Eureka! Daily discoveries for the scientifically bent

by Scott_LaFee

TRUE FACTS

Gender in reptiles is determined two ways: either by sex chromosomes (as with mammals) or by temperature during embryonic development. Researchers have discovered that in at least one lizard species - the Australian central bearded dragon - both modes are in play, with high temperatures trumping genes to produce females.

VERBATIM

ANECDOTAL EVIDENCE - The esteemed English geneticist J.B.S. Haldane was not above using himself as a test subject. He was also no stranger to hospital emergency rooms. In various experiments, he drank a bottle of hydrochloric acid to see what would happen and swallowed a near-fatal dose of calcium. CNS Photo.

WHAT IS IT? - This is a picture of a sea spider. Very little is known about these marine arthropods. They are found in both shallow and deep seas in many of the world's oceans. CNS Photo.

PRIME NUMBERS - A buyer paid $421,200 at a recent auction for the skeleton of a mammoth nicknamed 'The President.' CNS Photo.

TRUE FACTS - Gender in reptiles is determined two ways: either by sex chromosomes (as with mammals) or by temperature during embryonic development. CNS Photo.

NASAL MUCUS - Electronic noses are widely used in industry. Food manufacturers, for example, use them as quality-control monitors. CNS Photo.

A cynic might wonder whether, since all living things eat or are eaten, this at least suggests they have something in common.

- Francis Crick (1916-2004)

BRAIN SWEAT

These words follow a logical progression: toothsome, forecast, sixteen, atonal. Which of these four words could be next: summer, boat, tenderness, typical?

ANECDOTAL EVIDENCE

The esteemed English geneticist J.B.S. Haldane (1892-1964) was not above using himself as a test subject. He was also no stranger to hospital emergency rooms. In various experiments, he drank a bottle of hydrochloric acid to see what would happen, swallowed a near-fatal dose of calcium chloride and, to test his lung capacity, once consumed 1 1/2 ounces of bicarbonate of soda, then ran up and down a 150-foot flight of stairs 20 times, during which he fell and crushed several vertebrae.

BRAIN SWEAT ANSWER

Tenderness. The words sound as if they begin with the numbers 2, 4, 6, 8 and 10.

ANTHROPOLOGY 101

In the Philippines, anyone getting a bump on the head would immediately have his chin slapped upward. It was thought that this prompt action knocked the brain back in place.

PRIME NUMBERS

421,200 - Amount paid, in dollars, at a recent auction for the skeleton of a mammoth nicknamed "The President"

150 - Estimated number of "dead zones" in the world's oceans where bacteria have removed so much oxygen from the water that other marine life cannot survive

20 - Estimated height, in feet, of a newly identified fungus (based on fossil evidence) that grew on Earth 420 million to 350 million years ago

Sources: Nature; The New Atlantis; University of Chicago; National Natural History Museum

THAT'S NASAL MUCUS? NO, IT'S NOT

Electronic noses are widely used in industry. Food manufacturers, for example, use them as quality-control monitors. But these machines aren't as good as the real thing. A human nose contains more than 100 million specialized receptors that interact to differentiate and identify aromas. Electronic noses may have as few as 50 sensors, giving them a much narrower "sense of smell."

English scientists, however, say they have significantly enhanced the performance of electronic noses by making them more like people's. They have added artificial snot.

More precisely, researchers at the University of Warwick and Leicester University coated electronic sensors

with a mixture of viscous polymers. In humans, a thin layer of nasal mucus helps us identify odors by dissolving incoming scents, separating odor molecules so that they hit nose receptors at different speeds and times.

The artificial mucus does much the same thing in electronic noses, making it easier for the machines to differentiate previously troublesome scents like milk and banana.

JUST ASKING

Why is it so hard to remember how to spell MNEMONIC?

WHAT IS IT? ANSWER

A sea spider. Very little is known about these marine arthropods. They are found in both shallow and deep seas in many of the world's oceans. There are approximately 1,000 known species, ranging in size from one-tenth of a millimeter across to more than 35 inches for some deep-water species. Most have eight legs, but some species sport 10 or 12. They feed on soft-bodied invertebrates such as sea anenomes.