

T H E  
**PLANT**  
C E L L

Volume 29 Number 7 July 2017

The electronic form of this issue, available at [www.plantcell.org](http://www.plantcell.org), is the journal of record.

**ON THE COVER**



Flower development requires accurate patterning of the floral organ identity genes since their misexpression leads to homeotic conversion of one floral organ type into another. The cover image illustrates a subtle defect in the patterning of the homeotic B-class genes in the petunia *ben* mutant, leading to a partial homeotic conversion of sepals into petals. Morel et al. (pages 1605–1621) analyzed the mechanisms that pattern the floral homeotic B- and C-functions during petunia flower development and discovered that *BEN*, a TOE-type AP2, confines the C-function to the inner petunia floral whorls, in parallel with the microRNA *BLIND*. In turn, they show that the petunia AP2-type *ROB* genes repress the B-function (but not the C-function) in the first floral whorl, together with *BEN*. These findings suggest that the molecular mechanisms controlling the spatial restriction of the floral organ identity genes are more diverse than the well-conserved B and C floral organ identity functions. Photo by Michiel Vandenbussche.

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**Editorial Office**  
15501 Monona Drive  
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**The Plant Cell** (eISSN 1532-298X) is published monthly (one volume per year) by the American Society of Plant Biologists, 15501 Monona Drive, Rockville, MD 20855-2768, and is produced by The Sheridan Group, Waterbury, VT. For matters regarding library subscriptions, contact Suzanne Cholwek, ASPB, 15501 Monona Drive, Rockville, MD 20855-2768; telephone 301/296-0926; fax 301/251-6740; e-mail [scholwek@aspb.org](mailto:scholwek@aspb.org). Send all inquiries regarding advertising to FASEB AdNet, 9650 Rockville Pike, Bethesda, MD 20814-3998; telephone 301/634-7791; fax 301/634-7153; e-mail [adnet@faseb.org](mailto:adnet@faseb.org). The online version of *The Plant Cell* is available at [www.plantcell.org](http://www.plantcell.org).

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This information is current as of November 18, 2018

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