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Cover photograph (Copyright © 2009, American Society for Microbiology. All Rights Reserved.): *Bactrocera oleae*, the olive fly, ovipositing in a ripe olive. The two different morphologies of the olive fly's tightly associated endosymbiont, *Candidatus* *Erwinia dacicola*, are shown in insets. *Ca. Erwinia dacicola* switches from an intracellular lifestyle in the larval midgut (upper left inset) to an extracellular existence in the foregut (lower right inset) and ovipositor diverticulum in the adult. Switching from an intracellular to an extracellular lifestyle may be a characteristic the endosymbiont possesses to facilitate survival in a changing environment during the development of a polyphagous, holometabolous host. (See related article in November 2009, vol. 75, no. 22, p. 7097.)