Eureka! Daily discoveries for the scientifically bent

by Scott LaFee

BRAIN SWEAT

WHAT IS IT? - This is a scanning electron micrograph of the interior of a cabbage butterfly's proboscis, a long, flexible feeding tube. CNS Photo. ELECTRON INK - You can find out the names of hundreds of geological features and where they're found in the solar system at http://planetarynames.wr.usgs.gov. CNS Photo. ANECDOTAL EVIDENCE - In 1931, the famously portly Winston Churchill was hit by a taxi on Fifth Avenue in New York and taken to a hospital. Churchill wasn't seriously hurt, but he wondered about the collision and asked friend Frederick Lindemann, a physicist, to study it. CNS Photo. TRUE FACTS - Most amphibians lose moisture through their thin skins and so prefer to remain wet. CNS Photo. A DAM SITE BETTER OFF - Canadian researchers surveying the abundance and diversity of amphibians in the boreal forests of Canada have discovered that frogs and toads seem to fare best in places also occupied by beavers. CNS Photo.Can you translate the following saying? "That prudent avis that matutinally deserts the coziness of its abode will ensnare a vermiculate creature."

'TRUE FACTS'

Most amphibians lose moisture through their thin skins and so prefer to remain wet. The South American monkey frog is different. From specialized glands, it secretes a waxy substance that it smears over its body with its legs. The frog can then sit motionless surrounded by dry air for hours, waiting for an unwary insect to pass by.

VERBATIM

"Listen. There's a hell of a good universe next door. Let's go."

- E.E. Cummings, American poet (1894-1962)

ANTHROPOLOGY 101

Among ancient Persians, butting the ends of eggs together was a popular pastime, the first egg to break being the loser. Competition could be fierce, and a particularly strong egg was considered a valuable asset.

ELECTRON INK

Planetary names http://planetarynames.wr.usgs.gov

Q: What do you call a chain of craters?

A: Catenae. You can find out the names of hundreds of geological features and where they're found in the solar system, plus definitions, on this Web site.

PRIME NUMBERS

50 - Percentage by which the volume of a 7-Eleven X-treme Gulp soft drink exceeds the volume of the human stomach

1.12 million - Estimated number of mosquito bites required to fully drain an adult human of blood

50,000 - Estimated number of thunderstorms that occur in a day worldwide

Sources: "Fat, Dumb and Ugly" by Peter Strupp (2004); "Just Curious About Science, Jeeves" by Erin Barrett & Jack Mingo (2003)

ANECDOTAL EVIDENCE

In 1931, the famously portly Winston Churchill was hit by a taxi on Fifth Avenue in New York and taken to a hospital. Churchill wasn't seriously hurt, but he wondered about the collision and sent a telegram to his friend Frederick Lindemann, a physicist. Churchill asked Lindemann to calculate the impact of a car weighing 2,400 pounds and traveling 30 to 35 miles per hour on a stationary body weighing 200 pounds. Churchill noted that the car's brakes had not been applied, that he had been carried a distance, and that the physics would presumably be "impressive."

Lindemann did the calculations and telegraphed back: "Collision equivalent falling 30 feet on pavement. Equal 6,000 foot pounds energy. Equivalent stopping 10-pound brick dropped 600 feet or two charges buckshot point blank range. Rate inversely proportional thickness cushion surrounding skeleton and give of frame. ... Congratulations on preparing suitable cushion and skill in bump."

A DAM SITE BETTER OFF

Canadian researchers surveying the abundance and diversity of amphibians in the boreal forests of Canada have discovered that frogs and toads seem to fare best - if they fare well at all - in places also occupied by beavers.

That's because the dam-building beavers create ponds and wetlands crucial to the amphibians, whose overall populations are declining due, in part, to disappearing habitat.

Researchers at the University of Alberta captured (temporarily) 5.7 times more wood frogs, 29 times more western toads and 24 times more boreal chorus frogs at 54 targeted beaver ponds than they did at nearby free-flowing streams.

Beaver ponds are particularly well-suited to amphibians. They create pools of warm, well-oxygenated water, which enhance the reproductive rates of amphibians, and they are less hospitable to predatory fish because they tend to be on small streams where winterkill conditions are common.

WHAT IS IT? ANSWER

A scanning electron micrograph of the interior of a cabbage butterfly's proboscis - a long, flexible feeding tube.

BRAIN SWEAT ANSWER

The early bird gets the worm.