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Cover photograph (Copyright © 2013, American Society for Microbiology. All Rights Reserved.): For transmission to a new host plant, *Cauliflower mosaic virus* (CaMV) is transported attached to the needle-like mouth parts (stylets) of aphids. This picture shows a ventral view of a green peach aphid in confocal macroscopy. The stylets form a fine pink lance emanating from the labium. To increase transmission rates, CaMV responds to aphid punctures into infected cells (shown to the right): usually the virus (yellow) is present in numerous cytoplasmic virus factories (bottom cell). During intracellular stylet puncture, the virus rearranges within seconds into peripheral networks (next two cells), the form efficiently acquired by aphids. After stylet removal, CaMV retracts into factories and is ready for another round of transmission (top two cells). (See related article on p. 12207.)