

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

Evolution caught in the act

ArticleInfo		
ArticleID	:	3950
ArticleDOI	:	10.1186/gb-spotlight-20010108-02
ArticleCitationID	:	spotlight-20010108-02
ArticleSequenceNumber	:	21
ArticleCategory	:	Research news
ArticleFirstPage	:	1
ArticleLastPage	:	2
ArticleHistory	:	RegistrationDate : 2001-01-08 OnlineDate : 2001-01-08
ArticleCopyright	:	BioMed Central Ltd2001
ArticleGrants	:	
ArticleContext	:	130592211

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Duplication, deletion and mutation have created a new gene, denoted *Sdic*, that encodes a fly sperm axoneme protein. *Sdic* is present in the fly *Drosophila melanogaster*, but not in its close relative *Drosophila simulans*. In the 5 January *Science*, Nurminsky *et al.* find evidence for a selective sweep around *Sdic* in *D. melanogaster* (*Science* 2001, **291**:128-130). *D. melanogaster* DNA has a significant depression in the level of synonymous polymorphism around *Sdic*, and an increase in the occurrence of rare alleles, including singletons. In contrast, *D. simulans* DNA has a smooth distribution of polymorphisms in the equivalent region. The pattern in *D. melanogaster* suggests that strong selection and evolution is ongoing, displacing linked polymorphisms in the process. A similar analysis may be useful for identifying the locations of other recently selected genes.

References

1. Selective sweep of a newly evolved sperm-specific gene in *Drosophila*.
2. *Science*, [<http://www.sciencemag.org/>]
3. The hitch-hiking effect of a favourable gene.