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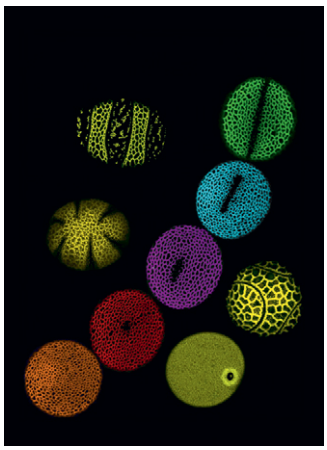
ON THE COVER



The cell walls of pollen grains, or exines, assemble into beautiful and very diverse species-specific patterns. Apertures, areas where exines are not deposited, are very common elements of exine patterning and also differ widely across species in their number, morphology, and positions. The dramatic variations of exines and apertures in nature are illustrated by four yellow pollen grains (clockwise from top left: *Salvia patens*, *Passiflora* sp, *Salvia leucantha*, and *Brachypodium distachyon*). The presence of apertures suggests the existence of cellular mechanisms that define these areas and prevent exine deposition. Dobritsa and Coerper (pages 4452–4464) describe the function of *Arabidopsis thaliana INAPERTURATE POLLEN1* (*INP1*), which is shown to specifically control aperture formation. INP1 protein marks positions of the future apertures and appears to control aperture length in a dosage-dependent manner. The sweeping line (top right to bottom left) of false-colored *Arabidopsis* pollen grains in this image illustrates a gradient of aperture lengths observed in mutant lines with different levels of INP1, from the presence of long apertures in wild-type pollen (green) to the complete absence of apertures in the *inp1* null mutants (orange). The three pollen grains in between these two extremes come from the *inp1* lines containing independent insertions of the *INP1* transgene. (Photographs and image design by Anna Dobritsa.)

IN BRIEF

COMMENTARY

LARGE-SCALE BIOLOGY ARTICLES

RESEARCH ARTICLES

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

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