# Eureka! Daily discoveries for the scientifically bent

*by Scott_LaFee*

'TRUE FACTS'

Medicinal leeches have been a useful therapeutic tool for centuries, used to clean and speed the healing of wounds and for biomedical research. Credit has always gone to a particular species, the aptly named Hirudo medicinalis.

WHAT IS IT? - A scanning electron microscope image of the fourth lumbar vertebra of an 89-year-old woman with severe osteoporosis. CNS Photo.

COLOR MY WORLD - If human space travelers ever do find life on another planet, and it's a plant, it may not necessarily be a green one. CNS Photo.

PRIME NUMBERS - It is estimated that the longest-living crow is 118 years old. CNS Photo.

'TRUE FACTS' - Medicinal leeches have been used for years to clean and speed the healing of wounds. CNS Photo.

It turns out, though, that there are actually three distinct species of medicinal leeches. They may all look pretty much alike, but their biochemistry is different. Researchers say this means three times more opportunity to explore and exploit their particular blood-sucking charms.

BRAIN SWEAT

What single letter can be inserted into each of these words to form three new words?

RAGE SACK AREA

ANTHROPOLOGY 101

In northern Europe, it was once believed that a woman wishing to know the identity of her future husband should eat a salted herring before going to bed. Her future husband would then appear in a dream, bringing her a glass of water.

VERBATIM

The essence of life is statistical improbability on a colossal scale.

- Richard Dawkins, English biologist

POETRY FOR SCIENTISTS

A mathematician named Joe, said "Really it just can't be so; my wife, for her sins, is going to have twins, and 2 into 1 doesn't go!"

COLOR MY WORLD

Forget little green men. If human space travelers ever do find life on another planet, it's just as likely to be a plant - though not necessarily a green one.

In a couple of papers published in the journal Astrobiology, NASA researchers speculate that the dominant color of plant life on an extrasolar planet will probably be dictated by the nature of the light hitting it.

On Earth, which the scientists used as their model, that means green. The sun produces a specific range of light colors in varying quantities. The Earth's atmosphere filters out some of these colors, absorbing a lot of the blue and green light, leaving primarily the red spectrum for use by photosynthetic land plants.

These plants generally appear green because they've evolved to absorb that red light and reflect most of the remaining visible colors. Of course, the whole process is more complicated. Marine plants and other organisms have adapted to use whatever part of the light spectrum is most likely to reach them. For example, there's a kind of bacteria that resides in murky waters where little visible light penetrates. The bacterium uses infrared radiation for photosynthesis.

Something similar probably happens on extrasolar planets, writes Nancy Kiang at NASA's Goddard Institute for Space Studies. If they exist at all, extraterrestrial plants will likely be adapted to the particular qualities of the light on their planet. They might be green, but they could also be yellow or red.

Kiang said keeping this in mind should help astronomers trying to determine which planets are more likely to harbor plant life, based upon the color of their reflected light.

THIS WEEK IN SCIENCE

This week in 1882, Charles Darwin died at age 73. The English naturalist is best remembered, of course, for his theory of evolution, now sometimes called Darwinism. Less well known is the fact that Darwin was an expert on earthworms, a subject of nearly 40 years of study.

JUST ASKING

What was the best thing before sliced bread?

BRAIN SWEAT ANSWER

The letter N: RANGE, SNACK, ARENA.

PRIME NUMBERS

118: Estimated age, in years, of the longest-living crow.

30: Seconds it takes for the intestinal muscle of a turtle to contract.

457: Feet the tropical liana plant catapults its seeds.

Source: "Amazing Numbers in Biology" by Rainer Flint (2006).

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