

T H E  
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**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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