Raizen, and Christopher Fang-Yen*
- 4513–4529 **Adoption and Optimization of Genomic Selection To Sustain Breeding for Apricot Fruit Quality**  
*Mariem Nsibi, Barbara Gouble, Sylvie Bureau, Timothée Flutre, Christopher Sauvage, Jean-Marc Audergon, and Jean-Luc Regnard*
- 4531–4539 **BioLitMine: Advanced Mining of Biomedical and Biological Literature About Human Genes and Genes from Major Model Organisms**  
*Yanhui Hu, Verena Chung, Aram Comjean, Jonathan Rodiger, Fnu Nipun, Norbert Perrimon, and Stephanie E. Mohr*
- 4541–4551 **Adapting *Drosophila melanogaster* Cell Lines to Serum-Free Culture Conditions**  
*Arthur Luhur, Daniel Mariyappa, Kristin M. Klueg, Kasun Buddika, Jason M. Tennesen, and Andrew C. Zehlf*
- 4553–4563 **A Novel Mapping Strategy Utilizing Mouse Chromosome Substitution Strains Identifies Multiple Epistatic Interactions That Regulate Complex Traits**  
*Anna K. Miller, Anlu Chen, Jacqueline Bartlett, Li Wang, Scott M. Williams, and David A. Buchner*

- 4565–4577 **Dissecting the Genetic Architecture of Biofuel-Related Traits in a Sorghum Breeding Population**  
*Motoyuki Ishimori, Hideki Takanashi, Kosuke Hamazaki, Yamato Atagi, Hiromi Kajiya-Kanegae, Masaru Fujimoto, Junichi Yoneda, Tsuyoshi Tokunaga, Nobuhiro Tsutsumi, and Hiroyoshi Iwata*
- 4579–4589 **Estimation of Molecular Pairwise Relatedness in Autopolyploid Crops**  
*Rodrigo R. Amadeu, Leticia A. C. Lara, Patricio Munoz, and Antonio A. F. Garcia*
- 4591–4597 **Gene Copy Number Variation Does Not Reflect Structure or Environmental Selection in Two Recently Diverged California Populations of *Suillus brevipes***  
*Anna L. Bazzicalupo, Mallory Thomas, Robert Mason Munro-Ehrlich, and Sara Branco*
- 4599–4613 **Leveraging Multiple Layers of Data To Predict *Drosophila* Complex Traits**  
*Fabio Morgante, Wen Huang, Peter Sørensen, Christian Maltecca, and Trudy F. C. Mackay*
- 4615–4623 **Runs of Homozygosity in Modern Chicken Revealed by Sequence Data**  
*Reza Talebi, Tomasz Szmatola, Gábor Mészáros, and Saber Qanbari*
- 4625–4635 **The Nuclear Receptor Seven Up Regulates Genes Involved in Immunity and Xenobiotic Response in the Adult *Drosophila* Female Fat Body**  
*Lesley N. Weaver and Daniela Drummond-Barbosa*
- 4637–4648 **Slow Growth and Increased Spontaneous Mutation Frequency in Respiratory Deficient *afol1* Yeast Suppressed by a Dominant Mutation in *ATP3***  
*Jing Li, Mark Rinnerthaler, Johannes Hartl, Manuela Weber, Thomas Karl, Hannelore Breitenbach-Koller, Michael Mülleder, Jakob Vowinckel, Hans Marx, Michael Sauer, Diethard Mattanovich, Özge Ata, Sonakshi De, Gregor P. Greslehner, Florian Geltinger, Bill Burhans, Chris Grant, Victoria Doronina, Meryem Ralser, Maria Karolin Streubel, Christian Grabner, Stefanie Jarolim, Claudia Moßhammer, Campbell W. Gourlay, Jiri Hasek, Paul J. Cullen, Gianni Liti, Markus Ralser, and Michael Breitenbach*
- 4649–4663 **High-Throughput Identification of Nuclear Envelope Protein Interactions in *Schizosaccharomyces pombe* Using an Arrayed Membrane Yeast-Two Hybrid Library**  
*Joseph M. Varberg, Jennifer M. Gardner, Scott McCroskey, Snehabala Saravanan, William D. Bradford, and Sue L. Jaspersen*
- 4665–4678 **Oxidative Stress Responses and Nutrient Starvation in MCHM Treated *Saccharomyces cerevisiae***  
*Michael C. Ayers, Zachary N. Sherman, and Jennifer E. G. Gallagher*
- 4679–4689 **Regional Variation in Genetic Control of Atherosclerosis in Hyperlipidemic Mice**  
*Michael B. Jones, Alexander An, Lisa J. Shi, and Weibin Shi*
- 4691–4705 **High-Density Linkage Maps Based on Genotyping-by-Sequencing (GBS) Confirm a Chromosome-Level Genome Assembly and Reveal Variation in Recombination Rate for the Pacific Oyster *Crassostrea gigas***  
*Xiaoshen Yin, Alberto Arias-Pérez, Teyfik Hamdi Kitapci, and Dennis Hedgecock*
- 4707–4712 **Widely Used Mutants of *eiger*, Encoding the *Drosophila* Tumor Necrosis Factor, Carry Additional Mutations in the NimrodC1 Phagocytosis Receptor**  
*Albana Kodra, Claire de la Cova, Abigail R. Gerhold, and Laura A. Johnston*
- 4713 **CORRIGENDUM**
- REVIEWER INDEX**
- 4715–4718 **G3 Reviewer Index 2020**