# Eureka! Daily discoveries for the scientifically bent

*by Scott_LaFee*

JUST ASKING

How much deeper would the oceans be without sponges?

(Pictured are Purple Tube Sponges)

VERBATIM

PRIME NUMBERS - Ninety-five percent of the world's leatherback turtles have disappeared in the Pacific Ocean in just two decades. CNS Photo.

WHAT IS IT? - This is a sketch of skull of a babirusa, an endangered tropical forest pig easily identified by its distinctive tusks. CNS Photo.

PURPLE TUBE SPONGES - How much deeper would the oceans be without sponges? CNS Photo.

TRUE FACTS - The discovery that species like the fire ant use their legs as hands links them to a diverse group of species that includes crabs, koalas and primates. CNS Photo.

BURNED AS A FAKE - In 1867, a glass jar containing what appeared to be a charred human rib was found in the attic of a Paris pharmacy. The jar's label read: 'Remains found under the stake of Joan of Arc, virgin of Orleans.' CNS Photo.

RELATED - Molecular biologists have concluded that termites are actually genetic cousins to cockroaches. CNS Photo.

We can lick gravity, but sometimes the paperwork is overwhelming.

- Rocket scientist Wernher von Braun (1912-1977)

BRAIN SWEAT

Can you translate these phrases?

1. MEREPEAT

2. eeeeeeeeeec

3. no ways it ways

PRIME NUMBERS

97 - Estimated percentage of the Earth's mantle, or rocky outer crust, that has melted at some point in the past

385 million - Estimated age of the oldest known tree fossil - the stump of Eospermatopteris, found in upstate New York

95 - Percentage of leatherback turtles that have disappeared in the Pacific Ocean in just two decades

Sources: Jinshui Huang and Geoffrey Davies, Australian National University; Nature

Brain sweat answer

1. REPEAT after ME

2. Tennessee

3. No two ways about it

BURNED AS A FAKE

In 1867, a glass jar containing what appeared to be a charred human rib, some burnt wood, a fragment of linen and the femur of a cat was found in the attic of a Paris pharmacy. The jar's label read: "Remains found under the stake of Joan of Arc, virgin of Orleans."

Joan, of course, was the famous French girl-general who was burned at the stake in 1431, allegedly for heresy. After inspecting the jar's contents, the Catholic church declared them genuine - it was a medieval custom to throw black cats onto the pyre of burning witches - and installed the items in a church-owned museum in Chinon, France.

Fast-forward a century or so to last year, when a French forensic scientist named Philippe Charlier obtained permission to study the jar's contents. Recently he announced his findings: The relics were quite old - too old to belong to Joan of Arc.

Rather, Charlier said the human remains were from an Egyptian mummy, estimated to be 2,300 to 2,600 years old. The blackened appearance, which suggested burning, was the result of the embalming process. A cat had been embalmed, too. And the wood and linen were also remnants of the mummification process.

So what were mummy remains doing in a 19th-century French pharmacy? Charlier says mummies were frequently used in the Middle Ages for therapeutic reasons. The jar may have just been old stock.

He noted that the jar's purported discovery in 1867 coincided with a period when the French were trying to elevate the story of Joan of Arc to national mythology. The forgery may have been part of that effort.

'TRUE FACTS'

It's not as dramatic as, say, finding opposable thumbs, but University of South Florida biologists report that at least some species of ant use their forelegs to manipulate objects, such as eggs and larvae.

Conventional wisdom had assumed that ants use their legs for walking and their jaws for carrying stuff or nest-building. The discovery that species like the fire ant use their legs as hands links them to a diverse group of species that includes crabs, koalas and primates.

IF I WASN'T ALREADY A DISGUSTING BUG, I'D BE OFFENDED

Molecular biologists have concluded that termites are actually genetic cousins to cockroaches, and don't deserve their own order.

ANTHROPOLOGY 101

In England, it was once believed that a single white hair pulled from an otherwise black cat was a good-luck charm. To be effective, however, the hair had to be extracted without the puller being scratched or bitten.

WHAT IS IT? ANSWER

This is a sketch of a babirusa skull, made from the description of British explorer and naturalist Alfred Russel Wallace in his 1869 report on the Malay archipelago (Indonesia).

Babirusa are endangered tropical forest pigs easily identified by their distinctive tusks. These upper and lower canines are greatly enlarged and curve up and back toward the head. The upper canines in adult males are so large, in fact, that they extend through the fleshy snout.