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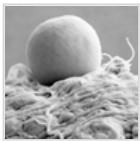
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Weekly Editors' Picks

How to Make Evolution-Proof Insecticides for Malaria Control



The evolution of resistance to insecticides by mosquitoes is a major threat to ongoing malaria control programs and plans for global eradication. Evolutionary theory suggests a practical solution.

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Fishing for Prion Protein Function



The prion protein is infamous for its role in devastating neurological diseases, but its normal, physiological function has remained mysterious. A new study uses the experimentally tractable zebrafish model to obtain fresh clues to this puzzle.

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Gene Sharing Yields an Enzyme with Two Binding Sites in One Subunit



The active site of an esterase enzyme has acquired a noncatalytic carbohydrate-binding function without compromising its catalytic activity, providing support for the "gene sharing" model of protein diversification.

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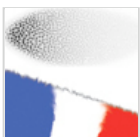
Bringing Molecular Tools into Environmental Resource Management: Untangling the Molecules to Policy Pathway



New advances in molecular biology can be invaluable tools in resource management, but they are best incorporated through a collaborative process with managers who understand the most pressing questions, practical limitations, and political constraints.

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Getting the Measure of Positional Information



Quantitative measurements and mathematical modeling finally allow us to probe the limits of precision in developmental systems and reveal the importance of feedback regulation for developmental robustness.

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From the Web



The Allen Institute for Brain Science

The Anatomic Gene

Expression Atlas (AGEA) is a data-driven, interactive three-dimensional atlas of the adult mouse brain based on Allen Brain Atlas (ABA) ISH gene expression images. AGEA characterizes the organization of the mouse brain as derived exclusively from gene expression data alone without reference to classical neuroanatomy. AGEA, which is based on approximately 4,000 coronal gene sets, allows anatomic specification and browsing based on 3-D spatial coordinates and expression

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IMPLEMENTATION

Truth or Consequences? Engaging the "Truth" of Evolution



Paleontologist Kevin Padian reviews "Why Evolution Is True," which presents the vast, varied, and unquestionably robust evidence that shows how evolution makes sense of biology.

[Read the article.](#) [Write a response.](#)

In the News

In an essay published earlier this month in *PLoS Biology*, authors [Andrew Read](#) and Matthew Thomas from Pennsylvania State University, and Penelope Lynch from the Open University, UK, argue that killing older mosquitoes is a more effective way of controlling malaria. When a mosquito picks up a malarial parasite, it takes 10-14 days for the parasite to migrate to the mosquito's salivary glands, where it can then be transmitted to humans through a bite. Current pesticides target both young and old mosquitoes, and when exposed to pesticides at an early age, young mosquitoes can develop an immunity to them and then become malaria-carriers later on in life. Scientists have spent millions of dollars developing pesticides to kill off mosquitoes with ever-changing resistances, but authors Read and colleagues suggest implementing an 'evolution-proof' pesticide which would target only older mosquitoes, who are the carriers of malaria. Their mathematical model provides evidence that this pesticide wouldn't allow young mosquitoes the chance to build up a tolerance, and would be a one-time investment that would be cheaper than developing several pesticides to keep up with changing resistances, and would ultimately control malaria more effectively. The paper received extensive coverage this week in the media:

- [The Independent](#)
- [The Economist](#)
- [New Scientist](#)
- [ScienceNow](#)
- [This Week in Evolution](#)

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PLoS ONE

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