Past Shows

March 6, 2010

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Dinosaur Snake Snacks


Reconstruction of the scene - sculpture - Tyler Keillor, University of Chicago. Photo Ximena Erickson/Bonnie Miljour

How do you eat a titanosaur - a huge sauropod that can grow to more than 25 meters and 100 tons? Well, one answer might be: one bite at a time. Or you might get them while they're still bite-sized. **Dr. Jason Head**, a professor of biology at the University of Toronto at Mississauga recently had a hand in the description of a remarkable fossil from 67 million years ago. The fossil preserved a moment in time, in which a 3.5 meter-long snake appears curled up around a broken egg, as it hunts a freshly hatched titanosaur infant about the size of a large housecat.

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Related Links

- Paper in *PLoS Boilogy*
- News from University of Toronto
- News from the University of Michigan
- Not Exactly Rocket Science Blog
- CBC News story
- Dr Jason Head previously on Quirks & Quarks

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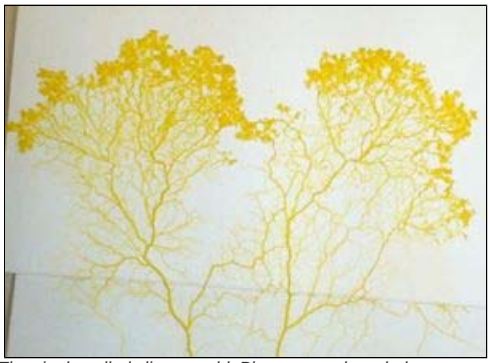
Slime Mould Dining Decisions



The single-celled slime mould, Physarum polycephalum, courtesy USYD

Physarum polycephalum, also known as the single celled slime mould has been found to be capable of risk management. **Dr. Tanya Latty**, a Canadian scientist at the School of Biological Sciences at the University of Sydney in Australia, has discovered that slime mould can make complex comparisons between two food options based on the quality of the food, and the risk of the eating environment. When given choices of food quality in various exposure to light, the slime mould was able to weight both the risks and benefits.

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Paper in *Behavioural Ecology*
News release from the University of Sydney
Dr. Latty's web page

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How the Polar Bear Got its Coat

courtesy US Fish and Wildlife Service

In 2004, a rare polar bear fossil was found in Norway. It was comprised of part of a jaw-bone and one tooth, but it has been a treasure-trove of information for **Dr. Charlotte Lindqvist**, an Assistant Professor in the Department of Biological Sciences at the University of Buffalo. DNA analysis of the fossil was compared to contemporary polar bears and brown bears from Alaska - the closest living relative of today's polar bear. The research showed that polar bears are relatively young in terms of evolution, and split off from brown bears only 150-thousand years ago. Genetically, the ancient bear is somewhere between the brown and modern polar bear. It adapted very quickly to its arctic environment, lived on a marine diet and probably resembled today's polar bear.

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Paper in *PNAS*

News release from University of Buffalo
Dr. Lindqvist's web page
CBC News story

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Run, Jumbo, Run

Elephant on force platform, courtesty Dr. Heglund

How does an animal, weighing up to 4500 kilograms, with legs like tree trunks, run? Well, the answer, according to **Dr. Norman Heglund**, a professor of physiology at the University of Louvain in Belgium, is that it doesn't - exactly. Elephants can move very quickly, especially considering their bulk, but to manage the movement of their huge mass, they've adopted a unique biomechanical strategy. Using high-speed film and specially robust force platforms, Dr. Heglund and his team analyzed elephants moving at different speeds and got insight into the remarkable efficiency and effectiveness of their locomotion.

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Paper in the *Journal of Experimental Biology*
News story from *JEB*
Dr. Heglund's Lab
News from *Science Magazine* (with video)

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The Tricks of Typhoid

Typhoid fever is a dangerous infection that still devastates many parts of the world. One of its most insidious features is that people can carry and spread the disease, while showing no signs of it themselves, for many years or decades. In the famous case of Typhoid Mary, Mary Malloy carried and shed typhoid bacteria until the day she died, while never suffering from the disease herself. **Dr. John Gunn**, vice director of Microbial Interface Biology at Ohio State University, and his group, have found out how typhoid manages this. The bacteria apparently form colonies on gall stones in the gall bladder, protecting themselves by generating a biofilm that resists attacks from the immune system and antibiotics.

Illustration that appeared in 1909 in The New York American

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Paper in *PNAS*
News from Ohio State University
Dr John Gunn

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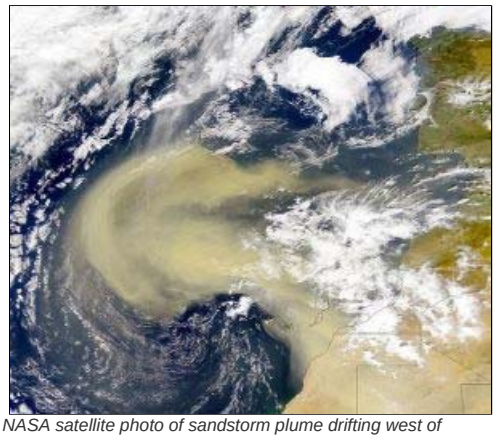
Dust in the Wind



NASA satellite photo of sandstorm plume drifting west of African coast

Microscopic particles of dust have been and continue to be an important indicator of how land, atmosphere and climate are connected. Most of the dust in the earth's atmosphere today originates from North Africa and the Middle East. Dust can have a warming or cooling effect, according to new research by **Dr. Karen Kohfeld**, a Canada Research Chair in Climate, Resources and Global Change, and the head of Simon Fraser University's Climate, Oceans and Paleo-Environmental Lab. The cooling effect of dust has contributed to the onset of an ice-age, and the warming effect has also been a factor in bringing an ice age to an end.

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News Release from SFU
Dust research project at SFU
Dr. Kohfeld's poster at the recent AAAS meeting
Dr. Kohfeld's web page

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