Eureka! Daily discoveries for the scientifically bent

by Scott_LaFee

'TRUE FACTS'

Homer Hickam's book "Rocket Boys," a memoir about growing up as an aspiring rocket scientist, was made into a 1999 movie called "October Sky" starring Jake Gyllenhaal. The two titles are anagrams.

BRAIN SWEAT

PRIME NUMBERS - The Leaning Tower of Pisa weighs 14,200 tons â€¦ that's less than its 1908 weight of 14,486. CNS Photo. WHAT IS IT - This is a scanning electron micrograph of a straw itch mite, magnified 1,500 times. These mites are a major problem in stored grain. This particular specimen was found hitching a ride on the back of a caterpillar. CNS Photo. DEEP, DARK SECRET - Scientists report that the Rancho La Brea tar pits in Southern California are home to more than 200 previously unknown species of bacteria that have adapted to residing in and consuming oil. CNS Photo. When many members of a species gather together, the collective noun is often creatively odd: a murder of crows, for example. Name these groups of animals: barracudas, emus, hippopotamuses, rattlesnakes and wombats.

ANECDOTAL EVIDENCE

In a May 17 item, we reported that Charles Darwin predicted the existence of Xanthopan morgani praedicta - a moth with an astounding 12-inch proboscis - during his voyages aboard the HMS Beagle. Darwin was eventually proven to be right, but we got it wrong.

In fact, Darwin made his astute prediction in an 1862 book with a title almost as long as his moth's proboscis: "The Various Contrivances by Which British and Foreign Orchids Are Fertilized by Insects, and on the Good Effects of Intercrossing."

The Beagle voyages occurred from 1831 to 1836. These were, of course, illuminating years for Darwin, intellectual grist for his later theory of natural selection and evolution. But they were not comfortable times. Darwin suffered mightily from seasickness. Much of his subsequent life was plagued by assorted illnesses, which he blamed in part on the Beagle trip. After 1836, Darwin never again traveled far from his English home.

BRAIN SWEAT ANSWER

A battery of barracudas; a mob of emus; a bloat of hippopotamuses; a rhumba of rattlesnakes; a wisdom of wombats.

PRIME NUMBERS

10 - Number, on average, of tennis ball-sized meteorites that hit the Earth's surface each week.

6 - Number of revolutions a Frisbee will spin per second if thrown at its optimum effectiveness.

14,200 - Weight, in tons, of the Leaning Tower of Pisa (down from its 1908 weight of 14,486).

Sources: "The Lore of Averages" by Karen Farrington (2004); "The Ultimate Book of Useless Information"

by Noel Botham (2007).

THIS WEEK IN SCIENCE

This week in 1785, Benjamin Franklin documented in a letter to a friend his invention of bifocal glasses: "I have only to move my eyes up and down as I want to see far or near."

JUST ASKING

Have you ever imagined a world with no hypothetical situations?

DEEP, DARK SECRET

The Rancho La Brea tar pits in Los Angeles - pools of heavy petroleum and natural asphalt that formed during the last ice age 28,000 years ago - are famous for being a repository of remains from now-extinct animals trapped in their oily embrace.

But, it turns out, the pools are filled with living creatures, too. Environmental scientists from UC Riverside report that the tar pits are home to more than 200 previously unknown species of bacteria that have adapted to residing in and consuming oil.

"The living bacteria contained in the asphalt are most likely the progeny of soil microorganisms that were trapped (when the pits were formed)," said David E. Crowley.

Using new DNA-based technologies, Crowley and colleagues were able to identify the bacteria, plus three new classes of enzymes capable of breaking down petroleum products. The discoveries may have future applications in cleaning oil spills, new medicines, biofuels and improved oil recovery.

Though the findings were something of a surprise, scientists note that the microbes have long hinted they were there, burping bubbles of methane that continuously pop at the pools' surface.

"In the absence of oxygen, methane is produced by bacteria that use carbon dioxide for respiration instead of oxygen," Crowley explained.

THERE'S A WORD FOR THAT

Lemniscate - A reference to several different kinds of figure-eight symbols, the most recognizable perhaps being the mathematical symbol for infinity.

WHAT IS IT? ANSWER

A scanning electron micrograph of a straw itch mite, magnified 1,500 times. These mites are a major problem in stored grain. This particular specimen was found hitching a ride on the back of a caterpillar.