Stromules are tentacle-like protrusions of plastids that have been hypothesized to connect individual plastids and shuttle molecules between them. Schattat et al. (pages 1465–1477) re-examine this hypothesis using a photoconvertible fluorescent protein, which enabled differential coloring of the plastids in a cell, and directly monitoring the putative transfer of fluorescent proteins between plastids. Using this technique, the authors show that stromules extended by independent plastids do not fuse or allow exchange of fluorescent proteins between plastids. The cover image shows the differential coloring of plastids and their stromules in leaf epidermal cells. Chlorophyll autofluorescence is rendered in blue.
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