Contents
Vol. 203 No. 2 June 2016

CENTENNIAL
CLASSICS
613–614 Joshua Lederberg on Bacterial Recombination
Johnston, Mark

615–616 Curt Stern on Somatic Crossing Over
Birchler, James A.

COMMENTARY
617–619 Massively Parallel Genetics
Shendure, Jay and Stanley Fields

PERSPECTIVES
621–629 A Brief History of Schizosaccharomyces pombe Research: A Perspective Over the Past 70 Years
Fantes, Peter A. and Charles S. Hoffman

THE 2016 GSA HONORS AND AWARDS
631–633 Learning and Doing: An Interview with Bill Wood
Wood, William B.

REVIEW
635–647 Tools for Predicting the Functional Impact of Nonsynonymous Genetic Variation
Tang, Haiming and Paul D. Thomas

GENETIC TOOLBOX REVIEW
649–665 Tetrahymena as a Unicellular Model Eukaryote: Genetic and Genomic Tools
Ruehle, Marisa D., Eduardo Orias, and Chad G. Pearson

COMMUNICATIONS
667–675 Sgs1 and Mph1 Helicases Enforce the Recombination Execution Checkpoint During DNA Double-Strand Break Repair in Saccharomyces cerevisiae
Jain, Suvi, Neal Sugawara, Anuja Mehta, Taehyun Ryu, and James E. Haber

677–681 Evolution of Schooling Behavior in Threespine Sticklebacks Is Shaped by the Eda Gene
Greenwood, Anna K., Margaret G. Mills, Abigail R. Wark, Sophie L. Archambeault, and Catherine L. Peichel

HIGHLIGHTED ARTICLE

Cover photo: Light microscopy image of Arabidopsis ovules harvested from pk/ mutant pistils immediately prior to fertilization. The viable ovule in center-right displays the embryo sac containing the egg cell, central cell nucleus, and synergid nuclei. In contrast, the surrounding aborted ovules lack these features and contain collapsed or not apparent embryo sacs. See Carter et al. Image courtesy of Kim Boutilier.
INVESTIGATIONS
METHODS, TECHNOLOGY, AND RESOURCES

683–697 Accurate Profiling of Gene Expression and Alternative Polyadenylation with Whole Transcriptome Termini Site Sequencing (WTTS-Seq)
Zhou, Xiang, Rui Li, Jennifer J. Michal, Xiao-Lin Wu, Zhongzhen Liu, Hui Zhao, Yin Xia, Weiwei Du, Mark R. Wildung, Derek J. Pouchnik, Richard M. Harland, and Zhihua Jiang
HIGHLIGHTED ARTICLE OPEN ACCESS

699–714 Efficient Genome-Wide Sequencing and Low-Coverage Pedigree Analysis from Noninvasively Collected Samples
HIGHLIGHTED ARTICLE OPEN ACCESS

STATISTICAL GENETICS AND GENOMICS
715–731 Powerful and Adaptive Testing for Multi-trait and Multi-SNP Associations with GWAS and Sequencing Data
Kim, Junghi, Yiwei Zhang, and Wei Pan for the Alzheimer’s Disease Neuroimaging Initiative

GENOME INTEGRITY AND TRANSMISSION
733–748 Nuclear Envelope Retention of LINC Complexes Is Promoted by SUN-1 Oligomerization in the Caenorhabditis elegans Germ Line
Daryabeigi, Anahita, Alexander Woglar, Antoine Baudrimont, Nicola Silva, Dimitra Paouneskou, Cornelia Vesely, Manuel Rauter, Alexandra Penkner, Michael Jantsch, and Verena Jantsch
OPEN ACCESS

CELLULAR GENETICS
749–762 Collaborative Control of Cell Cycle Progression by the RNA Exonuclease Dis3 and Ras Is Conserved Across Species
Snee, Mark J., William C. Wilson, Yi Zhu, Shin-Yu Chen, Beth A. Wilson, Cedric Kseib, Julie O’Neal, Nitin Mahajan, Michael H. Tomasson, Swathi Arur, and James B. Sneath

DEVELOPMENTAL AND BEHAVIORAL GENETICS
763–770 Penetrance of Congenital Heart Disease in a Mouse Model of Down Syndrome Depends on a Trisomic Potentiator of a Disomic Modifier
Li, Huiqing, Sarah Edie, Donna Klinedinst, Jun Seop Jeong, Seth Blackshaw, Cheryl L. Maslen, and Roger H. Reeves

771–785 Unexpected Roles for Ciliary Kinesins and Intraflagellar Transport Proteins
Pooranachandran, Niedharan and Jarema J. Malicki
HIGHLIGHTED ARTICLE

787–797 Timing of Locomotor Recovery from Anoxia Modulated by the white Gene in Drosophila
Xiao, Chengfeng and R. Meldrum Robertson

799–816 The Deadbeat Paternal Effect of Uncapped Sperm Telomeres on Cell Cycle Progression and Chromosome Behavior in Drosophila melanogaster
Yamaki, Takuo, Glenn K. Yasuda, and Barbara T. Wakimoto
Cross-Talk Between Sporophyte and Gametophyte Generations Is Promoted by CHD3 Chromatin Remodelers in Arabidopsis thaliana
Carter, Benjamin, James T. Henderson, Elisabeth Svedin, Martijn Fiers, Kyle McCarthy, Amanda Smith, Changhua Guo, Brett Bishop, Heng Zhang, Tjitske Riksen, Allison Shockley, Brian P. Dilkes, Kim Boutillion, and Joe Ogas

POPULATION AND EVOLUTIONARY GENETICS

An Approximate Markov Model for the Wright–Fisher Diffusion and Its Application to Time Series Data
Ferrer-Admetlla, Anna, Christoph Leuenberger, Jeffrey D. Jensen, and Daniel Wegmann

Epistasis and the Structure of Fitness Landscapes: Are Experimental Fitness Landscapes Compatible with Fisher's Geometric Model?
Blanquart, François and Thomas Bataillon

Elevated Linkage Disequilibrium and Signatures of Soft Sweeps Are Common in Drosophila melanogaster
Garud, Nandita R. and Dmitri A. Petrov

The Genetic Cost of Neanderthal Introgression
Harris, Kelley and Rasmus Nielsen

Likelihood-Free Inference in High-Dimensional Models
Kousathanas, Athanasios, Christoph Leuenberger, Jonas Helfer, Mathieu Quinodoz, Matthieu Foll, and Daniel Wegmann

Functional Divergence of the Nuclear Receptor NR2C1 as a Modulator of Pluripotentiality During Hominid Evolution

An Evolving Genetic Architecture Interacts with Hill–Robertson Interference to Determine the Benefit of Sex

Background Selection in Partially Selfing Populations
Roze, Denis

Limits to Adaptation in Partially Selfing Species
Hartfield, Matthew and Sylvain Glémin

Inferring the Frequency Spectrum of Derived Variants to Quantify Adaptive Molecular Evolution in Protein-Coding Genes of Drosophila melanogaster
Keightley, Peter D., José L. Campos, Tom R. Booker, and Brian Charlesworth
GENOME AND SYSTEMS BIOLOGY

985–995  Transcript Isoform Variation Associated with Cytosine Modification in Human Lymphoblastoid Cell Lines
Zhang, Xu and Wei Zhang

HIGHLIGHTED ARTICLE

CORRIGENDUM

997  Predicting Discovery Rates of Genomic Features
Gravel, Simon and National Heart, Lung, and Blood Institute (NHLBI) GO Exome Sequencing Project

999  Cas9 Variants Expand the Target Repertoire in Caenorhabditis elegans
Bell, Ryan T., Becky X. H. Fu, and Andrew Z. Fire