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T H E  
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EVOLUTION OF HOMOSPERMIDINE SYNTHASE IN CONVULVULACEAE

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ON THE COVER



The morning glory family (Convolvulaceae) comprises approximately 1600–1700 species in 55–60 genera, with *Ipomoea* as an exceptionally large and diverse genus encompassing about 1000 species. Some of these species contain pyrrolizidine alkaloids, believed to be produced by the plant as chemical defense against herbivores. Kaltenecker et al. (pages 1213–1227) show that the first specific enzyme in the biosynthesis of these alkaloids, *i.e.* homospermidine synthase, evolved by a single gene duplication followed by phases of various selection pressures resulting in an optimized enzyme for alkaloid biosynthesis. Gene losses and pseudogenization events have been detected in lineages that are unable to produce these alkaloids, like *Ipomoea purpurea* (L.) Roth (Common Morning Glory), which is shown on the cover (photo by Dietrich Ober).

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
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González-Grandío, E., Poza-Carrión, C., Sorzano, C.O., Cubas, P. (2013). *BRANCHED1* Promotes Axillary Bud Dormancy in Response to Shade in *Arabidopsis*. *Plant Cell*. 25: 834–850.

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