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*Cover photograph* (Copyright © 2013, American Society for Microbiology. All Rights Reserved.): Fragment of multiple sequence alignment of meche operon regions from *Escherichia coli* genomes. The beginning of a large deletion within the *tap* gene coding for a chemoreceptor for peptides and nucleotides is shown. The symmetrical nature of deletions that are found in all *E. coli* species from the B2 phylogenetic group implies that the loss of the chemoreceptor occurred in their common ancestor. The B2 group contains prominent extraintestinal pathogens. The estimated timing of this gene loss corresponds to the emergence of the genus *Homo*, providing yet another possible temporal link between human evolution and *E. coli* pathogenicity. (See related article on page 3596.)