Spitzer and colleagues (pages 391–402) show that the Arabidopsis CHMP1A and B proteins, which mediate the degradation of plasma membrane proteins via endosomal sorting, also control the autophagic turnover of plastid components. The impaired degradation of plastid-dividing proteins in the Arabidopsis chmp1a chmp1b mutant leads to abnormal plastid division. The cover image is a confocal micrograph of chmp1a chmp1b hypocotyl cells expressing the plastid outer envelope protein TOC75 fused to GFP. Long bridges between plastids are indicative of incomplete plastid separation during division. Chlorophyll autofluorescence is shown in magenta. Image by Christoph Spitzer.

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