

## Contents

February 2019 • VOLUME 9 • ISSUE 2 • [www.g3journal.org](http://www.g3journal.org)

### GENOME REPORT

- 317–325 **Genome-Wide Analysis of *Mycoplasma dispar* Provides Insights into Putative Virulence Factors and Phylogenetic Relationships**  
*Shengli Chen, Huafang Hao, Xinmin Yan, Yongsheng Liu, and Yuefeng Chu*

### SOFTWARE AND DATA RESOURCES

- 327–334 **pSBVB: A Versatile Simulation Tool To Evaluate Genomic Selection in Polyploid Species**  
*María L. Zingaretti, Amparo Monfort, and Miguel Pérez-Enciso*

### INVESTIGATIONS

- 335–344 **SNZ3 Encodes a PLP Synthase Involved in Thiamine Synthesis in *Saccharomyces cerevisiae***  
*Michael D. Paxhia and Diana M. Downs*
- 345–357 **Investigation of the Developmental Requirements of *Drosophila* HP1 and Insulator Protein Partner, HIPPI**  
*Steve E. Glenn and Pamela K. Geyer*
- 359–373 **Comprehensive Transcriptional Profiling of the Gastrointestinal Tract of Ruminants from Birth to Adulthood Reveals Strong Developmental Stage Specific Gene Expression**  
*Stephen J. Bush, Mary E. B. McCulloch, Charity Muriuki, Mazdak Salavati, Gemma M. Davis, Iseabail L. Farquhar, Zofia M. Lisowski, Alan L. Archibald, David A. Hume, and Emily L. Clark*
- 375–390 **A Very *Oil Yellow1* Modifier of the *Oil Yellow1-N1989* Allele Uncovers a Cryptic Phenotypic Impact of *Cis*-regulatory Variation in Maize**  
*Rajdeep S. Khangura, Sandeep Marla, Bala P. Venkata, Nicholas J. Heller, Gurmukh S. Johal, and Brian P. Dilkes*
- 391–401 **Optimizing Genomic Selection for a Sorghum Breeding Program in Haiti: A Simulation Study**  
*Kebede T. Muleta, Gael Pressoir, and Geoffrey P. Morris*
- 403–412 **A Transgenic Flock House Virus Replicon Reveals an RNAi Independent Antiviral Mechanism Acting in *Drosophila* Follicular Somatic Cells**  
*Nelson Martins, Aurélie Lemoine, Estelle Santiago, Simona Paro, Jean-Luc Imler, and Carine Meignin*
- 413–423 **Yeast Models of Phosphomannomutase 2 Deficiency, a Congenital Disorder of Glycosylation**  
*Jessica P. Lao, Nina DiPrimio, Madeleine Pranglely, Feba S. Sam, Joshua D. Mast, and Ethan O. Perlstein*
- 425–437 **Complex Structural *PPT1* Variant Associated with Non-syndromic Canine Retinal Degeneration**  
*Leonardo Murgiano, Doreen Becker, Dina Torjman, Jessica K. Niggel, Ausra Milano, Cheryl Cullen, Rui Feng, Fan Wang, Vidhya Jagannathan, Sue Pearce-Kelling, Martin L. Katz, Tosso Leeb, and Gustavo D. Aguirre*
- 439–452 **A Statistical Procedure for Genome-Wide Detection of QTL Hotspots Using Public Databases with Application to Rice**  
*Man-Hsia Yang, Dong-Hong Wu, and Chen-Hung Kao*

- 453–462 **GAL4 Drivers Specific for Type Ib and Type Is Motor Neurons in *Drosophila***  
*Juan J. Pérez-Moreno and Cahir J. O’Kane*
- 463–471 **Using Next-Generation Sequencing Transcriptomics To Determine Markers of Post-traumatic Symptoms: Preliminary Findings from a Post-deployment Cohort of Soldiers**  
*Cathy Boscarino, Thomas Nalpathamkalam, Giovanna Pellecchia, Weili Li, Bhooma Thiruvahindrapuram, and Daniele Merico*
- 473–489 **Determining the Genetic Architecture of Reproductive Stage Drought Tolerance in Wheat Using a Correlated Trait and Correlated Marker Effect Model**  
*Rudy Dolferus, Saravanan Thavamanikumar, Harriet Sangma, Sue Kleven, Xiaomei Wallace, Kerrie Forrest, Gregory Rebetzke, Matthew Hayden, Lauren Borg, Alison Smith, and Brian Cullis*
- 491–503 **Composition of the Survival Motor Neuron (SMN) Complex in *Drosophila melanogaster***  
*A. Gregory Matera, Amanda C. Raimer, Casey A. Schmidt, Jo A. Kelly, Gaith N. Drobny, David Baillat, Sara ten Have, Angus I. Lamond, Eric J. Wagner, and Kelsey M. Gray*
- 505–511 **Mapping Oat Crown Rust Resistance Gene *Pc45* Confirms Association with *PcKM***  
*Aida Z. Kebede, Jayelle Friesen-Enns, Belaghihalli N. Gnanesh, Jim G. Menzies, Jennifer W. Mitchell Fetch, James Chong, Aaron D. Beattie, Edyta Paczos-Grzęda, and Curt A. McCartney*
- 513–522 **Metformin Affects Heme Function as a Possible Mechanism of Action**  
*Xiyan Li, Xin Wang, and Michael P. Snyder*
- FEATURED ARTICLE**
- 523–533 **Integrated Analysis of miRNA and mRNA Expression Profiles Reveals Functional miRNA-Targets in Development Testes of Small Tail Han Sheep**  
*Man Bai, Limin Sun, Chao Jia, Jiarong Li, Yue Han, Hang Liu, Yang Chen, and Huaizhi Jiang*
- 535–547 **Identifying *Pseudomonas syringae* Type III Secreted Effector Function via a Yeast Genomic Screen**  
*Amy Huei-Yi Lee, D. Patrick Bastedo, Ji-Young Youn, Timothy Lo, Maggie A. Middleton, Inga Kireeva, Jee Yeon Lee, Sara Sharifpoor, Anastasia Baryshnikova, Jianfeng Zhang, Pauline W. Wang, Sergio G. Peisajovich, Michael Constanzo, Brenda J. Andrews, Charles M. Boone, Darrell Desveaux, and David S. Guttman*
- 549–559 **Repeats of Unusual Size in Plant Mitochondrial Genomes: Identification, Incidence and Evolution**  
*Emily L. Wynn and Alan C. Christensen*
- 561–570 **A Noisy Analog-to-Digital Converter Connects Cytosolic Calcium Bursts to Transcription Factor Nuclear Localization Pulses in Yeast**  
*Ian S. Hsu, Bob Strome, Sergey Plotnikov, and Alan M. Moses*
- 571–579 **A Genome Wide Association Study Reveals Markers and Genes Associated with Resistance to *Fusarium verticillioides* Infection of Seedlings in a Maize Diversity Panel**  
*Lorenzo Stagnati, Alessandra Lanubile, Luis F. Samayoa, Mario Bragalanti, Paola Giorni, Matteo Busconi, James B. Holland, and Adriano Marocco*
- 581–589 **Activation of the Bile Acid Pathway and No Observed Antimicrobial Peptide Sequences in the Skin of a Poison Frog**  
*Megan L. Civitello, Robert Denton, Michael A. Zasloff, and John H. Malone*
- 591–599 **Generation of *H11-albumin-rtTA* Transgenic Mice: A Tool for Inducible Gene Expression in the Liver**  
*Yu-Shan Li, Ran-Ran Meng, Xiu Chen, Cui-Ling Shang, Hong-Bin Li, Tao-Jun Zhang, Hua-Yang Long, Hui-Qi Li, Yi-Jing Wang, and Feng-Chao Wang*
- 601–618 **A Benchmarking Between Deep Learning, Support Vector Machine and Bayesian Threshold Best Linear Unbiased Prediction for Predicting Ordinal Traits in Plant Breeding**  
*Osva A. Montesinos-López, Javier Martín-Vallejo, José Crossa, Daniel Gianola, Carlos M. Hernández-Suárez, Abelardo Montesinos-López, Philomin Juliana, and Ravi Singh*