The floral homeotic protein AGAMOUS directs the specification of reproductive organs by controlling the expression of a plethora of other regulators. O’Maoléidigh et al. (pages 2482–2503) identify the direct and indirect downstream targets of AGAMOUS during reproductive organ specification on a genome-wide scale. The cover shows the indeterminate flower of an ag-1 mutant plant in which the reproductive organs, stamens, and carpels have been replaced by sepals and petals.

IN BRIEF

A Quantitative Genetic Basis for Leaf Morphology is Revealed in a Set of Precisely Defined Tomato Introgression Lines
Jennifer Lockhart

On the Origin of C₄ Species in Yellowtops
Kathleen L. Farquharson

Volatile Organic Compounds: A Bacterial Contribution to Plant Sulfur Nutrition
Nancy R. Hofmann

The Plant Cell Reviews Aspects of MicroRNA and PhasiRNA Regulatory Function
Nancy A. Eckardt

REVIEW

Biogenesis, Turnover, and Mode of Action of Plant MicroRNAs
Kestrel Rogers and Xuemei Chen

Phased, Secondary, Small Interfering RNAs in Posttranscriptional Regulatory Networks
Qili Fei, Rui Xia, and Blake C. Meyers

LARGE-SCALE BIOLOGY ARTICLES

Plant MicroRNAs Display Differential 3´ Truncation and Tailing Modifications That Are ARGONAUTE1 Dependent and Conserved Across Species
Jixian Zhai, Yuanyuan Zhao, Stacey A. Simon, Sheng Huang, Katherine Petsch, Siwaret Arikot, Manoj Pillay, Lijuan Ji, Meng Xie, Xiaofeng Cao, Bin Yu, Marja Timmermans, Bing Yang, Xuemei Chen, and Blake C. Meyers

In Plant Activation: An Inducible, Hyperexpression Platform for Recombinant Protein Production in Plants
Benjamin Dugdale, Cara L. Mortimer, Maiko Kato, Tess A. James, Robert M. Harding, and James L. Dale

Characterization of the Early Events Leading to Totipotency in an Arabidopsis Protoplast Liquid Culture by Temporal Transcript Profiling
Marie-Christine Chupeau, Fabienne Granier, Olivier Pichon, Jean-Pierre Renou, Valérie Gaudin, and Yves Chupeau
### RESEARCH ARTICLES

<table>
<thead>
<tr>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A Quantitative Genetic Basis for Leaf Morphology in a Set of Precisely Defined Tomato Introgression Lines</strong></td>
<td>2465</td>
</tr>
<tr>
<td>Daniel H. Chitwood, Ravi Kumar, Lauren R. Headland, Aashish Ranjan, Michael F. Covington, Yasunori Ichihashi, Daniel Fulop, José M. Jiménez-Gómez, Jie Peng, Julin N. Maloof, and Neelima R. Sinha</td>
<td></td>
</tr>
<tr>
<td><strong>Control of Reproductive Floral Organ Identity Specification in Arabidopsis by the C Function Regulator AGAMOUS</strong></td>
<td>2482</td>
</tr>
<tr>
<td>Diamu S. O’Maioileidigh, Samuel E. Wuest, Liina Rae, Andrea Raganeli, Patrick T. Ryan, Kamila Kwasniewska, Pradeep Das, Amanda J. Lohan, Brendan Loftus, Emmanuelle Graciet, and Frank Wellmer</td>
<td></td>
</tr>
<tr>
<td><strong>The Cyclophilin CYP20-2 Modulates the Conformation of BRASSINAZOLE-RESISTANT1, Which Binds the Promoter of FLOWERING LOCUS D to Regulate Flowering in Arabidopsis</strong></td>
<td>2504</td>
</tr>
<tr>
<td>Yuanyuan Zhang, Beibei Li, Yuyunyan Xu, Heng Li, Shanshan Li, Dajian Zhang, Zhiwei Mao, Siyi Guo, Chunhong Yang, Xuyiang Wang, and Kang Chong</td>
<td></td>
</tr>
<tr>
<td><strong>Evolution of C3 Photosynthesis in the Genus Flaveria: Establishment of a Photosrespiratory CO2 Pump</strong></td>
<td>2522</td>
</tr>
<tr>
<td>Stefanie Schulze, Julia Mallmann, Janet Burscheidt, Maria Koczor, Monika Streubel, Hermann Bauwe, Udo Gowik, and Peter Westhoff</td>
<td></td>
</tr>
<tr>
<td><strong>Formation and Expression of Pseudogenes on the B Chromosome of Rye</strong></td>
<td>2536</td>
</tr>
<tr>
<td>Ali Mohammad Banaei-Moghadam, Karla Meier, Raheleh Karimi-Ashtiyani, and Andreas Houben</td>
<td></td>
</tr>
<tr>
<td><strong>Folate Polyglutamylation Is Involved in Chromatin Silencing by Maintaining Global DNA Methylation and Histone H3K9 Dimethylation in Arabidopsis</strong></td>
<td>2545</td>
</tr>
<tr>
<td>Hao-Ran Zhou, Fang-Fang Zhang, Ze-Yang Ma, Huan-Wei Huang, Ling Jiang, Tao Cai, Jian-Kang Zhu, Chuyi Zhang, and Xin-Jian He</td>
<td></td>
</tr>
<tr>
<td><strong>MADS Domain Transcription Factors Mediate Short-Range DNA Looping That Is Essential for Target Gene Expression in Arabidopsis</strong></td>
<td>2560</td>
</tr>
<tr>
<td>Marta Adelina Mendes, Rosalind Foirella Guerra, Markus Christian Berns, Carlo Manzo, Simona Masiero, Laura Finzi, Martin M. Kater, and Lucia Colombo</td>
<td></td>
</tr>
<tr>
<td><strong>An Arabidopsis ATP-Dependent, DEAD-Box RNA Helicase Loses Activity upon IsoAsp Formation but Is Restored by PROTEIN ISOASPARTYL METHYLTRANSFERASE</strong></td>
<td>2573</td>
</tr>
<tr>
<td>Nihar R. Nayak, Andrea A. Putnam, Balasubrahmanyam Addepalli, Jonathan D. Lowenson, Tingsu Chen, Eckhard Jankowsky, Sharyn E. Perry, Randy D. Dinkins, Patrick A. Limbach, Steven G. Clarke, and A. Bruce Downie</td>
<td></td>
</tr>
<tr>
<td><strong>Coeexistence but Independent Biosynthesis of Catechyl and Guaiacyl/Syringyl Lignin Polymers in Seed Coats</strong></td>
<td>2587</td>
</tr>
<tr>
<td><strong>Gene Networks and Chromatin and Transcriptional Regulation of the Phaseolin Promoter in Arabidopsis</strong></td>
<td>2601</td>
</tr>
<tr>
<td>Sabarinath Sundaram, Sunee Kertbundit, Eugene V. Shakirov, Lakshminarayan M. Iyer, Miloslav Juřiček, and Timothy C. Hall</td>
<td></td>
</tr>
<tr>
<td><strong>Arabidopsis Casein Kinase1 Proteins CK1.3 and CK1.4 Phosphorylate Cryptochrome2 to Regulate Blue Light Signaling</strong></td>
<td>2618</td>
</tr>
<tr>
<td>Shu-Tang Tan, Cheng Dai, Hong-Tao Liu, and Hong-Wei Xue</td>
<td></td>
</tr>
<tr>
<td><strong>Trans-Golgi Network Localized ECHIDNA/Ypt Interacting Protein Complex Is Required for the Secretion of Cell Wall Polysaccharides in Arabidopsis</strong></td>
<td>2633</td>
</tr>
<tr>
<td>Delphine Gendre, Heather E. McFarlane, Errin Johnson, Gregory Mouillie, Andreas Sjödin, Jaesung Oh, Gabriel Levesque-Tremblay, Yoichiro Watanabe, Lacey Samuels, and Rishikesh P. Bhalerao</td>
<td></td>
</tr>
<tr>
<td><strong>From Endoplasmic Reticulum to Mitochondria: Absence of the Arabidopsis ATP Antipporter Endoplasmic Reticulum Adenylate Transporter1 Perturbs Photosrespiration</strong></td>
<td>2647</td>
</tr>
<tr>
<td>Christiane Hoffmann, Bartolome Plocharski, Ilka Haferkamp, Michaela Leroc, Ralph Ewald, Hermann Bauwe, Jan Riemer, Johannes M. Herrmann, and H. Ekkehard Neuhaus</td>
<td></td>
</tr>
</tbody>
</table>
Arabidopsis CURVATURE THYLAKOID1 Proteins Modify Thylakoid Architecture by Inducing Membrane Curvature

Ute Armbruster, Mathias Labs, Mathias Pribil, Stefania Viola, Wenteng Xu, Michael Scharfenberg, Alexander P. Hertle, Ulrike Rojahn, Poul Erik Jensen, Fabrice Rappaport, Pierre Joliot, Peter Dörmann, Gerhard Wanner, and Dario Leister

Multisite Light-Induced Phosphorylation of the Transcription Factor PIF3 Is Necessary for Both Its Rapid Degradation and Concomitant Negative Feedback Modulation of Photoreceptor phyB Levels in Arabidopsis

Weimin Ni, Shou-Ling Xu, Robert J. Chalkley, Thao Nguyen D. Pham, Shenheng Guan, Dave A. Maltby, Alma L. Burlingame, Zhi-Yong Wang, and Peter H. Quail

Submergence Confers Immunity Mediated by the WRKY22 Transcription Factor in Arabidopsis

Fu-Chiun Hsu, Mei-Yi Chou, Shu-Jen Chou, Ya-Ru Li, Hsiao-Ping Peng, and Ming-Che Shih

Constitutively Elevated Salicylic Acid Levels Alter Photosynthesis and Oxidative State but Not Growth in Transgenic Populus

Liang-Jiao Xue, Wenbing Guo, Yinan Yuan, Edward O. Anino, Batbayar Nyamdari, Mark C. Wilson, Christopher J. Frost, Han-Yi Chen, Benjamin A. Babst, Scott A. Harding, and Chung-Jui Tsai

Dimethyl Disulfide Produced by the Naturally Associated Bacterium Bacillus sp B55 Promotes Nicotiana attenuata Growth by Enhancing Sulfur Nutrition

Dorothea G. Meldau, Stefan Meldau, Long H. Hoang, Stefanie Underberg, Hendrik Wünsche, and Ian T. Baldwin

The Tomato Calcium Sensor Cbl10 and Its Interacting Protein Kinase Cipk6 Define a Signaling Pathway in Plant Immunity

Fernando de la Torre, Emilio Gutiérrez-Beltrán, Yolanda Pareja-Jaime, Suma Chakravarthy, Gregory B. Martin, and Olga del Pozo

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