

The electronic form of this issue, available as of March 11, 2009, at www.plantphysiol.org, is considered the journal of record.

On the Cover: *Potato virus X* (PVX) is a strong trigger of RNA silencing, producing high levels of small-interfering RNAs (siRNAs). These siRNAs can be derived from the replicating virus itself or via the copying action of an RNA-dependent RNA polymerase, RDR6. In this issue, Vaistij and Jones (pp. 1399–1407) report that PVX-driven virus-induced gene silencing is compromised in RDR6-deficient plants despite the accumulation of high levels of replicating PVX and PVX-derived primary siRNAs. This effect is unrelated to the accumulation of virus-encoded suppressors of RNA silencing and suggests that the primary siRNAs are ineffective in driving RNA silencing. The cover photograph shows the silencing of a transiently expressed *GFP* reporter gene in a wild-type *Nicotiana benthamiana* leaf infected with a vein-restricted PVX vector. Such silencing is not observed in a RDR6-deficient background. Photography by Phil Roberts.

ON THE INSIDE

Peter V. Minorsky 1205

UPDATES

Mitogen-Activated Protein Kinase Cascades and Ethylene: Signaling, Biosynthesis, or Both? *Achim Hahn and Klaus Harter* 1207

GENOME ANALYSIS

^{[W][OA]}Analysis of the *Nicotiana tabacum* Stigma/Style Transcriptome Reveals Gene Expression Differences between Wet and Dry Stigma Species. *Andréa C. Quiapim, Michael S. Brito, Luciano A.S. Bernardes, Idalete daSilva, Iran Malavazi, Henrique C. DePaoli, Jeanne B. Molfetta-Machado, Silvana Guiliatti, Gustavo H. Goldman, and Maria Helena S. Goldman* 1211

BREAKTHROUGH TECHNOLOGIES

^{[C][OA]}Positive Fluorescent Selection Permits Precise, Rapid, and In-Depth Overexpression Analysis in Plant Protoplasts. *Bastiaan O.R. Bargmann and Kenneth D. Birnbaum* 1231

RESEARCH ARTICLES

BIOCHEMICAL PROCESSES AND MACROMOLECULAR STRUCTURES

^{[C][W][OA]}A Small Family of Chloroplast Atypical Thioredoxins. *Inbal Dangoor, Hadas Peled-Zehavi, Alexander Levitan, Ohad Pasand, and Avihai Danon* 1240

^[W]Tyrosine and Phenylalanine Are Synthesized within the Plastids in Arabidopsis. *Pascal Rippert, Juliette Puyaubert, Delphine Grisolle, Laure Derrier, and Michel Matringe* 1251

^{[W][OA]}Substrates Related to Chromatin and to RNA-Dependent Processes Are Modified by Arabidopsis SUMO Isoforms That Differ in a Conserved Residue with Influence on Desumoylation. *Ruchika Budhiraja, Rebecca Hermkes, Stefan Müller, Jürgen Schmidt, Thomas Colby, Kishore Panigrahi, George Coupland, and Andreas Bachmair* 1529

Continued on next page

- [C][W][OA] Proteins from Multiple Metabolic Pathways Associate with Starch Biosynthetic Enzymes in High Molecular Weight Complexes: A Model for Regulation of Carbon Allocation in Maize Amyloplasts. *Tracie A. Hennen-Bierwagen, Qiaohui Lin, Florent Grimaud, Véronique Planchot, Peter L. Keeling, Martha G. James, and Alan M. Myers* 1541

BIOENERGETICS AND PHOTOSYNTHESIS

- [W][OA] Chloroplast NADPH-Thioredoxin Reductase Interacts with Photoperiodic Development in Arabidopsis. *Anna Lepistö, Saijalisa Kangasjärvi, Eeva-Maria Luomala, Günter Brader, Nina Sipari, Mika Keränen, Markku Keinänen, and Eevi Rintamäki* 1261
- [W][OA] How Does Cyclic Electron Flow Alleviate Photoinhibition in Arabidopsis? *Shunichi Takahashi, Sara E. Milward, Da-Yong Fan, Wah Soon Chow, and Murray R. Badger* 1560
- [OA] Experimental Evidence for Ascorbate-Dependent Electron Transport in Leaves with Inactive Oxygen-Evolving Complexes. *Szilvia Z. Tóth, Jos T. Puthur, Valéria Nagy, and Győző Garab* 1568

DEVELOPMENT AND HORMONE ACTION

- [C][W][OA] Constitutive Repression and Activation of Auxin Signaling in Arabidopsis. *Hanbing Li, Yan Cheng, Angus Murphy, Gretchen Hagen, and Tom J. Guilfoyle* 1277
- [C][OA] The Signal Peptide Peptidase Is Required for Pollen Function in Arabidopsis. *Sungwon Han, Laura Green, and Danny J. Schnell* 1289
- [C][W][OA] *Trichoderma virens*, a Plant Beneficial Fungus, Enhances Biomass Production and Promotes Lateral Root Growth through an Auxin-Dependent Mechanism in Arabidopsis. *Hexon Angel Contreras-Cornejo, Lourdes Macías-Rodríguez, Carlos Cortés-Penagos, and José López-Bucio* 1579

ENVIRONMENTAL STRESS AND ADAPTATION TO STRESS

- [W] Nitric Oxide Contributes to Cadmium Toxicity in Arabidopsis by Promoting Cadmium Accumulation in Roots and by Up-Regulating Genes Related to Iron Uptake. *Angélique Besson-Bard, Antoine Grivot, Pierre Richaud, Pascaline Auroy, Céline Duc, Frédéric Gaymard, Ludvine Tacconnat, Jean-Pierre Renou, Alain Pugin, and David Wendehenne* 1302
- System Potentials, a Novel Electrical Long-Distance Apoplastic Signal in Plants, Induced by Wounding. *Matthias R. Zimmermann, Heiko Maischak, Axel Mithöfer, Wilhelm Boland, and Hubert H. Felle* 1593

GENETICS, GENOMICS, AND MOLECULAR EVOLUTION

- [W][OA] Highly Diversified Molecular Evolution of Downstream Transcription Start Sites in Rice and Arabidopsis. *Tsuyoshi Tanaka, Kanako O. Koyanagi, and Takeshi Itoh* 1316
- [C][W] The Proteome of Seed Development in the Model Legume *Lotus japonicus*. *Svend Dam, Brian S. Laursen, Jane H. Ørnfelt, Bjarne Jochimsen, Hans Henrik Stærfeldt, Carsten Friis, Kasper Nielsen, Nicolas Goffard, Søren Besenbacher, Lene Krusell, Shusei Sato, Satoshi Tabata, Ida B. Thøgersen, Jan J. Enghild, and Jens Stougaard* 1325
- [W][OA] Molecular and Functional Characterization of PEBP Genes in Barley Reveal the Diversification of Their Roles in Flowering. *Rie Kikuchi, Hiroyuki Kawahigashi, Tsuyu Ando, Takuji Tonooka, and Hirokazu Handa* 1341

PLANTS INTERACTING WITH OTHER ORGANISMS

- Microtubule-Associated Protein AtMPB2C Plays a Role in Organization of Cortical Microtubules, Stomata Patterning, and Tobamovirus Infectivity. *Pia Ruggenthaler, Daniela Fichtenbauer, Julia Krasensky, Claudia Jonak, and Elisabeth Waigmann* 1354

- [C][W][OA] An Integrated Genomics Approach to Define Niche Establishment by *Rhodococcus fascians*. Stephen Depuydt, Sandra Trenkamp, Alisdair R. Fernie, Samira Elftieh, Jean-Pierre Renou, Marnik Vuylsteke, Marcelle Holsters, and Danny Vereecke 1366
- [C][W][OA] Eternal Youth, the Fate of Developing Arabidopsis Leaves upon *Rhodococcus fascians* Infection. Stephen Depuydt, Lieven De Veylder, Marcelle Holsters, and Danny Vereecke 1387
- [W] Compromised Virus-Induced Gene Silencing in RDR6-Deficient Plants. Fabián E. Vaistij and Louise Jones 1399
- [W][OA] Molecular Interactions between the Specialist Herbivore *Manduca sexta* (Lepidoptera, Sphingidae) and Its Natural Host *Nicotiana attenuata*. VIII. An Unbiased GCxGC-ToFMS Analysis of the Plant's Elicited Volatile Emissions. Emmanuel Gaquerel, Alexander Weinhold, and Ian T. Baldwin 1408
- [W] Biotic and Abiotic Stimulation of Root Epidermal Cells Reveals Common and Specific Responses to Arbuscular Mycorrhizal Fungi. Andrea Genre, Giuseppe Ortu, Chiara Bertoldo, Elena Martino, and Paola Bonfante 1424
- [W][OA] Temporal Global Expression Data Reveal Known and Novel Salicylate-Impacted Processes and Regulators Mediating Powdery Mildew Growth and Reproduction on Arabidopsis. Divya Chandran, Yu Chuan Tai, Gregory Hather, Julia Dewdney, Carine Denoux, Diane G. Burgess, Frederick M. Ausubel, Terence P. Speed, and Mary C. Wildermuth 1435

WHOLE PLANT AND ECOPHYSIOLOGY

- [W] Diel Growth Cycle of Isolated Leaf Discs Analyzed with a Novel, High-Throughput Three-Dimensional Imaging Method Is Identical to That of Intact Leaves. Bernhard Biskup, Hanno Scharr, Andreas Fischbach, Anika Wiese-Klinkenberg, Ulrich Schurr, and Achim Walter 1452
- [C][OA] Phloem Loading Strategies in Three Plant Species That Transport Sugar Alcohols. Edwin J. Reidel, Emilie A. Rennie, Véronique Amiard, Lailiang Cheng, and Robert Turgeon 1601
- Postillumination Isoprene Emission: In Vivo Measurements of Dimethylallyldiphosphate Pool Size and Isoprene Synthase Kinetics in Aspen Leaves. Bahtijor Rasulov, Lucian Copolovici, Agu Laisk, and Ülo Niinemets 1609

SYSTEMS BIOLOGY, MOLECULAR BIOLOGY, AND GENE REGULATION

- [C][W] In Vivo Interference with AtTCP20 Function Induces Severe Plant Growth Alterations and Deregulates the Expression of Many Genes Important for Development. Christine Hervé, Patrick Dabos, Claude Bardet, Alain Jauneau, Marie Christine Auriac, Agnès Ramboer, Fabrice Lacout, and Dominique Tremoussaygue 1462
- [W][OA] A Rice Kinase-Protein Interaction Map. Xiaodong Ding, Todd Richter, Mei Chen, Hiroaki Fujii, Young Su Seo, Mingtang Xie, Xianwu Zheng, Siddhartha Kanrar, Rebecca A. Stevenson, Christopher Dardick, Ying Li, Hao Jiang, Yan Zhang, Fahong Yu, Laura E. Bartley, Mawsheng Chern, Rebecca Bart, Xiuhua Chen, Lihuang Zhu, William G. Farmerie, Michael Gribskov, Jian-Kang Zhu, Michael E. Fromm, Pamela C. Ronald, and Wen-Yuan Song 1478
- [W] Cell Culture-Induced Gradual and Frequent Epigenetic Reprogramming of Invertedly Repeated Tobacco Transgene Epialleles. Katerina Krizova, Miloslava Fojtova, Ann Depicker, and Ales Kovarik 1493
- [C][W][OA] Gene and Metabolite Regulatory Network Analysis of Early Developing Fruit Tissues Highlights New Candidate Genes for the Control of Tomato Fruit Composition and Development. Fabien Mounet, Annick Moing, Virginie Garcia, Johann Petit, Michael Maucourt, Catherine Deborde, Stéphane Bernillon, Gwénaëlle Le Gall, Ian Colquhoun, Marianne Defernez, Jean-Luc Giraudel, Dominique Rolin, Christophe Rothan, and Martine Lemaire-Chamley 1505

CORRECTIONS

AtPTR1 and AtPTR5 Transport Dipeptides in Planta. *N.Y. Komarova, K. Thor, A. Gubler, S. Meier, D. Dietrich, A. Weichert, M.S. Grottemeyer, M. Tegeder, and D. Rentsch* 1619

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^[C] Some figures in this article are displayed in color online but in black and white in the print edition.

^[W] Indicates Web-only data.

^[OA] Open Access articles can be viewed online without a subscription.