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Hedgehogs make both fish and fly eyes

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The fly eye is patterned by a morphogenetic wave driven by the Hedgehog signaling protein. In the 22 September *Science* Neumann and Nüsslein-Volhard report that neuronal differentiation in zebrafish eyes is dependent on a similar wave of hedgehog proteins (*Science* 2000, **289**:2137-2139). Previous work on Pax6 already indicated that the mechanism of eye induction is conserved across the animal kingdom. But variations in eye structure suggested that events downstream of eye induction must have evolved multiple times. The new results suggest that at least some of the downstream events may have evolved only once, before vertebrate and invertebrate lineages diverged.

References

1. Growth and differentiation in the Drosophila eye coordinated by hedgehog.
2. Science magazine, [<http://www.sciencemag.org/>]
3. Pax 6: mastering eye morphogenesis and eye evolution.