

PublisherInfo		
PublisherName	:	BioMed Central
PublisherLocation	:	London
PublisherImprintName	:	BioMed Central

Probing photosynthesis

ArticleInfo		
ArticleID	:	4643
ArticleDOI	:	10.1186/gb-spotlight-20021126-01
ArticleCitationID	:	spotlight-20021126-01
ArticleSequenceNumber	:	309
ArticleCategory	:	Research news
ArticleFirstPage	:	1
ArticleLastPage	:	2
ArticleHistory	:	RegistrationDate : 2002-11-26 OnlineDate : 2002-11-26
ArticleCopyright	:	BioMed Central Ltd2002
ArticleGrants	:	
ArticleContext	:	130593311

Jonathan B Weitzman

Email: jonathanweitzman@hotmail.com

Photosynthesis converts solar energy into forms that support life on earth. In the November 22 [Science](#) Raymond *et al.* present a comparative genomic approach to exploring the origins of photosynthesis (*Science* 2002, **298**:1616-1620). Analysis of five different bacterial phyla capable of photosynthesis (cynaobacteria, proteobacteria, green sulfur bacteria, green filamentous bacteria, and Gram-positive heliobacteria), led them to conclude that horizontal gene flow played a major role in the evolution of bacterial phototrophs. Extensive, whole-genome BLAST comparisons were used to select nearly 200 sets of putative orthologs for phylogenetic analysis. The genomes look like mosaics, with even highly conserved genes showing very different evolutionary histories. Raymond *et al.* developed a method to identify 'photosynthesis-specific' genes and provide evidence for the importance of [horizontal gene transfer](#) in the evolution of phototrophic prokaryotes.

References

1. *Science*, [<http://www.sciencemag.org>]
2. Evidence for massive gene exchange between archaeal and bacterial hyperthermophiles.