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^{OA}Open Access paper.



Cover Horizontal gene transfer is one of the major evolutionary processes in phage-bacteria systems, but its occurrence in eukaryotes has been less documented. In this issue, a clear case of gene transfer was identified between the cosmopolitan marine eukaryote *Emiliania huxleyi*, known for its beautiful exoskeletons made of calcium carbonate scales (“coccoliths”), and an icosahedral giant virus that lytically kills this microalga. The gene transfer involved not only one gene, but a series of genes coding for key enzymes of almost the entire sphingolipid/ceramide biosynthesis pathway. (Cover illustration by Miguel Frada and Glynn Gorick. [For details, see Monier et al., pp. 1441–1449.])