

Science
is
Awesome !



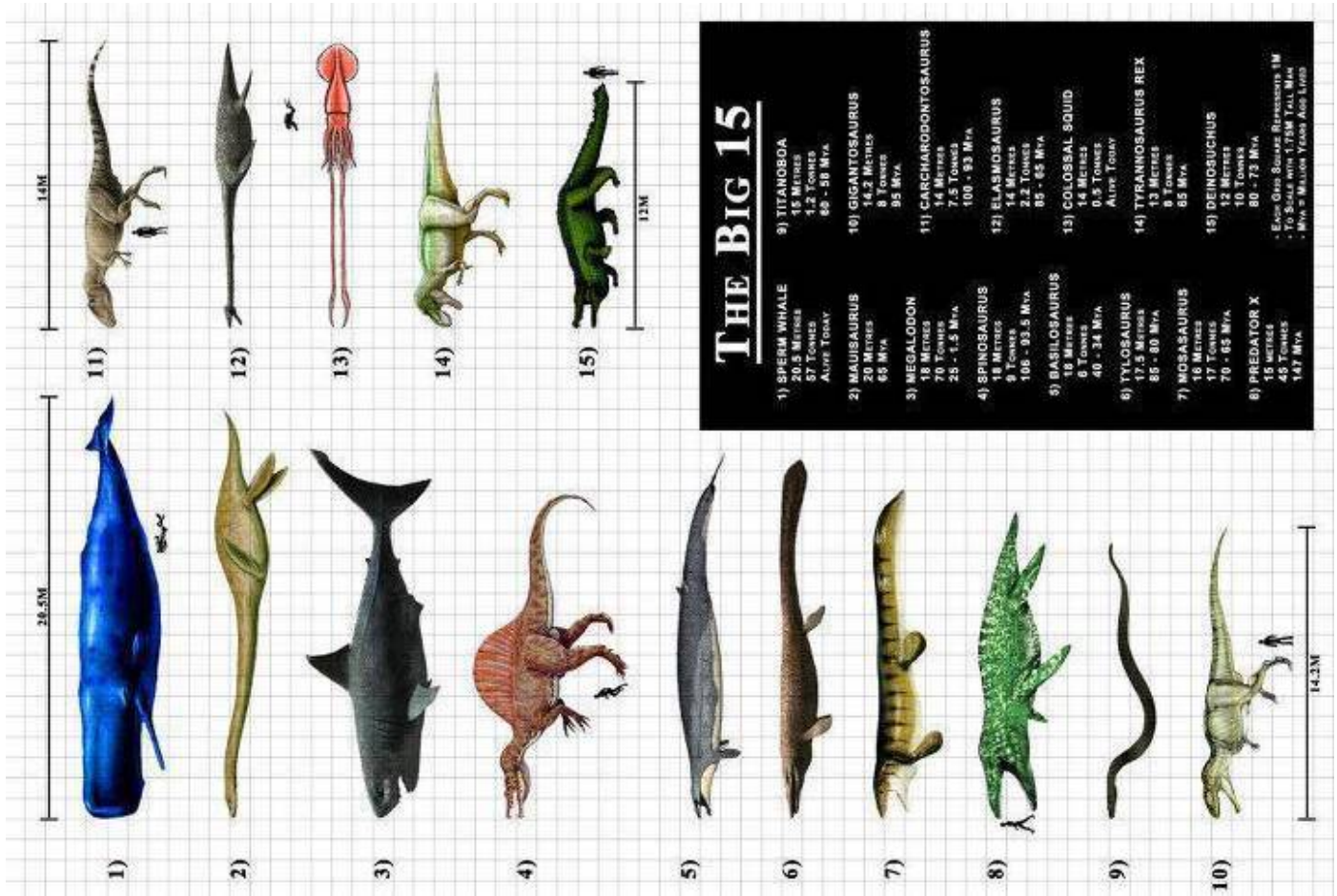
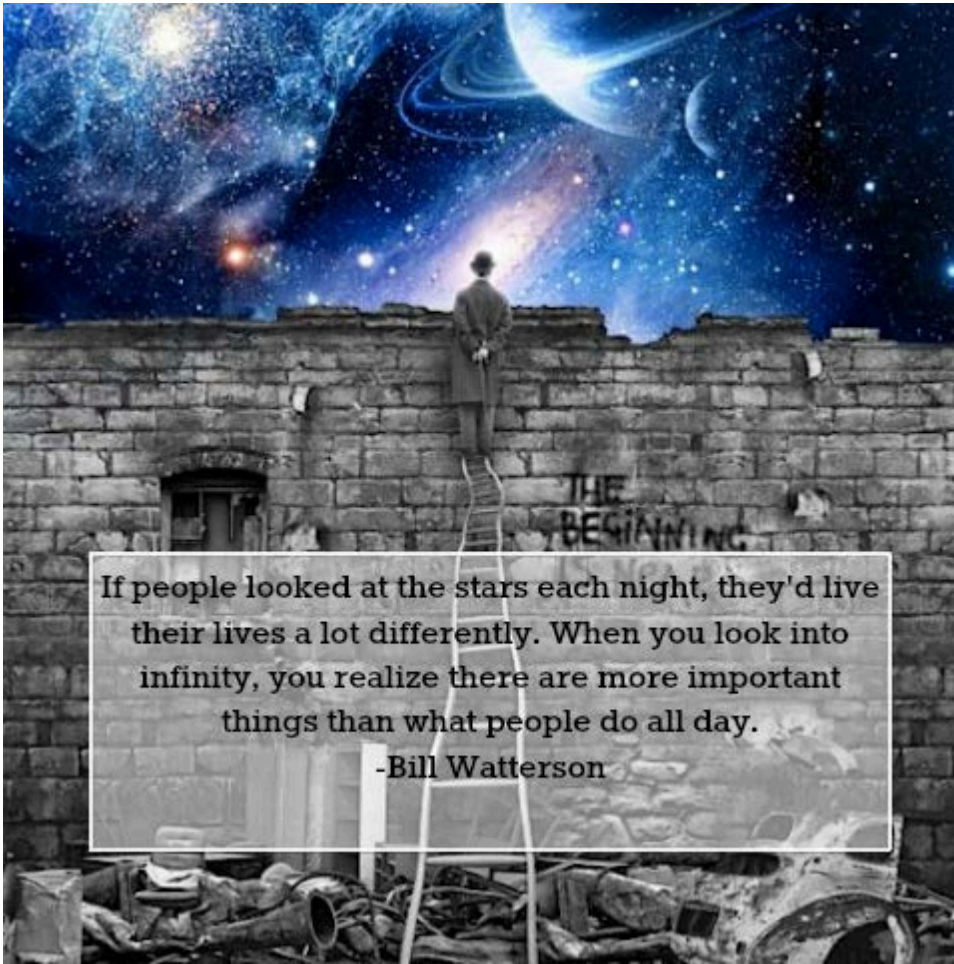
UNICORNS ARE REAL

They're just fat, grey and we call them Rhinos.



MANDELBROT FRACTALS

For when dividing by zero just isn't trippy enough.



LIGHT TRAVELS AROUND THE EARTH IN 10
MILLISECONDS.

FROM THE EARTH TO THE MOON IN 1.3
SECONDS.

FROM EARTH TO THE SUN IN 8 MINUTES.
FROM THE SUN TO PLUTO IN 4 HOURS.
TO THE NEAREST STAR IN 1461 DAYS
TO THE EDGE OF OUR GALAXY IN
972 THOUSAND MONTHS.

TO THE EDGE OF THE
OBSERVABLE UNIVERSE IN
47 BILLION YEARS.

IT'S HARD TO APPRECIATE HOW TINY YOU REALLY ARE.

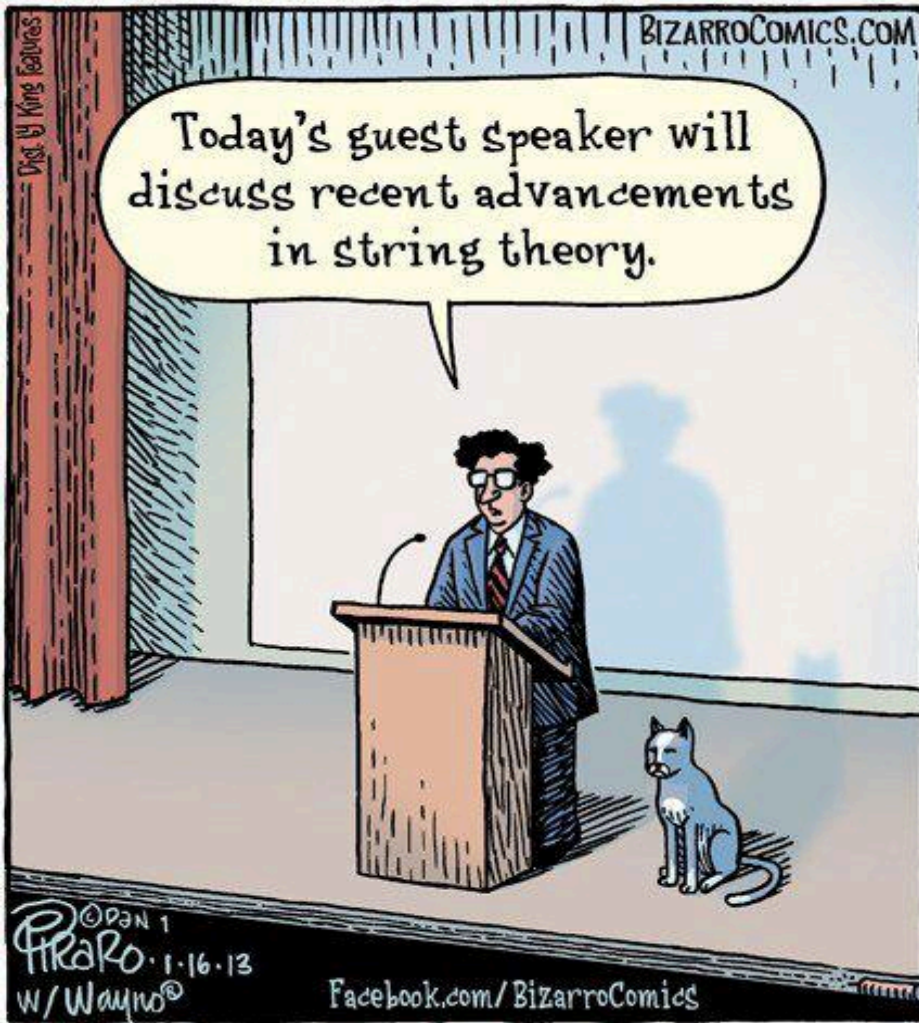


BREAKING NEWS

LIQUID WATER HAS BEEN SPOTTED ON MARS

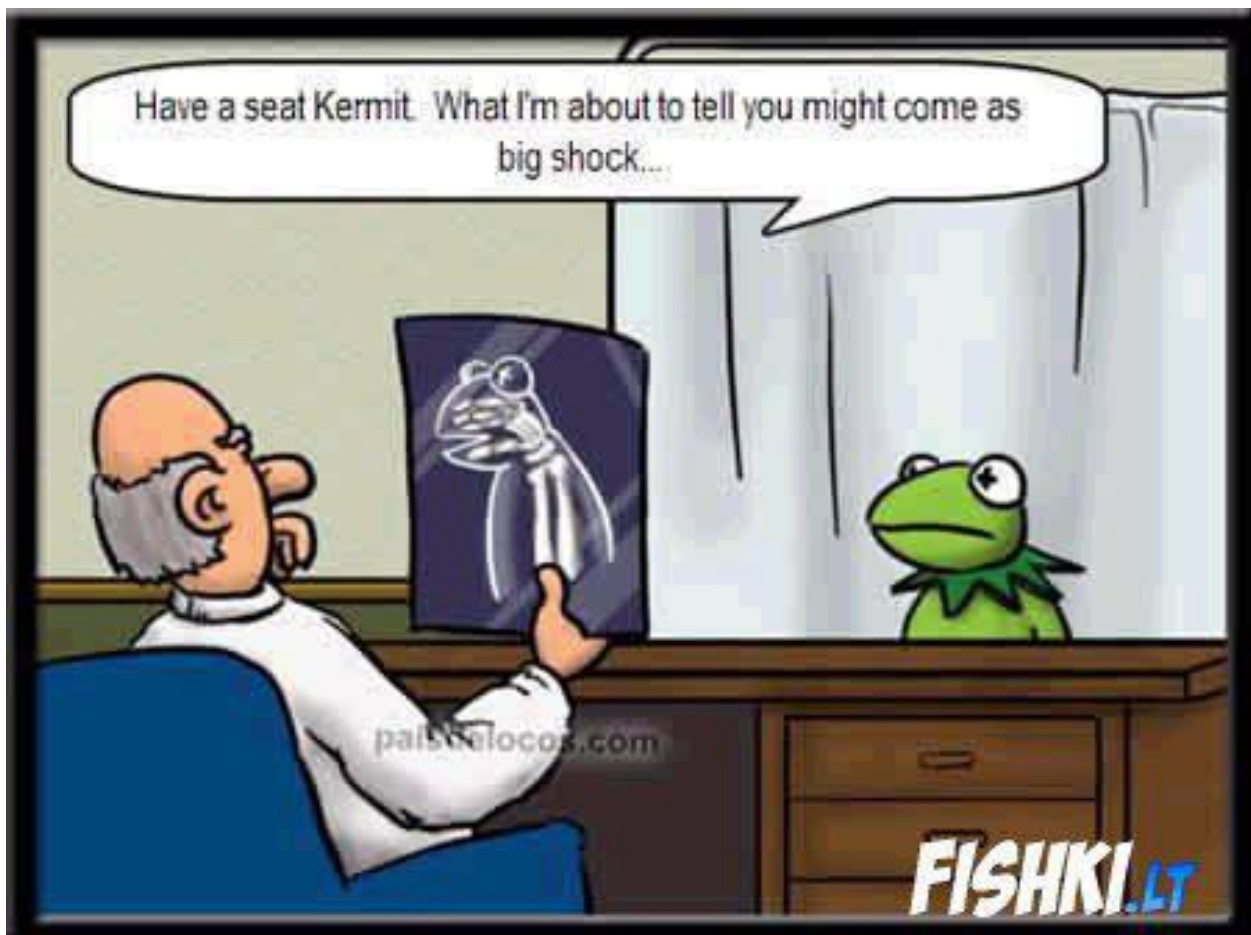
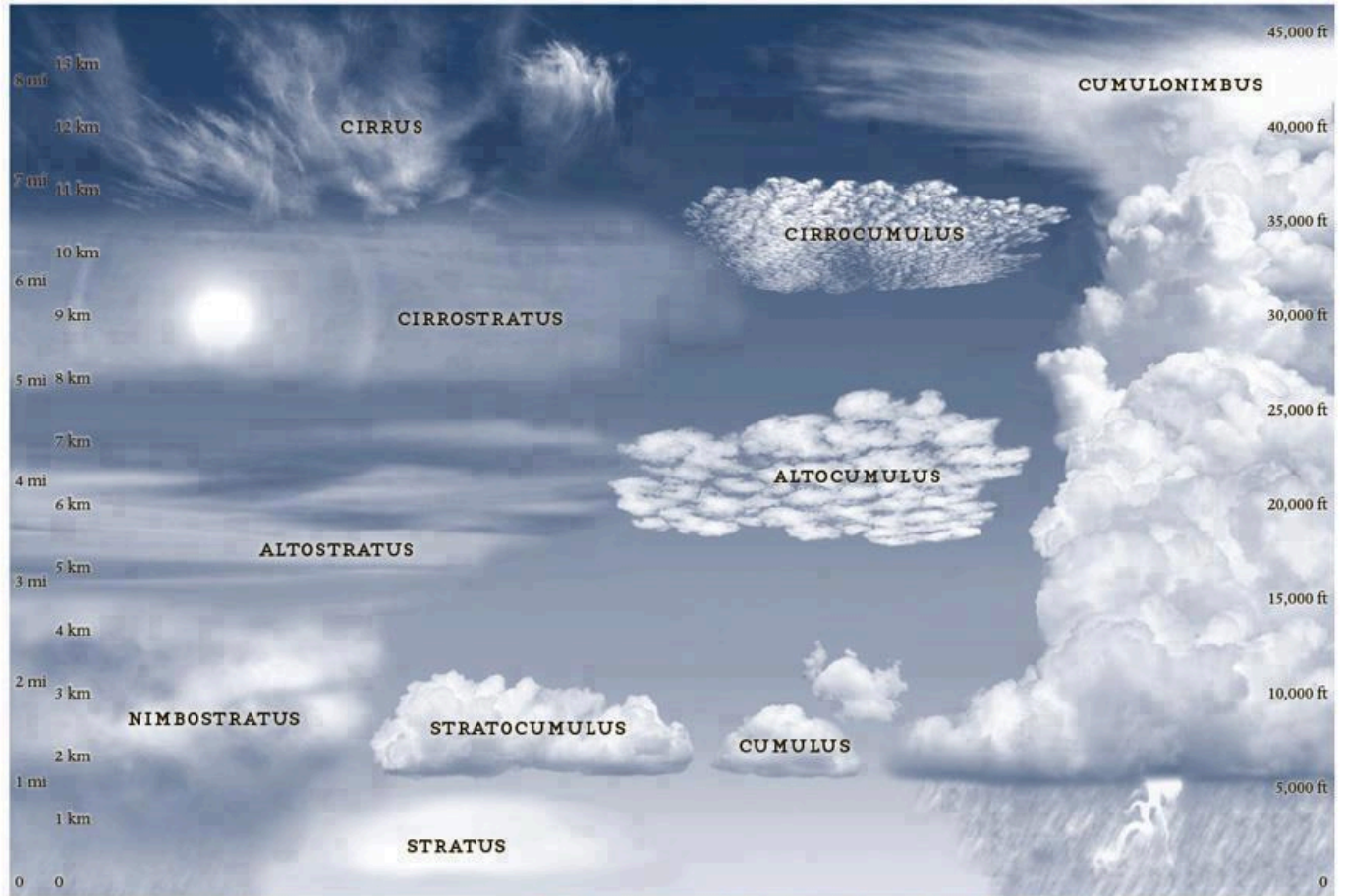
The human brain processes
400 billion points of data
every second.

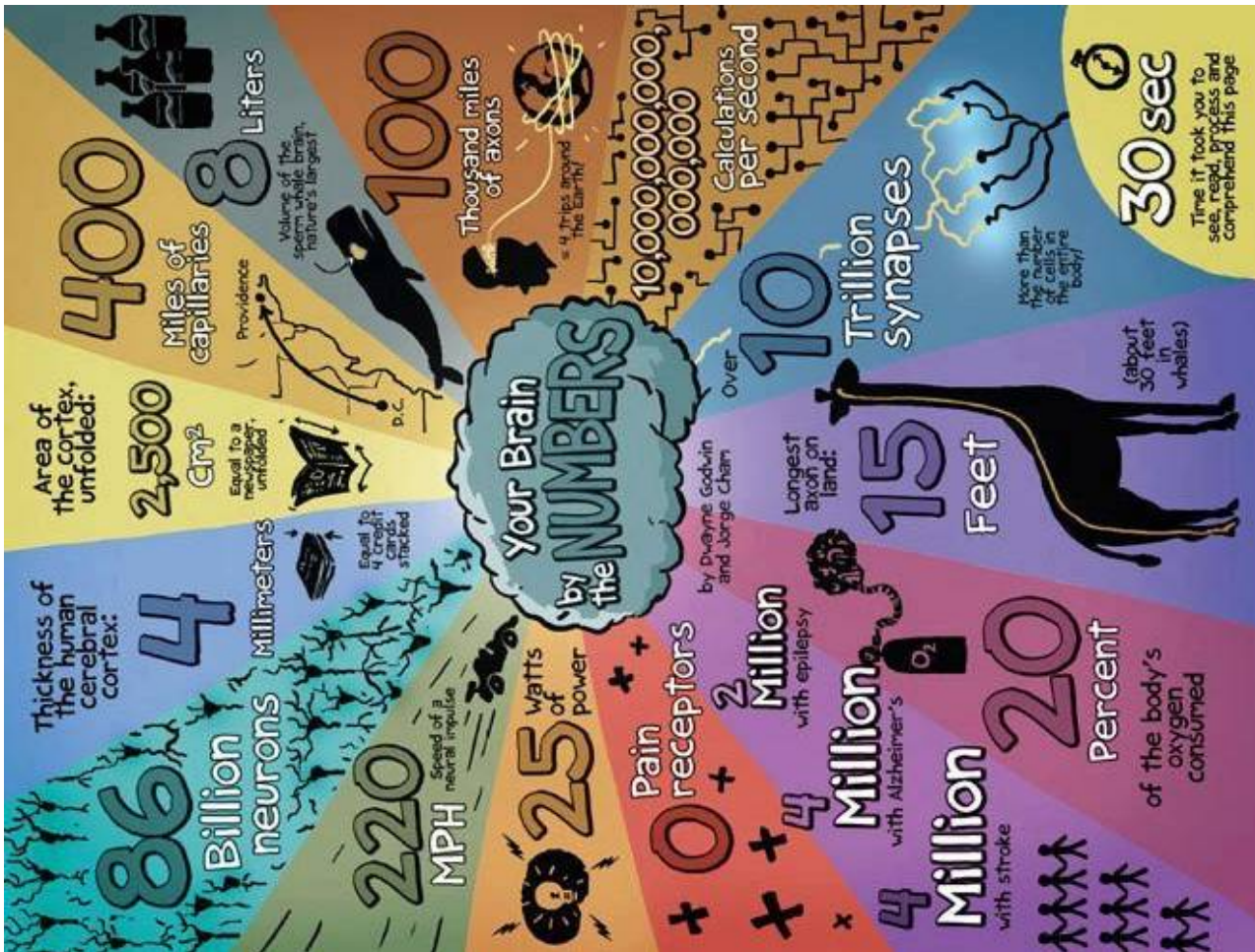




Tardigrades are the only animals known to be able to survive in the vacuum of space.

THE TEN MAIN CLOUD TYPES





“We admit that we are like apes, but we seldom realize that we are apes.” - Richard Dawkins

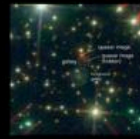
THIS MONTH IN ASTRONOMY & ASTROPHYSICS JANUARY 2013



DISCOVERY OF THE LARGEST
STRUCTURE IN THE UNIVERSE



LARGEST SPIRAL GALAXY
DISCOVERED



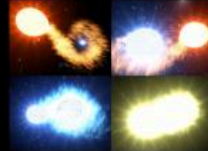
ASTRONOMERS TAKE THE
UNIVERSE'S TEMPERATURE



STUDY SHOWS BLACK HOLES GROW
FASTER THAN EXPECTED



NEW EVIDENCE FOR AURORAS
OUTSIDE THE SOLAR SYSTEM



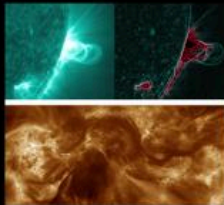
QUADRUPLE STAR SYSTEM
DISCOVERED



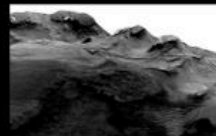
SCIENTISTS CREATE TRACTOR BEAM
THAT WORKS ON SMALL SCALES



MICROORGANISMS FOUND IN SALT DEPOSITS
SIMILAR TO MARS' AND EUROPA'S



NEW IMAGES OF THE SUN REVEAL
CORONA MYSTERIES



NEW EVIDENCE FOR
MARTIAN WATER



MARS OPPORTUNITY ROVER
CELEBRATES 9TH ANNIVERSARY

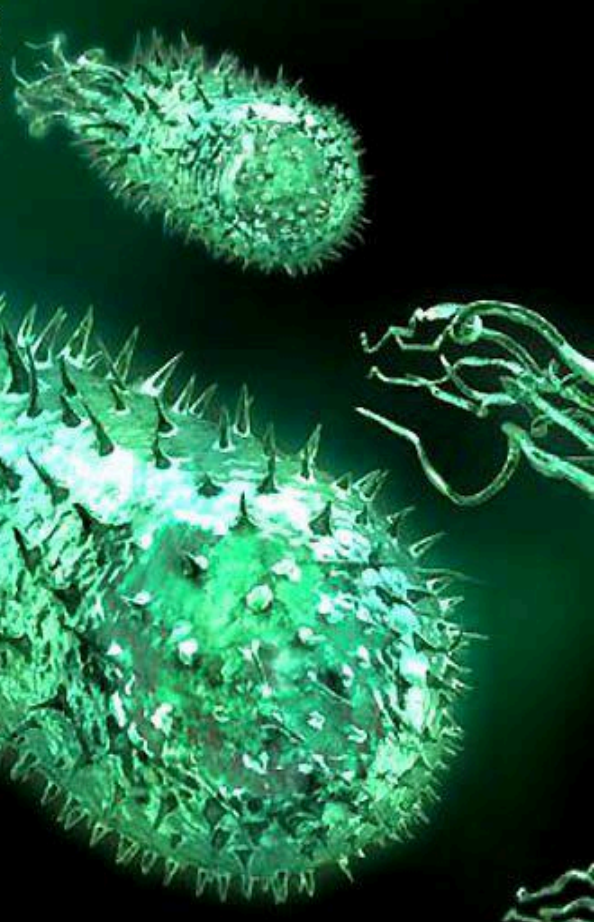


ATLAS V ROCKET LAUNCHES
INTO ORBIT

RLO - FB.COM/ASTRONOMYANDASTROPHYSICS

There are more bacteria that live and work in one linear centimeter of your lower colon than all the humans who have ever lived on Earth.

Free Your Mind & Think



10th-17th Feb 2013

This week in science



Astronomers observed the early stages of a black hole forming.



Researchers cured type 1 diabetes in dogs using gene therapy.



Asteroid DA14 passed within 17,100 miles of the Earth.



A sea-slug was found to be able to detach its penis, regrow another and use it to mate.



Engineers developed genetic circuits in bacteria that can perform logic functions and remember the results.



New research shows that many Caribbean coral reefs have stopped growing or started to erode.



Some animals have the ability to freeze solid during winter, thaw in the spring and remain perfectly healthy.

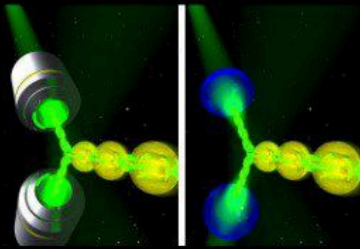


Geckos do not have eyelids, so they lick their eyes to clean them.



This week in science

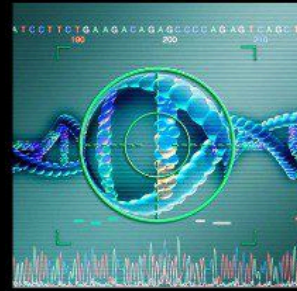
21st-27th Jan 2013



Scientists designed a minute but functional tractor beam.



Scientists measured the temperature of the universe and found that it is cooling in the exact way predicted by the big bang theory.



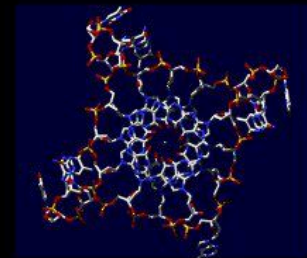
Researchers encoded 5.2 million bits of digital data in strings of DNA.



Dung beetles were found to navigate using the light of the Milky Way.



A new species of proto-bird was described, forcing scientists to re-examine the evolution of birds.



Quadruple helix DNA was found in human cells for the first time.

Please **SHARE** these amazing discoveries with everyone you know

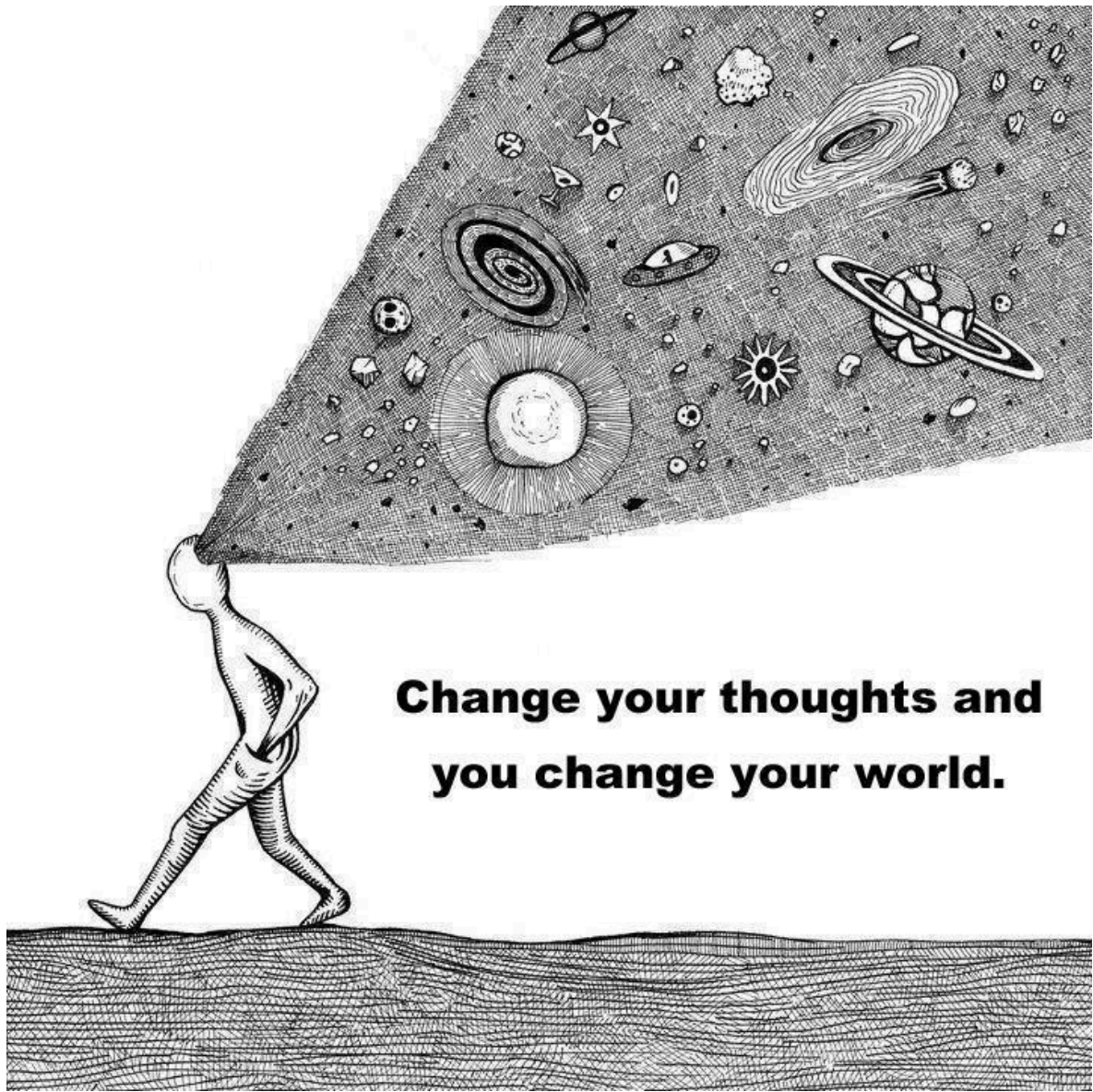




The tip of the chameleon's tongue can accelerate up to 50 g - that's five times faster than a fighter jet.

**I found
this
humerus**



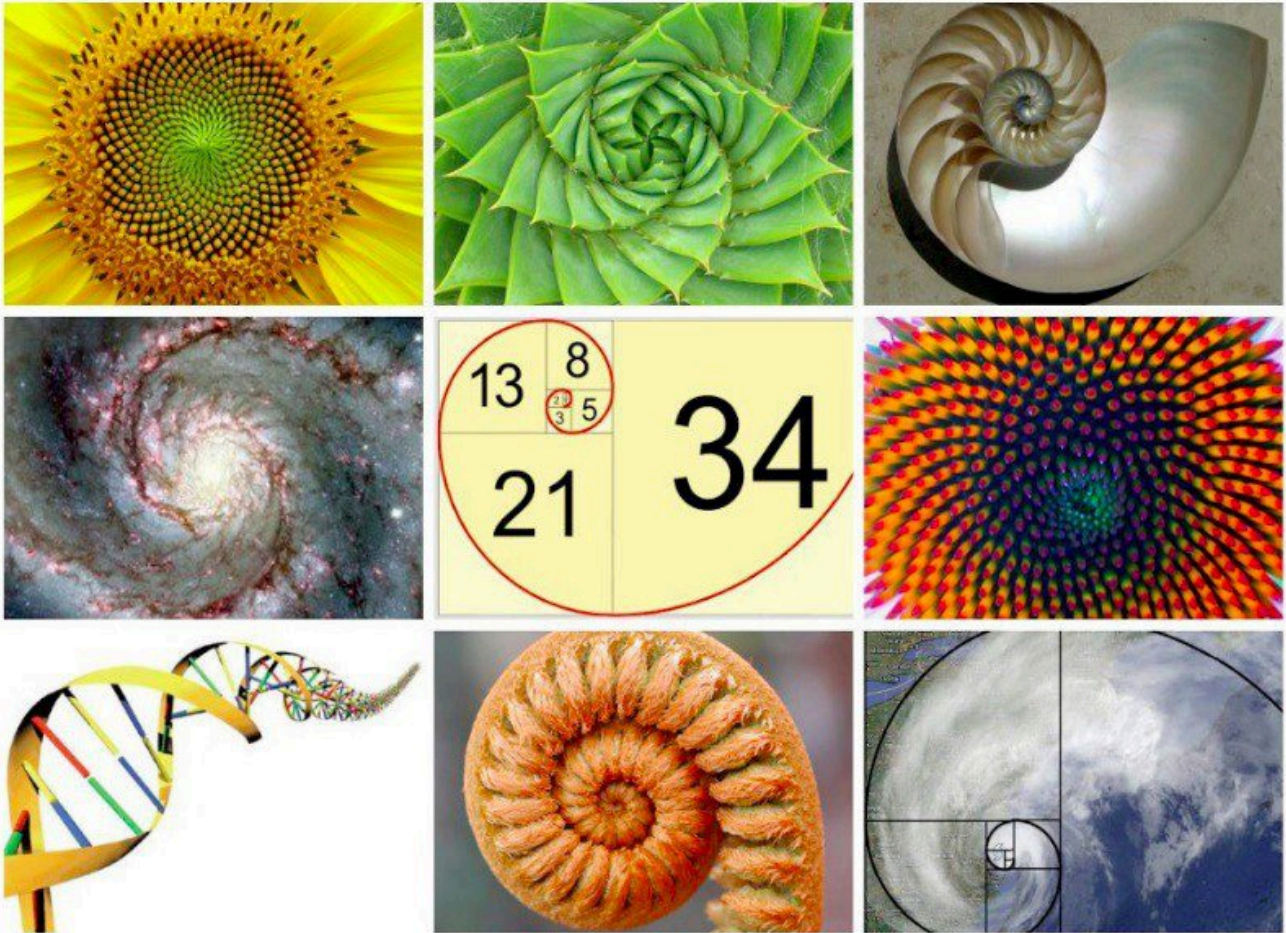


**Change your thoughts and
you change your world.**



"...HOLD STILL, LARRY, IT'S TAKING ANOTHER PICTURE..."

By Walt Handelman, The Times-Picayune, New Orleans, La., Tribune Media Services



“Where there is matter, there is geometry.”
 ~ Johannes Kepler



© David Spears / Hotspot Media



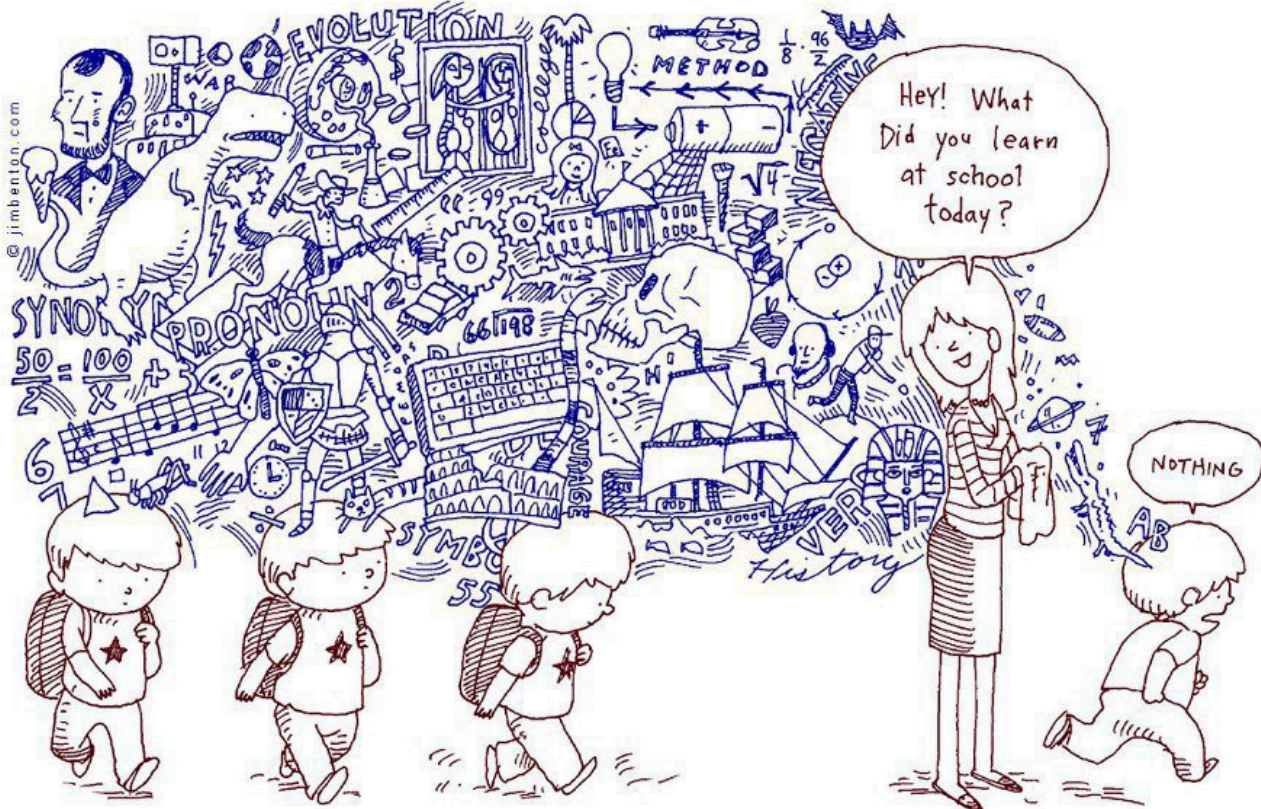
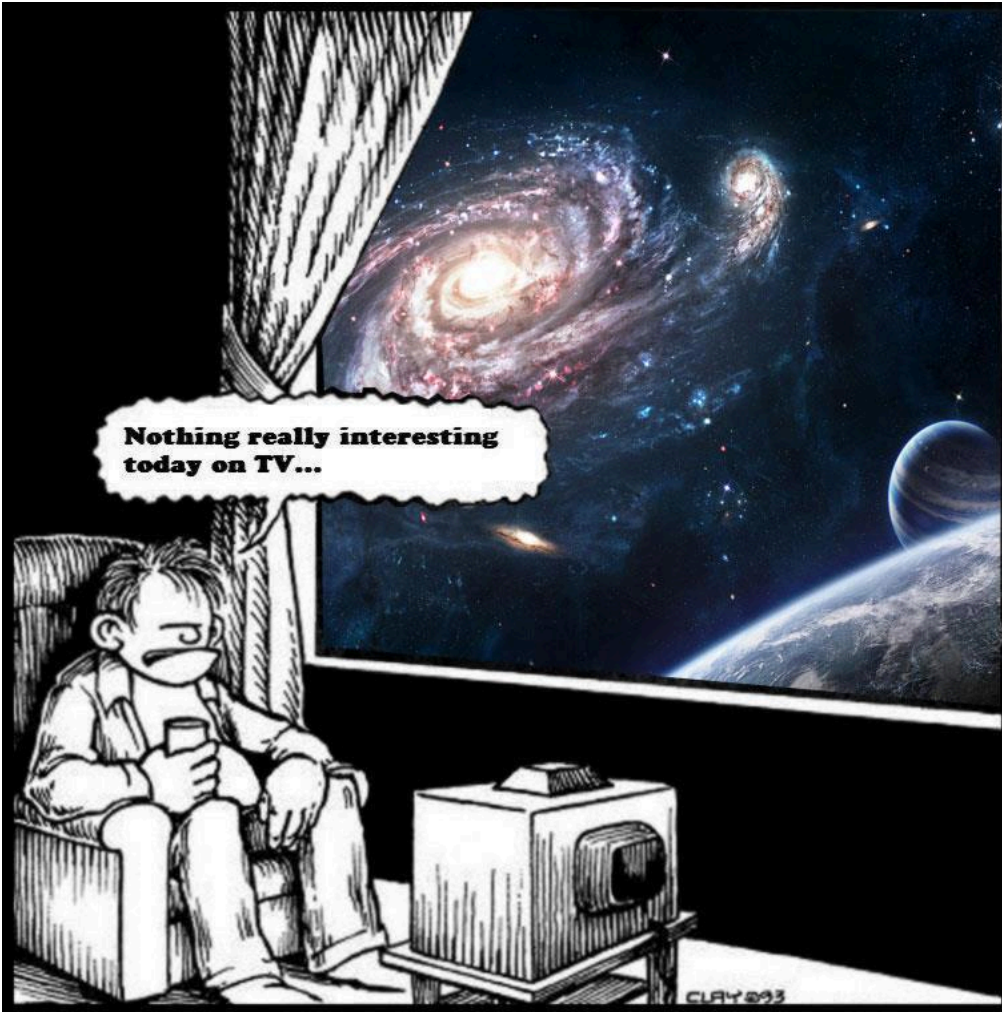
Science Is Awesome

A new study on how tadpoles regrow their tails could have surprising implications for human healing and regenerative medicine.

ScienceDaily article: <http://bit.ly/VWzTJ>

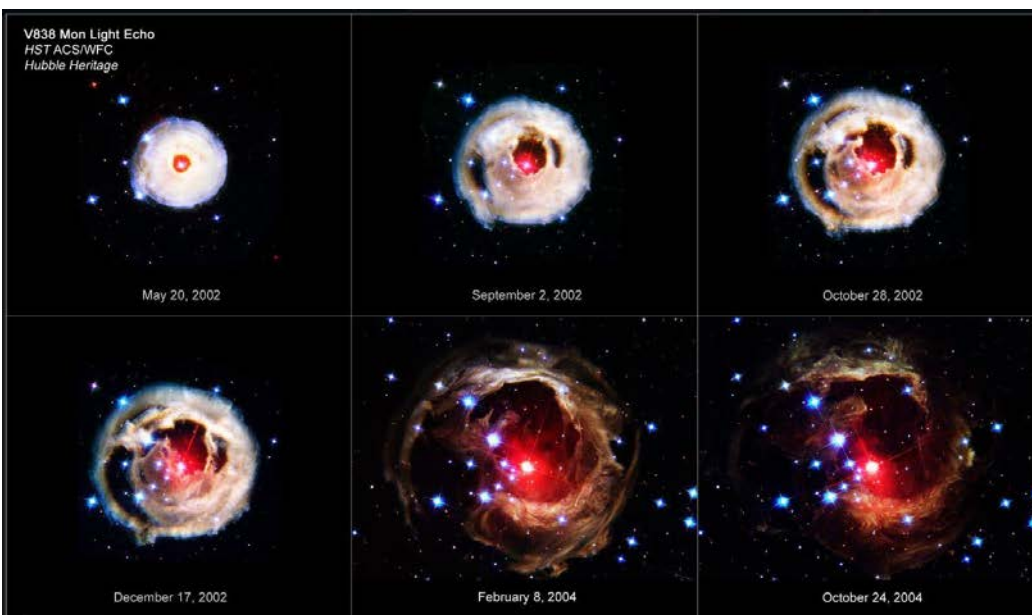
Nature paper: <http://bit.ly/13vyNHc>

This image shows a 14 day old tadpole under an electron microscope.





Olympus Mons on Mars is 27km tall - almost three times the height of Mt. Everest and more than twice the height of Mauna Kea. It is so tall that it essentially sticks out of Mars's atmosphere. It is 550km across at the base - so wide that if you were standing at the edge of the caldera, the base of the volcano would be beyond the horizon.



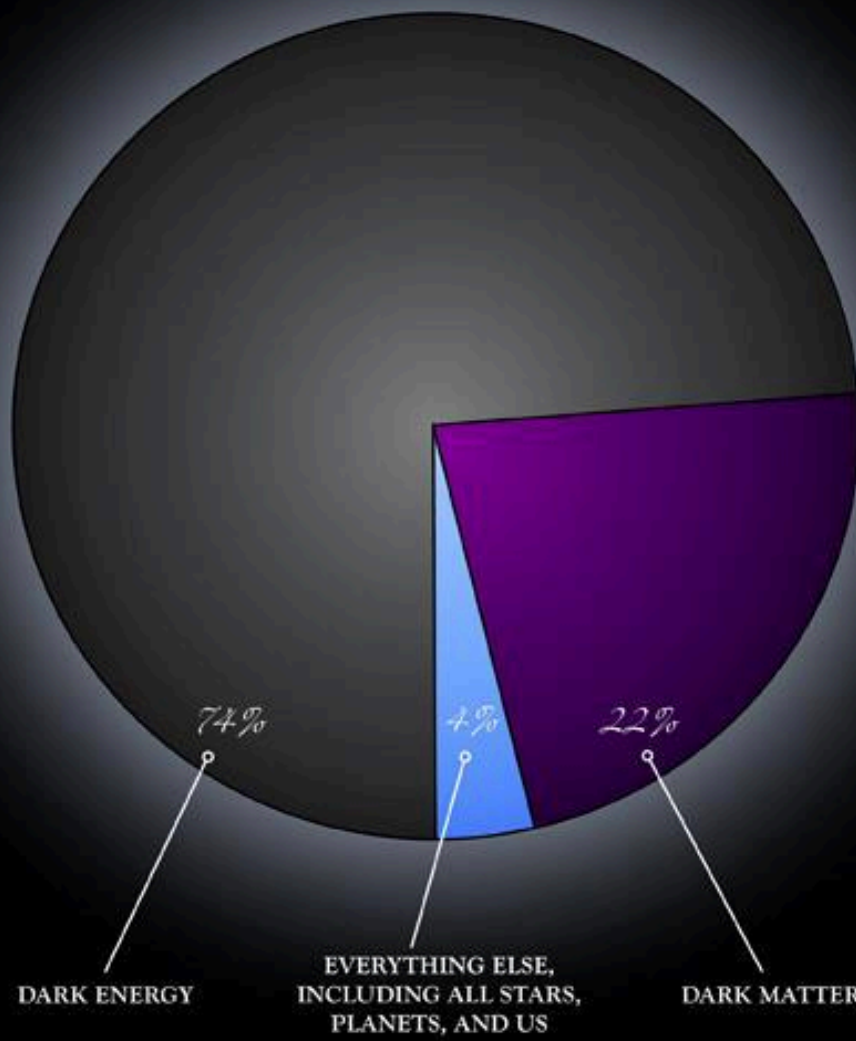
V838 Mon Light Echo
HST ACS/WFC
Hubble Heritage



Science Is Awesome

"A University of Alberta professor has revealed the workings of a celestial event involving binary stars that produce an explosion so powerful its luminosity ranks close to that of a supernova, an exploding star."

More info: <http://bit.ly/Y2XVBE>






The amazing white whale also known as Beluga Whale!



Meet the coconut crab! They are the largest species of land dwelling arthropods on Earth, and are found on islands across the Pacific and in parts of the Indian ocean.



The future in the making! The asteroid mining firm Deep Space Industries, Inc. launched late last month with an ambitious plan to build an entire fleet of spacecraft by 2015 and deploy them to harvest resources from asteroids near the Earth.

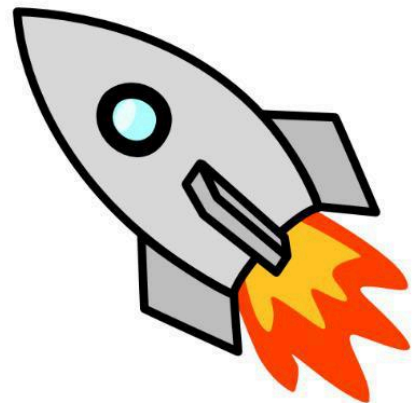
More info: <http://bit.ly/Vsz0Gs>

DSI
SETTLEMENT CONCEPT
SPACE VENTURE
www.deepspaceindustries.com



Your mobile phone has more computing power than all of NASA in 1969.



NASA launched a man to the moon.
We launch a bird into pigs.



Distances Driven on Other Worlds

Traveled by wheeled vehicles as of Jan. 23, 2013  on the moon  on Mars

Lunokhod 2, 1973

23 miles (37 kilometers)



Apollo 17 Lunar Rover, 1972

22.3 mi (35.89 km)



Opportunity, 2004-present

22.03 mi (35.46 km)



Apollo 15 Lunar Rover, 1971

17.3 mi (27.76 km)



Apollo 16 Lunar Rover, 1972

16.5 mi (26.55 km)



Lunokhod 1, 1970

6.5 mi (10.5 km)



Spirit, 2004-2010

4.8 mi (7.7 km)



Sojourner, 1997-1998

0.3 mi (0.5 km)*



Curiosity, 2012-present

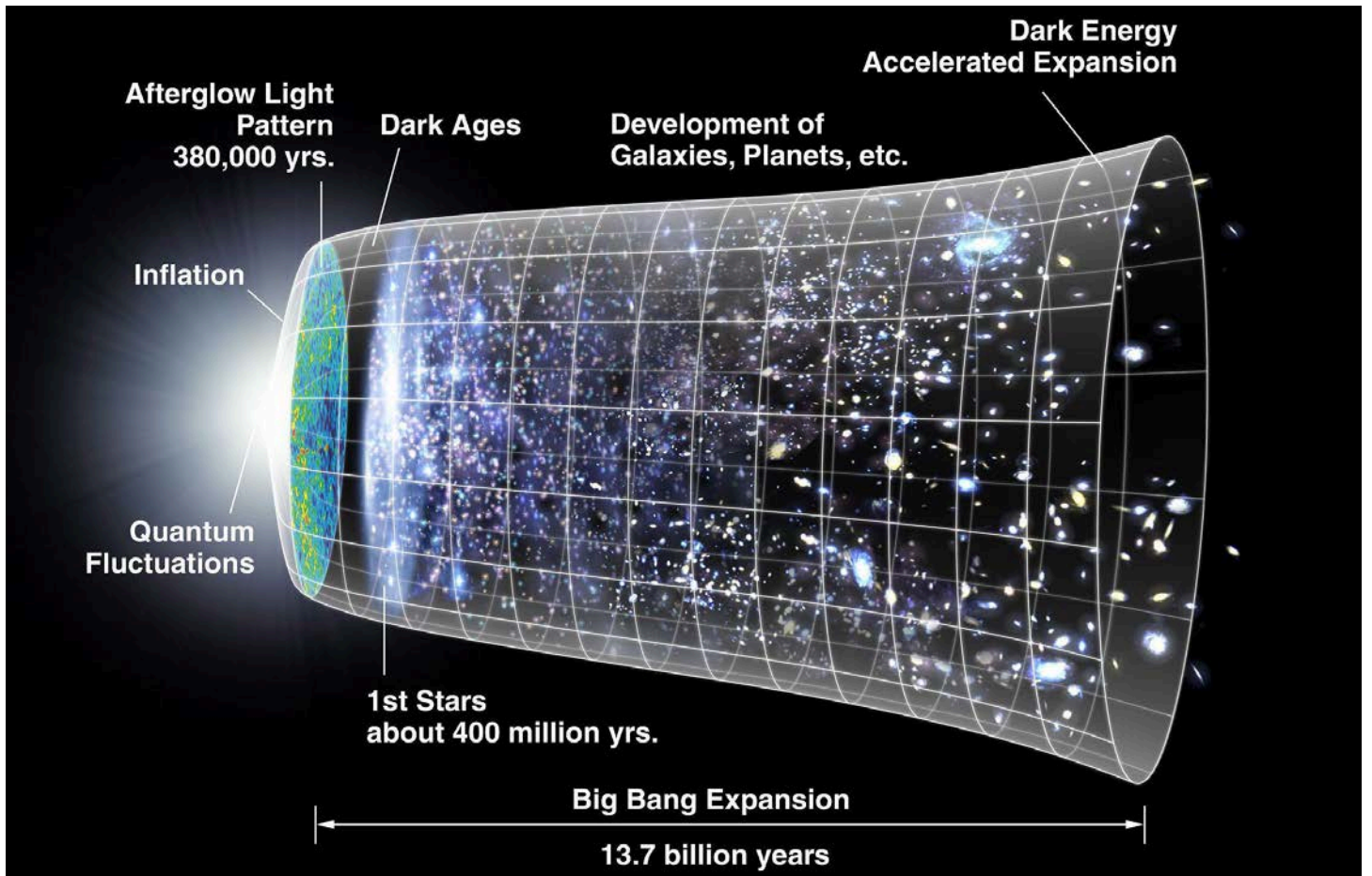
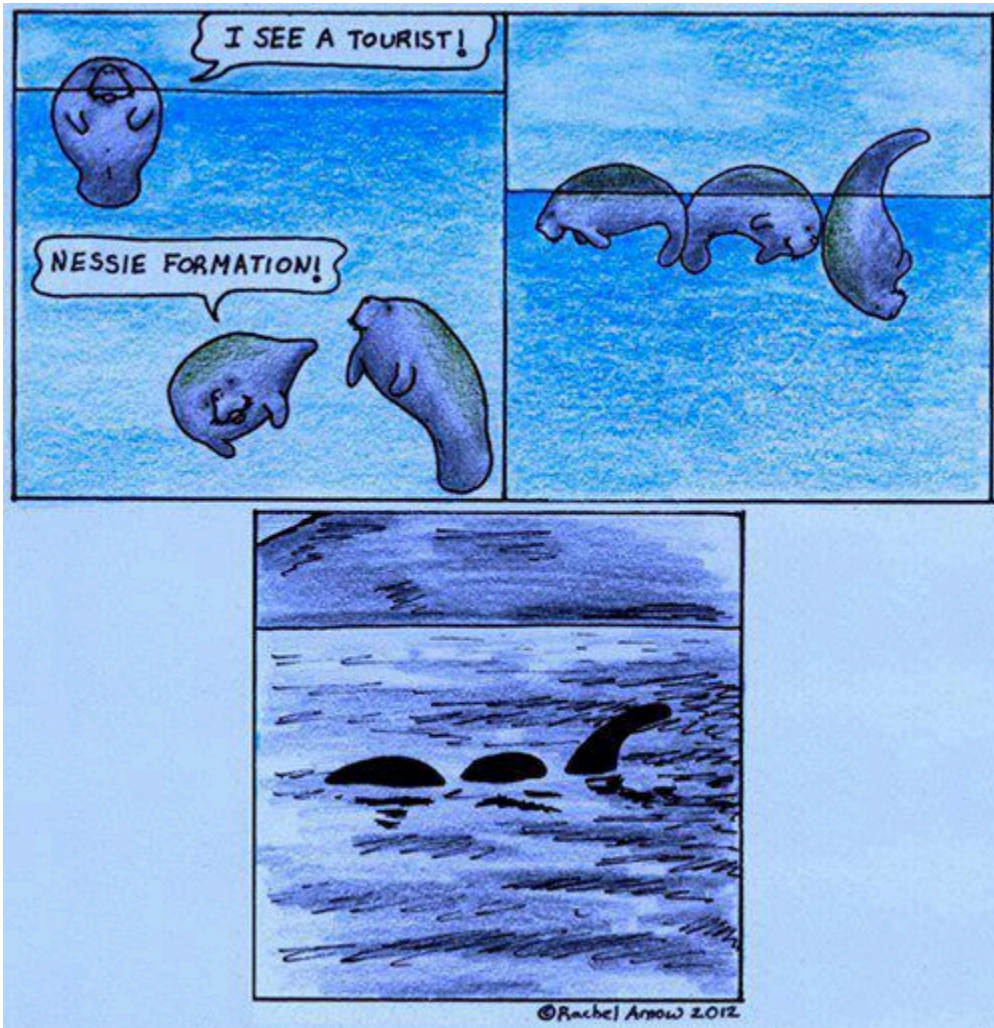
about 0.4 mi (0.7 km)



*maximum distance Sojourner could drive from its Pathfinder base station without losing communication

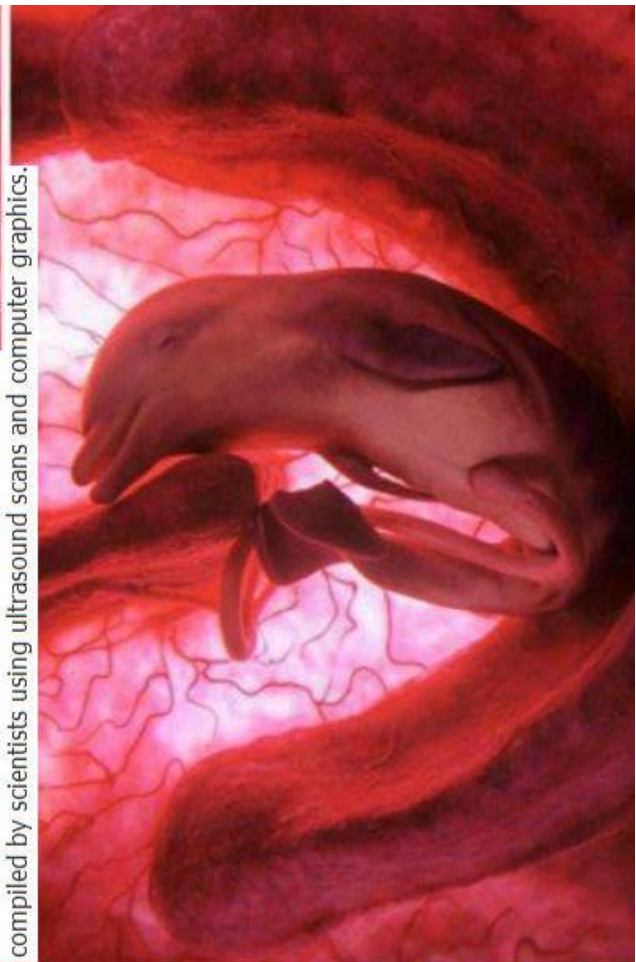
KARL TATE / © SPACE.com







Meet the Atlantic wolffish (*Anarhichas lupus*). Their bizarre appearance isn't all that sets them apart - they also produce a natural antifreeze to keep their blood moving in the cold waters they inhabit.



These amazing images of animals in the womb were compiled by scientists using ultrasound scans and computer graphics.



Almost asleep?

**I should violently jerk your body
to make sure you're still alive**

@01430996402

Why do we twitch as we're falling asleep? Well, no one's quite sure: <http://nbcnews.to/XfLpfj>



The Earth Story

Ever thought about metal detecting? No? Well you may want to give it a go after reading this!

An unidentified man prospecting in Ballarat, Victoria, Australia has hit the jackpot! Using a Minelab GPX-5000 (said to be the best metal detector in the world) he unearthed a nugget weighing just over 176 troy ounces (5.5kg) just 60cm below the surface.

The nugget, measuring 220mm long, 140mm wide and 45mm at its deepest point is worth around \$315,000 USD, and has attracted an added premium because of the rarity of finding a nugget this size. Gold is not uncommon in Victoria, but it is 162 years since the Victorian gold rush started, and local gold dealer Cordell Kent said it is incredibly rare to find a nugget weighing more than 1kg.

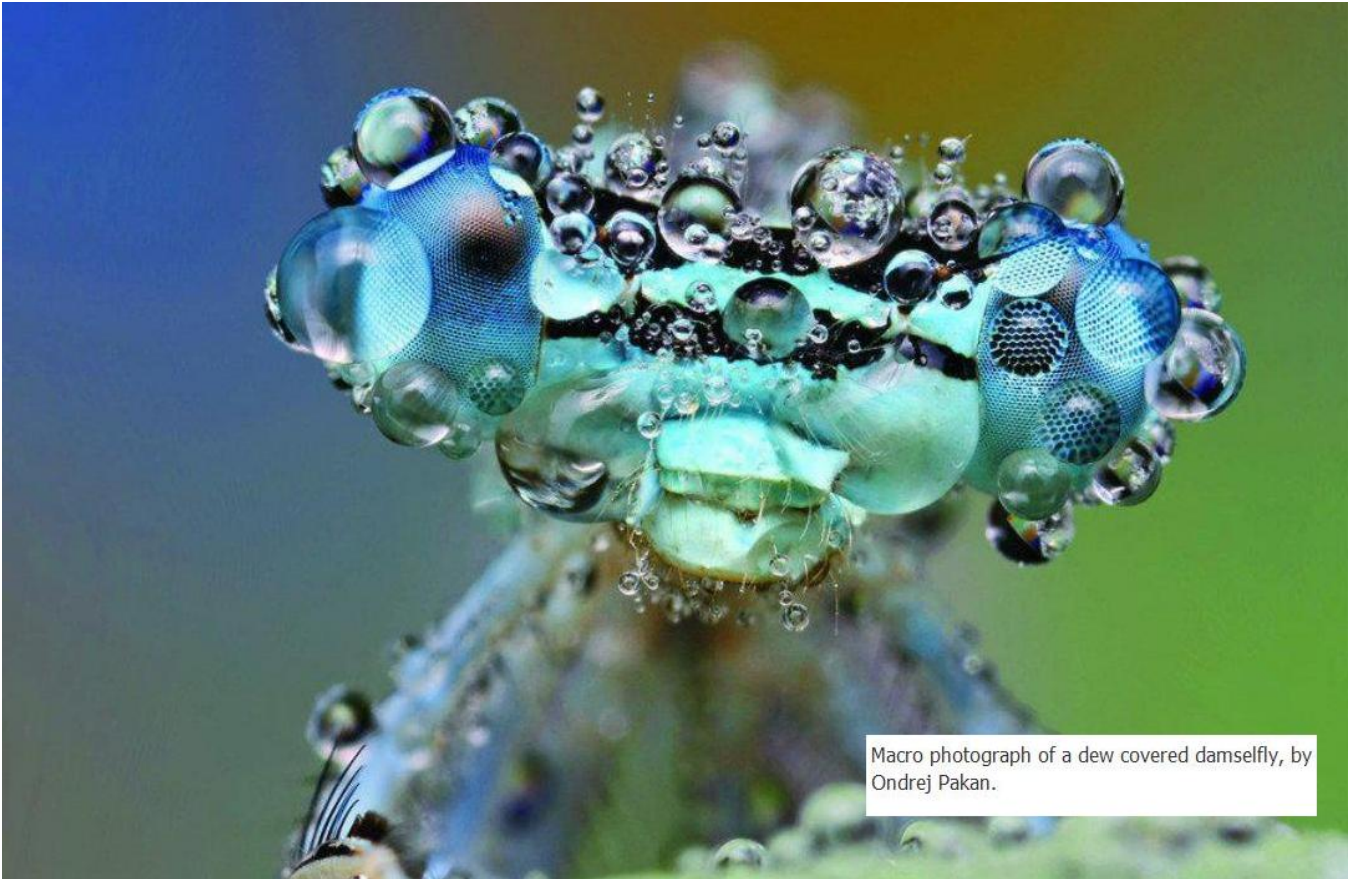


Science Is Awesome

How many can you guess?!

We've posted the answers below in the comments.

Images by John Brody Photography.



Macro photograph of a dew covered damselfly, by Ondrej Pakan.



Colorful Chameleon



Science Is Awesome

We're going to have to agree with io9 and say the Brazilian treehopper is one of the strangest creatures we have ever seen!

From io9: "...Note that the 'balls' on the antenna-like structure aren't eyes, but simply spheres of chitin. A first guess is that it's a sexually-selected trait, but those are often limited to males, and these creatures (and the ones below) show the ornaments in both sexes. [Art Historian Martin Kemp, an expert on visualization in art and science] hypothesizes-and this seems quite reasonable-that 'the hollow globes, like the remarkable excrescences exhibited by other treehoppers, probably deter predators.' It would be hard to grab, much less chow down on, a beast with all those spines and excrescences.



Bubbles of methane trapped in a frozen lake

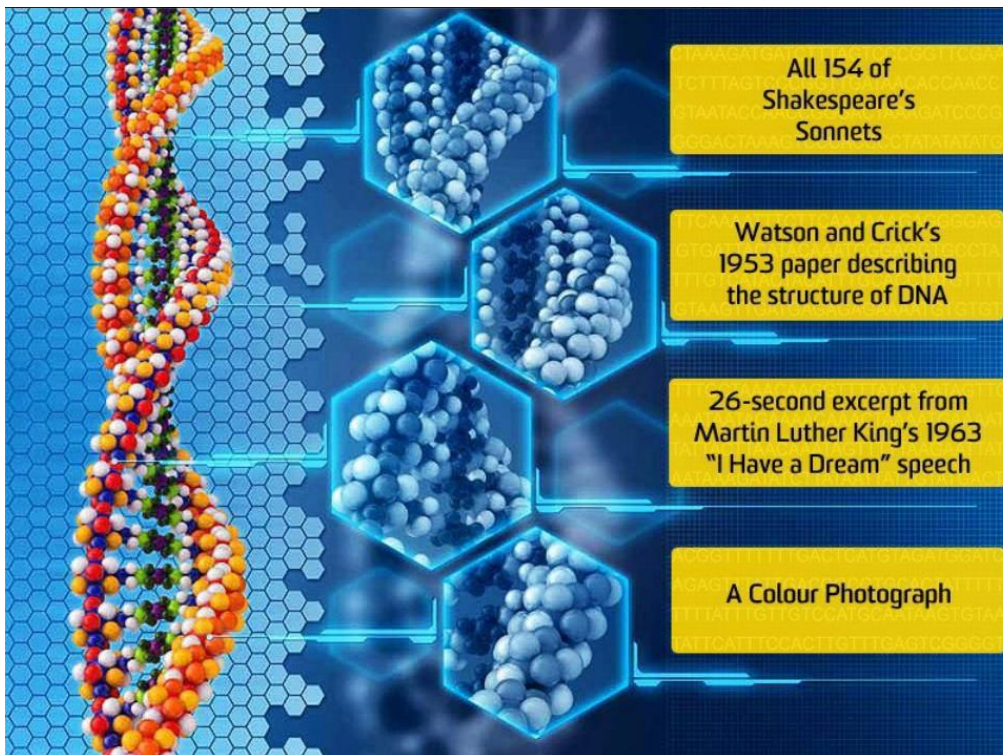


Science Is Awesome

Genetically, dogs and wolves are the same species. They are able to hybridize, will happily do so given the opportunity, and the offspring are healthy and fertile. In spite of their genetic similarities, behaviourally speaking they are very different. To tame a wolf is practically impossible. Why this is when they're technically not even a separate species from "man's best friend" has long been a puzzle. New research suggests it may be down to a slight difference in their socialization period - wolves seem to enter this stage two weeks younger than dogs do, leading to critical differences in how they develop socially.

ScienceDaily article: <http://bit.ly/11EzPBc>
Journal paper: <http://bit.ly/VwGpFK>

Also, these wolf cubs are completely adorable.



Science Is Awesome

A team of scientists from the European Bioinformatics Institute of the European Molecular Biology Laboratory have dramatically demonstrated the data storage powers of DNA - by storing data such as Martin Luther King's "I have a dream" speech and Shakespeare's 154 sonnets byte by byte on DNA molecules.

DNA is lightweight, compact and easy to transport. It can also last for thousands of years if stored correctly. The technique is not commercially viable at the moment, but the authors of the paper in Nature argue convincingly that this could be eventually scaled up to create huge storage possibilities, far beyond what exist today.

More info: <http://bit.ly/10UNyVp>

Image & story via ScienceAlert



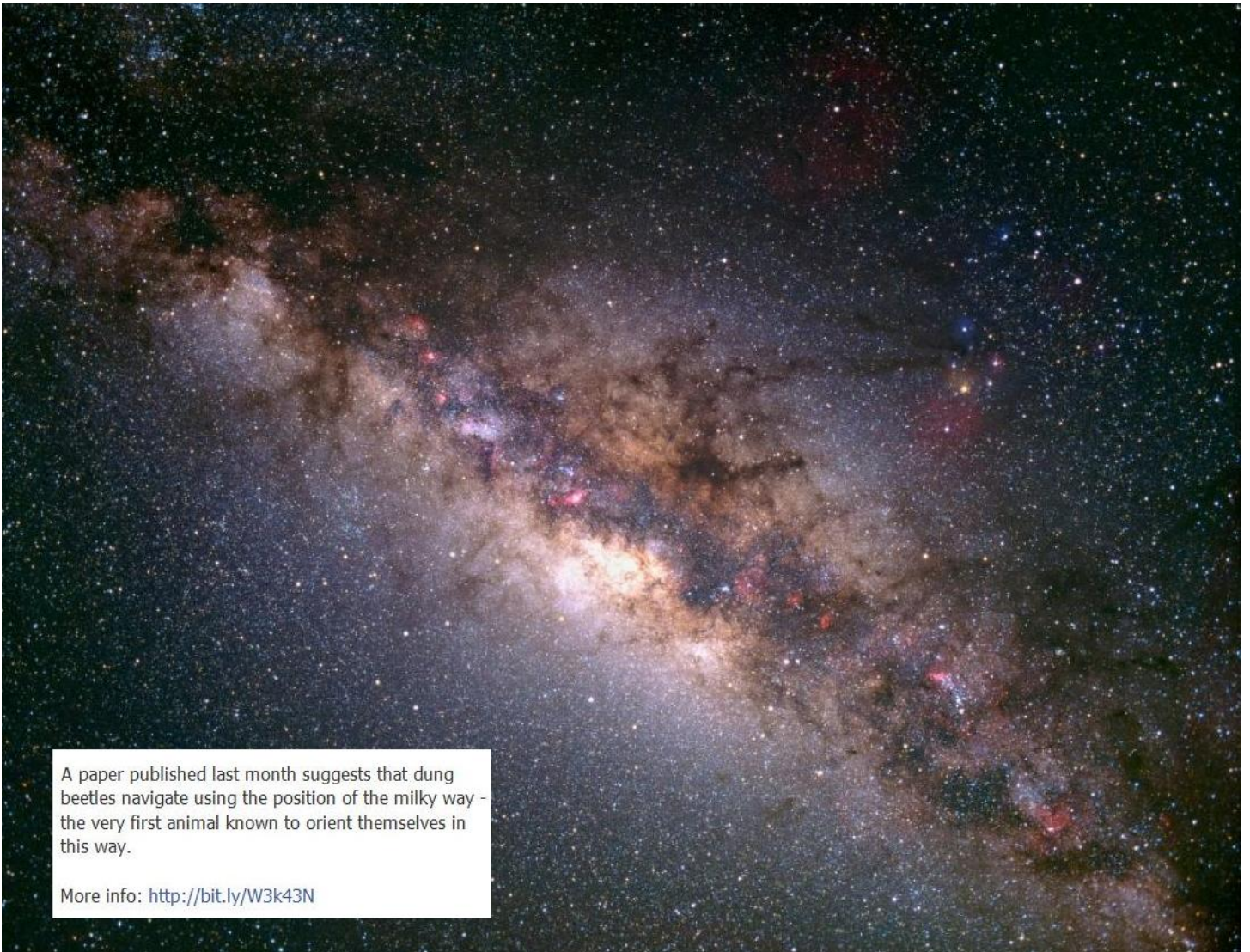
Science Is Awesome

A study published Feb 20th found that dolphins have the ability to call out for lost loved ones when separated using a specific whistle. This whistle seems to be the dolphin equivalent of a name, as it only ever refers to one individual.

Previous research found that dolphins use a signature whistle to refer to themselves. Now, for the first time we have evidence that other dolphins mimic this signature whistle to call for the individual.

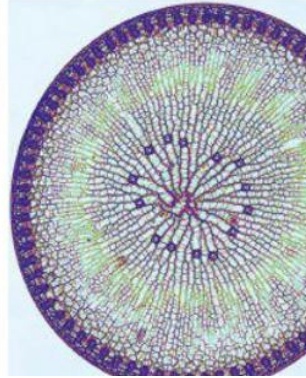
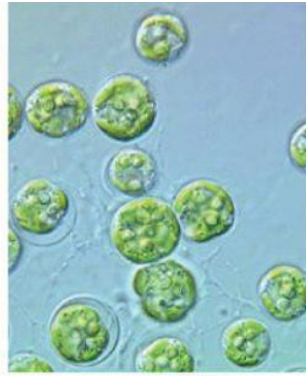
More info: <http://bit.ly/155ChA2>

Research paper: <http://bit.ly/XlsdAD>



A paper published last month suggests that dung beetles navigate using the position of the milky way - the very first animal known to orient themselves in this way.

More info: <http://bit.ly/W3k43N>



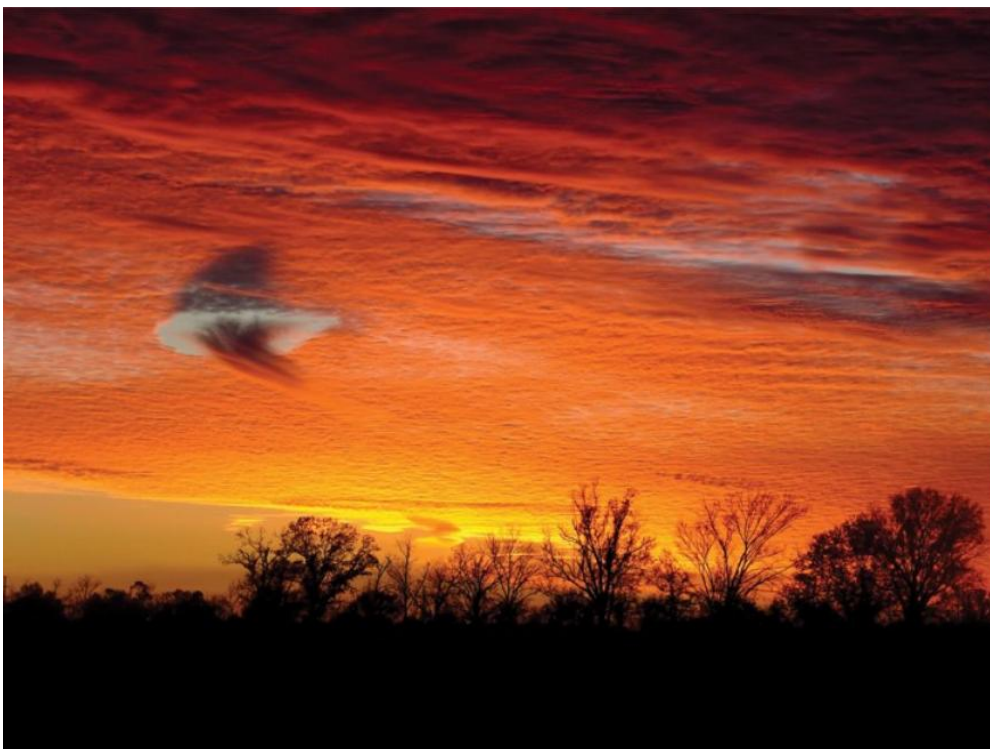
Science Is Awesome

Liked · 9 February

Almost all life on Earth ultimately gets its energy from the Sun. Plants, algae and single celled organisms photosynthesize, and are then eaten by animals which may in turn be eaten by other animals. However, some animals manage to skip a step. They integrate photosynthetic organisms into their body and live in a symbiotic relationship.

Interesting side note: this is thought to be how complex cells (eukaryotes) originally evolved. Chloroplasts and mitochondria were once free living bacteria absorbed by our distant ancestors.

Read more about solar powered animals here:
<http://bit.ly/VKU37g>



The Earth Story

FALLSTREAK HOLES, AKA HOLE-PUNCH CLOUDS

Fallstreak holes are a cloud formation that occurs as gaps in mid or high level cloud layers; below them trails of ice crystals dangle. In order for a fallstreak hole to form, the cloud layer must be composed of supercooled droplets (liquid water), despite the temperatures at cloud level being well below 0°C. When one region of the cloud begins to freeze, the fallstreak hole forms. This begins a chain reaction whereby all the moisture from the supercooled droplets in the nearby area is drawn in and joins the ice crystals. These then grow big enough to fall beneath the hole; fallstreak holes have been known to reach 50 kilometres across just an hour after the hole began to form.

This is a frilled shark. Frilled sharks are found throughout deep waters in the Atlantic and Pacific oceans. It is often described as a "living fossil" because of its resemblance to extinct, Paleozoic sharks.



They're rarely seen alive because of their preference for deep water. A dying one was captured near the surface in Japan in 2007 and they managed to get a video of it, which you can watch here: <http://bit.ly/WpKVfw>



Science Is Awesome

The fish with a transparent head!

Very little light reaches the dark depths of the ocean. Consequently we see many adaptations regarding light among deep-sea organisms, from extreme sensitivity to bio-luminescence. But as strange as they can seem, the barreleye fish blows them all away - it has evolved to see through its own head.

The green orbs you see are its eyes, which spend most of their time gazing upwards through its transparent "forehead" for prey. This "forehead" is actually a fluid-filled sack. When it spots something it likes, it rotates them forward so its field of vision and mouth are now aligned to hunt. Until 2009 it was thought that these eyes were fixed staring upwards, but finding a live specimen revealed their mobility.

The two spots you can see near the mouth are called nares, which the barreleye uses to filter the water for chemical traces. In addition to the stunning head adaptation, the yellow pigment of the eyes help the barreleye distinguish between sunlight from the surface and light coming from bio-luminescent fish. This is a fascinating example of evolution indeed!





The hairy bush viper (*Atheris hispida*) is a venomous species of snake found in central Africa.

© R. Kosich / Vetta / Getty Images



The kitti's hog-nosed bat (*Craseonycteris thonglongyai*), also known as the bumblebee bat is the smallest known species of mammal. Its natural habitat is in the countries of western Thailand and southeast Burma, where it occupies limestone caves along rivers. The bat is about 29 to 33 mm (1.1 to 1.3 in) in length and 2 g (0.071 oz) in mass, and is listed as a vulnerable species.



Science Is Awesome

Garden in a bottle, anyone?

This miniature ecosystem has been thriving in an almost completely isolated state for more than forty years. It has been watered just once in that time.

The original single spiderwort plant has grown and multiplied, putting out seedlings. As it has access to light, it continues to photosynthesize. The water builds up on the inside of the bottle and then rains back down on the plants in a miniature version of the water cycle.

As leaves die, they fall off and rot at the bottom producing the carbon dioxide and nutrients required for more plants to grow.



Evolution

Water bears are small invertebrates (0.05mm - 1.2mm long) in the phylum Tardigrada. There are over 900 species in this phylum, and members of Tardigrada can be found almost everywhere on Earth: from the frozen landscape of Antarctica to the hot, humid forests of Africa. Most Tardigrades are semi-aquatic, and you can probably find one of your own if you collect some lichen and have access to a microscope.

What makes water bears so incredible is their ability to survive in the harshest conditions known to man. Water bears have been frozen, dried, boiled, and even exposed to the vacuum of space. Through it all, water bears have survived by undergoing cryptobiosis: a state in which metabolic activity stops. It is like death, only reversible.



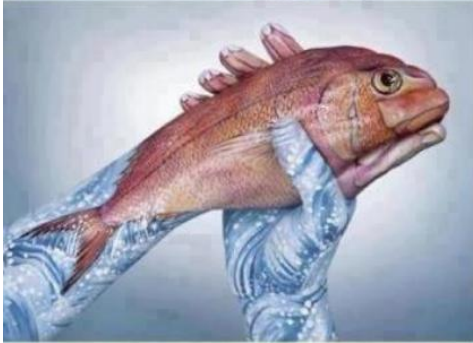
An Indian Bullfrog during mating season. You can watch a video of it here: <http://bit.ly/13Ic8qk>



Science Is Awesome

This is the Costa Rican variable harlequin toad (*Atelopus varius*), also known as the clown frog (in spite of the fact that it is a true toad). They once ranged from Costa Rica to Panama, but are now listed as critically endangered and reduced to a single population in Costa Rica.

The variable harlequin toads' conspicuous colouring serves as a warning to predators of the toad's toxicity.

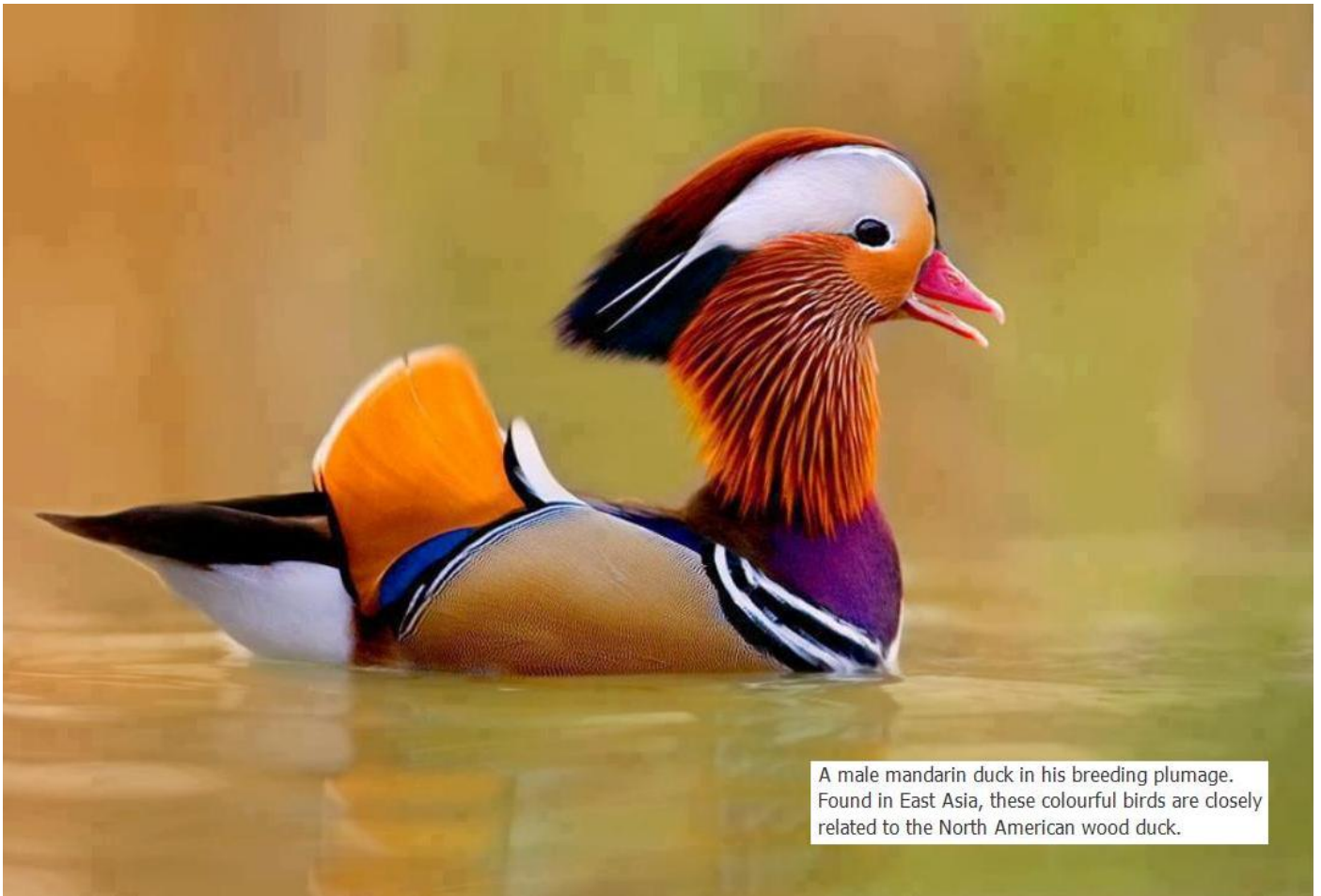


Science Is Awesome

The level of detail in these is absolutely extraordinary. They're the work of Italian artist Guido Daniele, who uses hands as his canvas. One hand can take up to ten hours.



If Jupiter were as close to the Earth as the Moon, excluding all other factors, this is what it would look like.



A male mandarin duck in his breeding plumage. Found in East Asia, these colourful birds are closely related to the North American wood duck.



The leopard seal - a 3 metre long voracious predator found throughout the Antarctic and sub-Antarctic. As you can see from this image, they eat penguins as well as smaller seals and fish. There are even accounts of them attacking divers. However, in 2009 a female leopard seal seemed to "adopt" a National Geographic photographer, and spent four days attempting to teach him to hunt. When this failed, she would bring him dead or dying penguins and try to feed him.

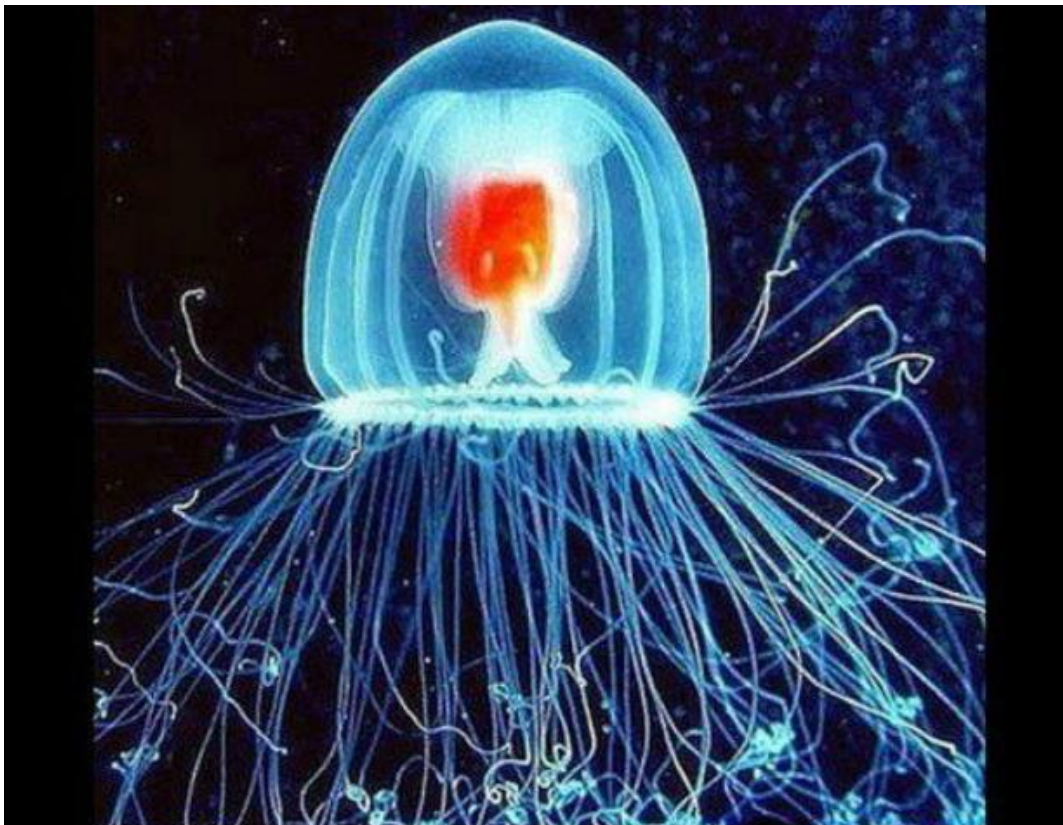
You can hear his account and see some of the photographs here: <http://bit.ly/WwpSSB>



Could a crater on Mars once have been a standing lake fed by groundwater? Scientists have announced that they believe that McLaughlin crater was once a large lake - making it more likely that it once harboured life.

Although there is much evidence that Mars once had liquid water, the nature of that water is still for the most part a mystery, so this announcement is very exciting.

More info: <http://slate.me/WAG437>



This is *Turritopsis nutricula*, the immortal jellyfish. Adults can actually revert back to the polyp stage - they absorb their tentacles and reattach themselves the ground. As a polyp, it can produce entire new colonies. Lab tests found that 100% of individuals reverted to polyp stage, and could be prompted to do so as a result of starvation, temperature change or a drop in salinity. Biologically, *Turritopsis nutricula* is immortal.



"Nearly 200,000 light-years from Earth, the Large Magellanic Cloud, a satellite galaxy of the Milky Way, floats in space, in a long and slow dance around our galaxy. Vast clouds of gas within it slowly collapse to form new stars. In turn, these light up the gas clouds in a riot of colors, visible in this image from the NASA/ESA Hubble Space Telescope."

More info: <http://1.usa.gov/W3CPDi>



Evolution

Fossilization is a rare process and paleontologists are used to having to build an image of an animal from incomplete remains. So when paleontologists unearthed a mass grave of Diprotodon skeletons and other Australian megafauna in June 2012, they couldn't believe their luck.

"It's a palaeontologist's goldmine where we can really see what these megafauna were doing, how they actually behaved, what their ecology was," said Scott Hucknall (Queensland Museum in Brisbane) told the BBC. "With so many fossils it gives us a unique opportunity to see these animals in their environment, basically, so we can reconstruct it."

The Queensland site is thought to hold the remains of 50 Diprotodons - the largest marsupial to ever live, about the size of a rhino, and often referred to as "a mega-wombat" (Hucknall likens it to "a cross between a wombat and a bear").



"A hardy bacteria common on Earth was surprisingly adaptive to Mars-like low pressure, cold and carbon dioxide-rich atmosphere, a finding that has implications in the search for extraterrestrial life."
- Irene Klotz

More info: <http://bit.ly/VZnxzG>



This is the Mandarinfish (*Synchiropus splendidus*), a small, brightly colored fish native to the Pacific.



Science Is Awesome

Octopus eggs!

Octopus reproduction is fairly uniform across species. When a female is ready to mate, she releases a chemical into the water that attracts males. They follow this chemical to the female, where they will often fight one another for the right to mate with the female. Sometimes the female will mate with more than one male. The same chemical that attracts the males stops the males from.



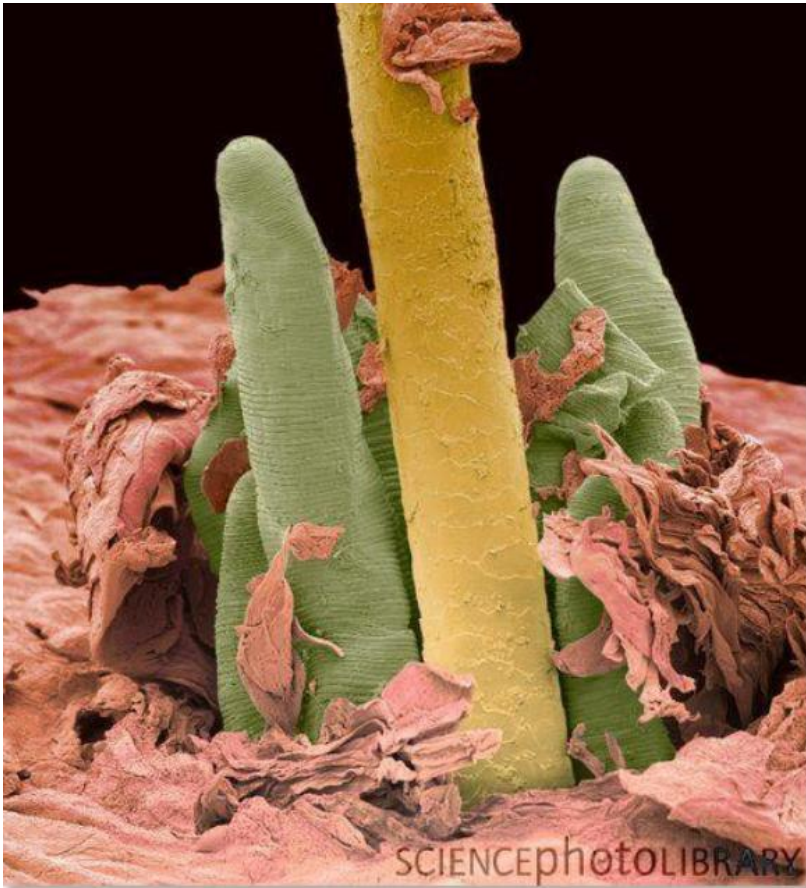
The Earth Story

This is Mount Roraima in the Pacaraima Mountains. It lies on the border of three Countries; Venezuela, Brazil and Guyana. It is part of Venezuela's Canaima National Park which is also home to the beautiful Angel Falls and is a UNESCO World Heritage Site.

Mount Roraima's flat surface is surrounded by 400 metre high sheer cliff faces and its highest point is its Maverick Rock at 2,810 meters.

In many photos and satellite imagery, Mount Roraima is surrounded or engulfed by clouds. This is because the area is surrounded by thick rainforest. Tropical heat causes the moisture from the rainforest to rise and condense over and around the mountain as heavy clouds. As a result, Mount Roraima is almost always in clouds and it rains nearly every day.

-Jean



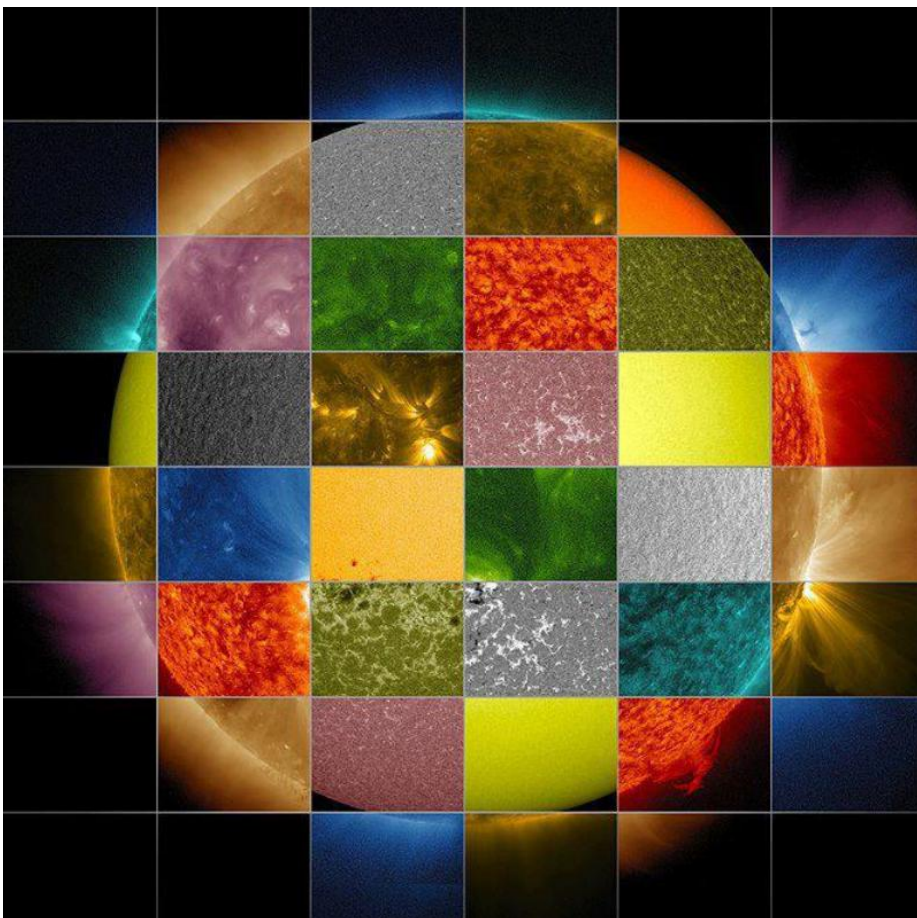
Evolution

The human body is home to trillions of microorganisms, from bacteria to fungi. Some of these perform useful functions for us, like the flora living in our gut that aid gut development and help train the immune system. Even those that have no effect aid us just by being there - they compete for resources with harmful microorganisms like *C. difficile*, limiting their growth.

These microorganisms can make for fascinating photos, but microscopic photos are incomprehensible when you don't know what you're looking at. The yellow column in this photo is a hair, and the green objects are tails.

This is a photo of the face mites that live in your eyelashes, eyebrows and hairs in your ears.

SCIENCEPHOTOLIBRARY



Science Is Awesome

Have you ever wondered why images of the Sun are sometimes such odd colors?

"Different wavelengths convey information about different components of the sun's surface and atmosphere, so scientists use them to paint a full picture of our constantly changing and varying star.

Yellow light of 5800 Angstroms, for example, generally emanates from material of about 10,000 degrees F (5700 degrees C), which represents the surface of the sun. Extreme ultraviolet light of 94 Angstroms, on the other hand, comes from atoms that are about 11 million degrees F (6,300,000 degrees C) and is a good wavelength for looking at solar flares, which can reach such high temperatures. By examining pictures of the sun in a variety of wavelengths – as is done through such telescopes as NASA's Solar Dynamics Observatory (SDO), NASA's Solar Terrestrial Relations Observatory (STEREO) and the ESA/NASA Solar and Heliospheric Observatory (SOHO) -- scientists can track how particles and heat move through the sun's atmosphere."

Check out NASA's full explanation here:
<http://1.usa.gov/WNmBfC>

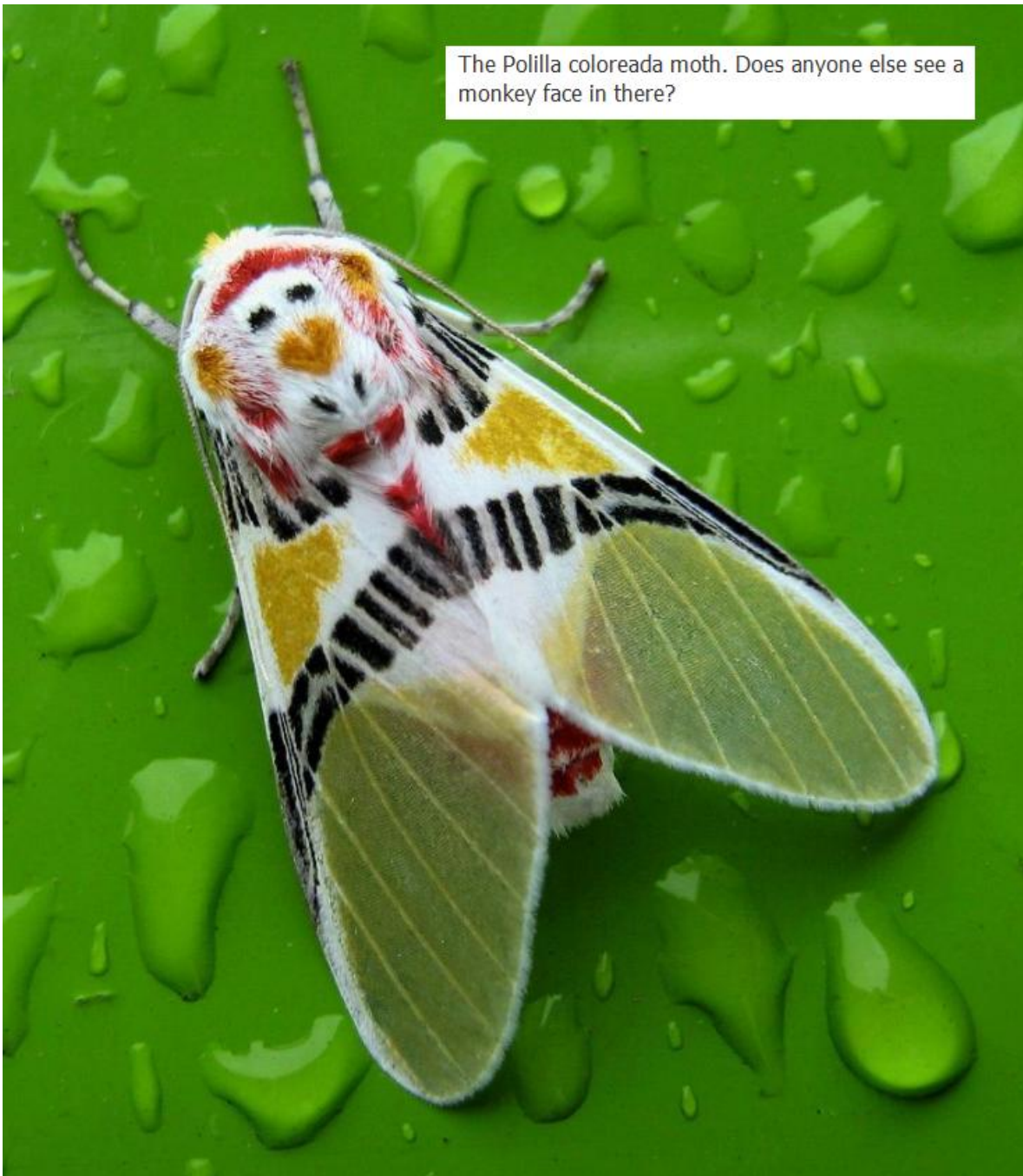


Mt Fuji with a hat.

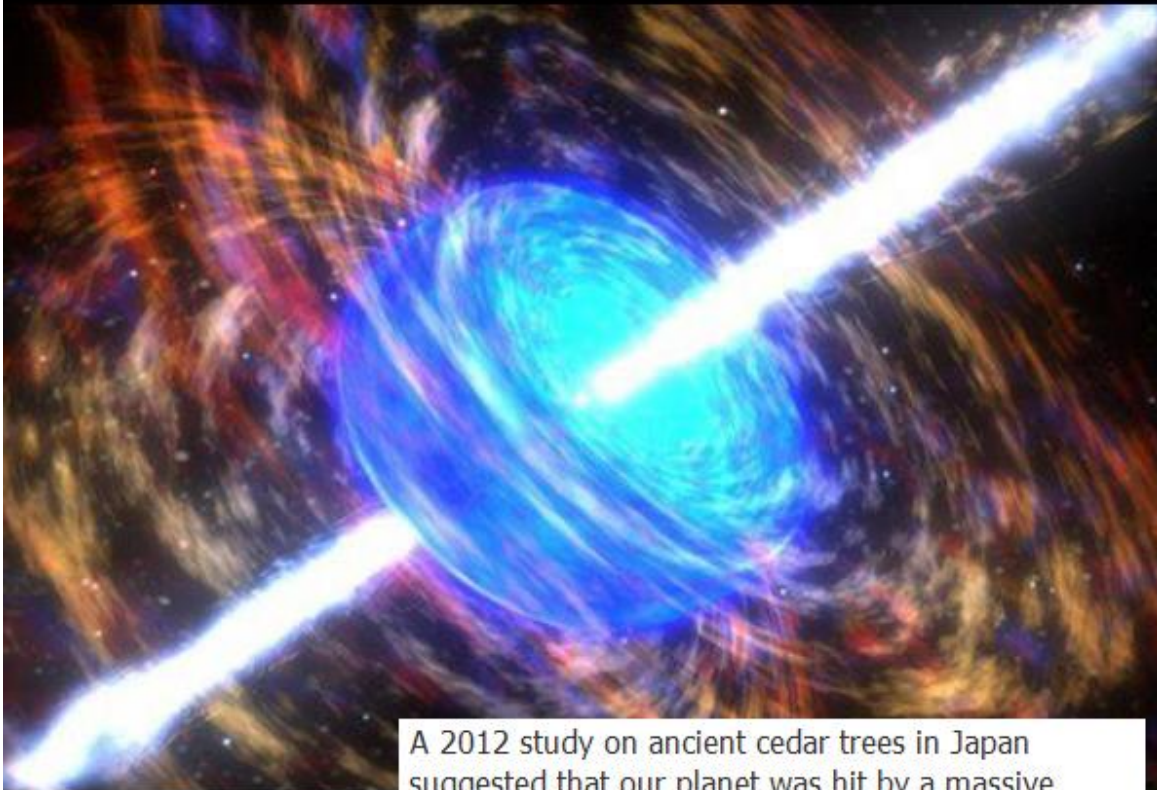
This is an example of a lenticular cloud, also known as altocumulus standing lenticularis. These are stationary, lens-shaped clouds that are formed at high altitudes. They are included in the middle layer cloud family because the bases of the clouds are stationed between about 2,000 and 7,000 meters. These clouds form when moist air is forced to flow up around mountains and large hills. The water is super cooled and condensed from air below the dew point temperature.



The Polilla coloreada moth. Does anyone else see a monkey face in there?



More info: <http://bbc.in/VgGvE8>



A 2012 study on ancient cedar trees in Japan suggested that our planet was hit by a massive gamma ray burst in the 8th century CE. Now, a new study suggests that the cause of this burst was two black holes or two neutron stars merging within our galaxy.



Science Is Awesome

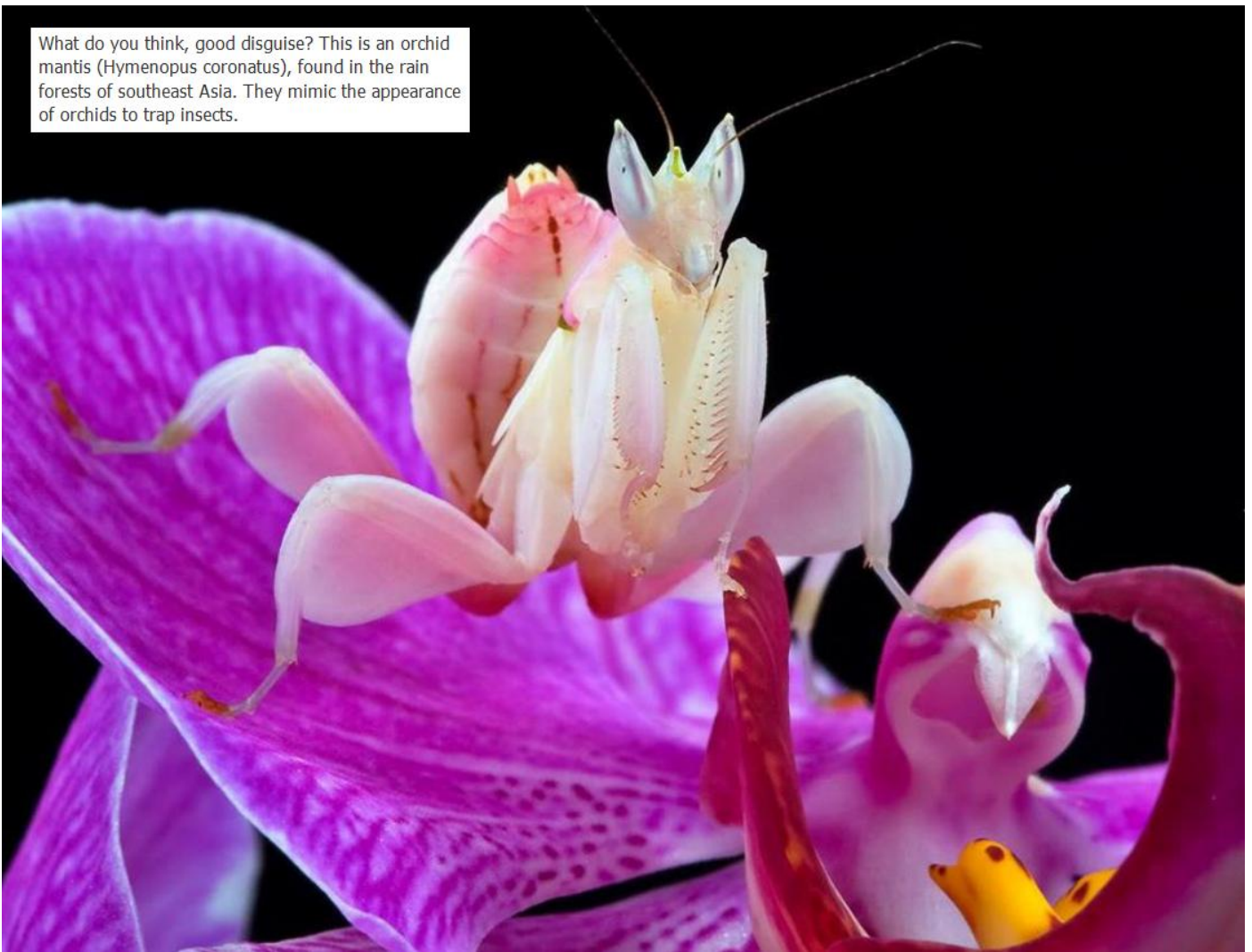
This is *Ambystoma maculatum*, a small salamander found throughout the eastern USA and parts of southern Canada. Essentially, it is a solar powered animal.

Most animals obtain energy by eating other animals or plants, which photosynthesize and ultimately obtain energy from the Sun. A few animals have managed to skip this step, and incorporate algae into their own bodies, and live in a symbiotic relationship. The algae produces sugars from sunlight, and the animal gives it a safe home.

It's not an unusual trick in invertebrates, and can be found in groups such as corals, sea slugs and sponges. However, it was unknown (although suspected) in animals more closely related to ourselves - vertebrates.

Find out more about this salamanders story here: <http://bit.ly/106SNe8>

What do you think, good disguise? This is an orchid mantis (*Hymenopus coronatus*), found in the rain forests of southeast Asia. They mimic the appearance of orchids to trap insects.



Evolution

Owls have intense stares, but do you know what makes their eyes so unique?

Owls have forward facing eyes, like humans, which gives them binocular vision: they see an object with both eyes at the same time, giving them depth perception. Most owls hunt at night, so they have large pupils to gather light and many rods in their retinas to be as sensitive to light as possible. Owl eyes are also tubular, not round, which allows more light to enter the eye. However, owls are not blind during the day; their pupils can become very small to reduce the amount of light entering the eye.

One of the most fascinating facts about owl eyes is that owls cannot move their eyes in their sockets. The eyes are held in place by sclerotic rings, bony structures that protrude from the skull. Owls compensate by being able to move their heads almost completely behind them and almost completely upside down.

Photo courtesy of:

<http://www.billfrymire.com/blog/wp-content/uploads/2008/06/eyes-great-horned-owl-intense.jpg>

copyright © 2007 Bill Frymire



The puffer fish!

Pufferfish can puff up to twice their normal size in order to make themselves look more intimidating. They also produce a potent toxin called tetrodotoxin.



Microbiology & Immunology

For this multidisciplinary installation project infusing visual art with natural science, San Francisco-based artist Klari Reis used petri dishes and reflective epoxy polymer to capture electron microscopic images of the natural (and unnatural) cellular reactions that take place in nature.



Science Is Awesome

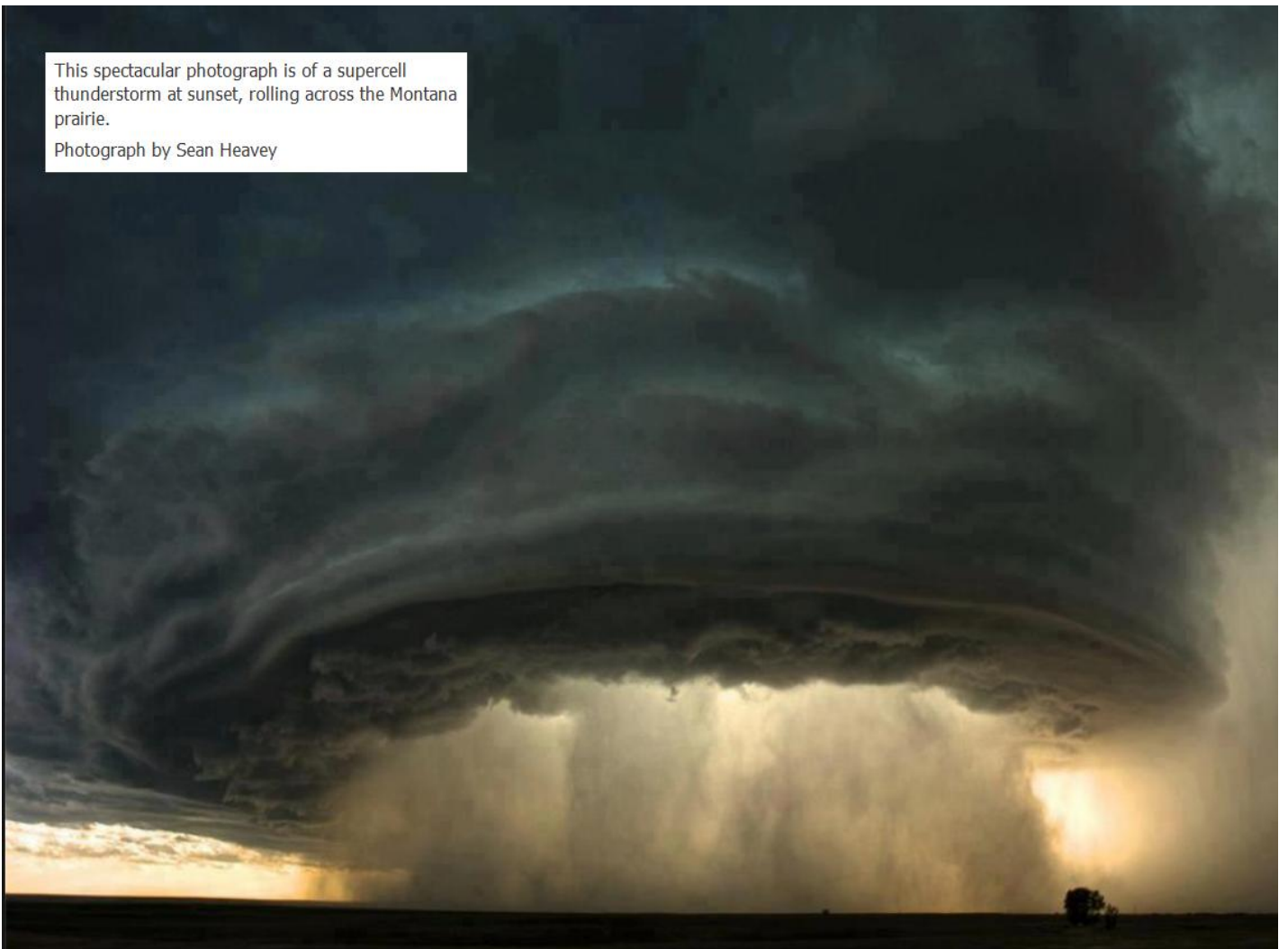
If all pigeons looked like this, maybe people wouldn't call them flying rats!

This is the pink-necked green pigeon (*Treron vernans*) and it's honestly not photoshopped. They're found in Cambodia, Indonesia, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam. Its natural habitats are subtropical or tropical moist lowland forests, subtropical or tropical mangrove forests, and subtropical or tropical moist montane forests.

Photograph: by Chong Lip Mun

This spectacular photograph is of a supercell thunderstorm at sunset, rolling across the Montana prairie.

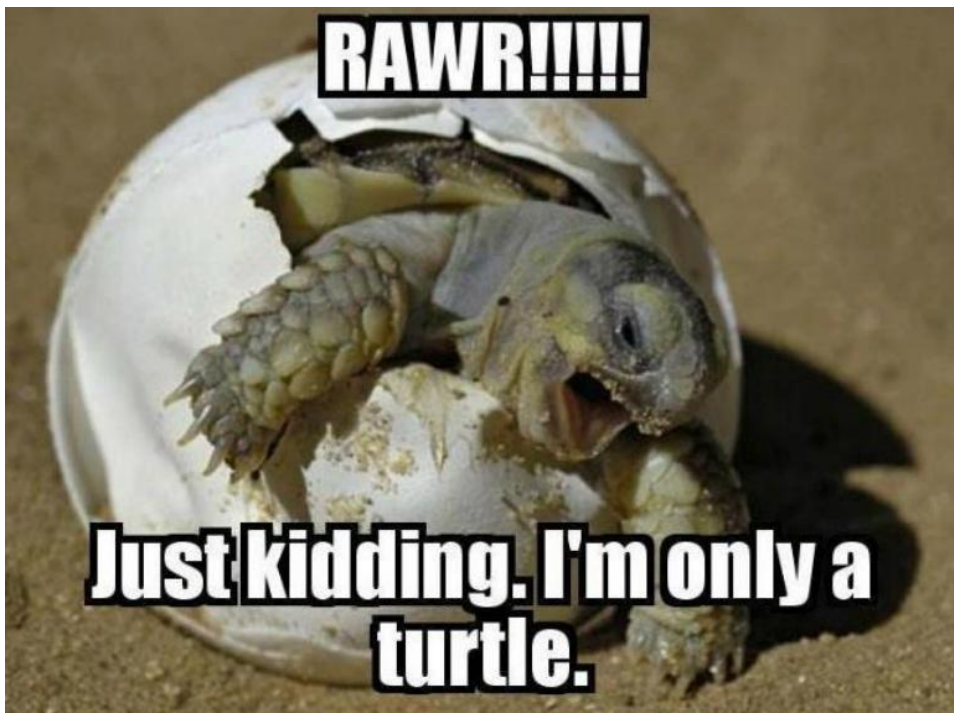
Photograph by Sean Heavey





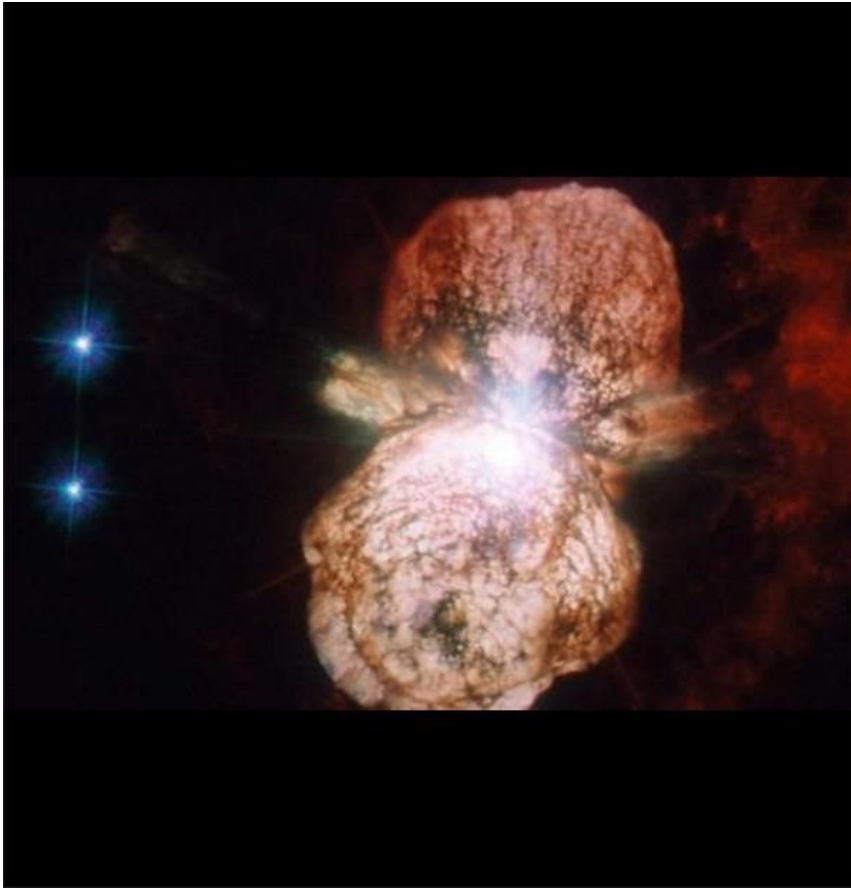
What a beautiful image of sand magnified 250x.

© Professor Gary Greenberg / SWNS.



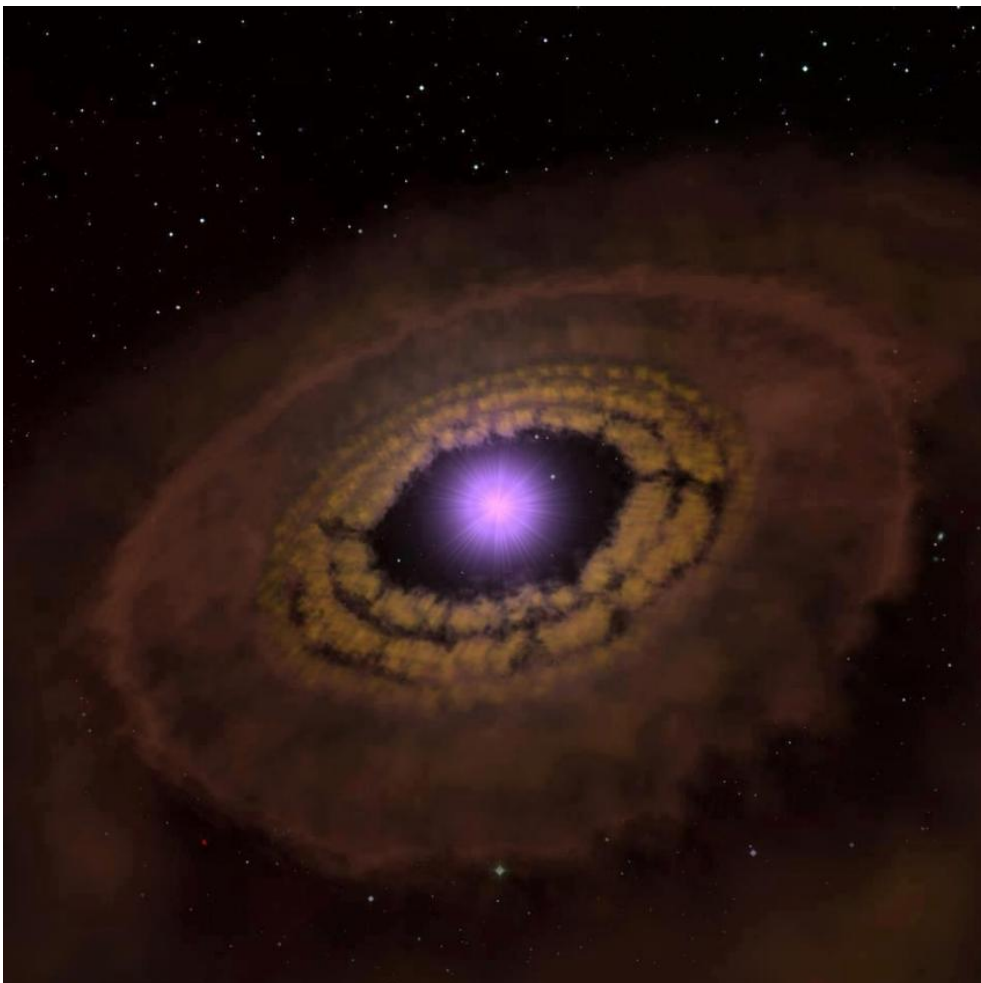
Science Is Awesome

Random turtle info: typically, land dwelling turtles are referred to as tortoises and the word "turtle" itself is reserved for water dwelling species. However, scientifically speaking, "turtle" is used to describe all animals with a backbone and a hard shell.



Science Is Awesome

Eta Carinae's billowing pair of gas and dust clouds as seen from NASA Hubble Space Telescope - About 160 years ago, the stellar system suffered a giant outburst and became one of the brightest stars in the southern sky. Although the star released as much visible light as a supernova explosion, it survived the outburst, producing a large, thin equatorial disk and two lobes and that are moving outward at about 1 million kilometers per hour.



Science Is Awesome

A 10 million year old star only 176 light years from Earth has recently been found to still be forming new planets. Although the star is young (in astronomical terms) it is well past the time in which stars are thought to form giant planets. However, new data collected by the Herschel Telescope suggests that TW Hydrae has a protoplanetary disc with enough material to form 50 planets the size of Jupiter.

More info: <http://1.usa.gov/YGH9Ma>

This week in science

3-10 February 2013



Science Is Awesome

For more on what happened in the world of science this week, check out TWIST (This Week In Science and Technology), ScienceAlert's new series with Carin Bondar and Phil Plait: <http://bit.ly/XzHago>

Gold nugget-forming bacteria: <http://bit.ly/14C1QIK>

Bionic eye: <http://bit.ly/WTitKo>

Sea urchins: <http://bit.ly/WbLZNI>

Mammal ancestor: <http://bbc.in/YZKkie>

Stem cells: <http://bit.ly/Y3s94C>

Earth like planets: <http://hvr.me/12IA29h>



A species of bacteria was found that can form tiny gold nuggets.



The first bionic eye went on the market.



Sea urchins were found to have a unique method of storing carbon.



Scientists pinpointed the most recent common ancestor of all living placental mammals.



Stem cells were printed on a 3D printer.



A study predicted there could be billions of Earth like planets in our astronomical back yard.



Pod of sleeping sperm whales
Photograph by Wild Wonders of Europe [www.wild-wonders.com]

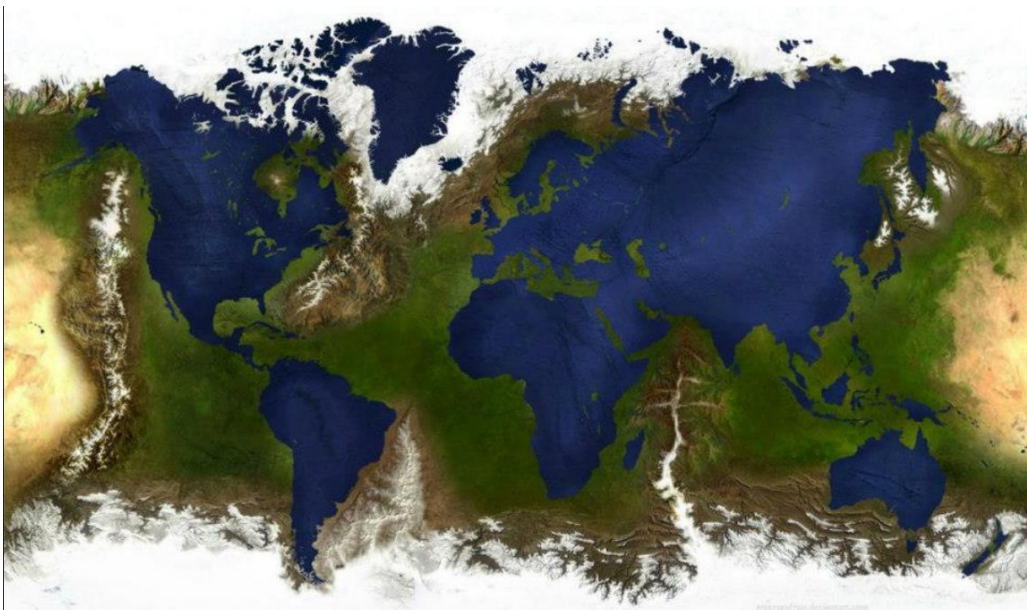


What do you think of this hairstyle? This is the Mary River turtle (*Elusor macrurus*), and its green mohawk is made up of algae. This often covers the shell as well as the head, and helps to camouflage the animal.





If Saturn were as close to the Earth as the Moon is, this is how it would look.



The Earth Story

WHAT HAPPENS WHEN YOU TURN THE WORLD INSIDE OUT?

Well, in this image, the topography of the earth has apparently been reversed. Geography is re-defined so that the continents are oceans, the oceans are continents, and various ranges of mountains that should be submerged are emerged.

This map may be mildly amusing to normal people, and it's kind of fun, but...to the geoscientist, it's a nightmare!



Science Is Awesome

This is the velevella (*Velella Velella*), a small free floating hydrozoan. It's currently the only known species in the genus. They're also known as "sea-rafts" or "by-the-wind-sailors," for the obvious reason that it uses the the "sail" you can see in this image for locomotion. Because of this, they are often found washed up on beaches.



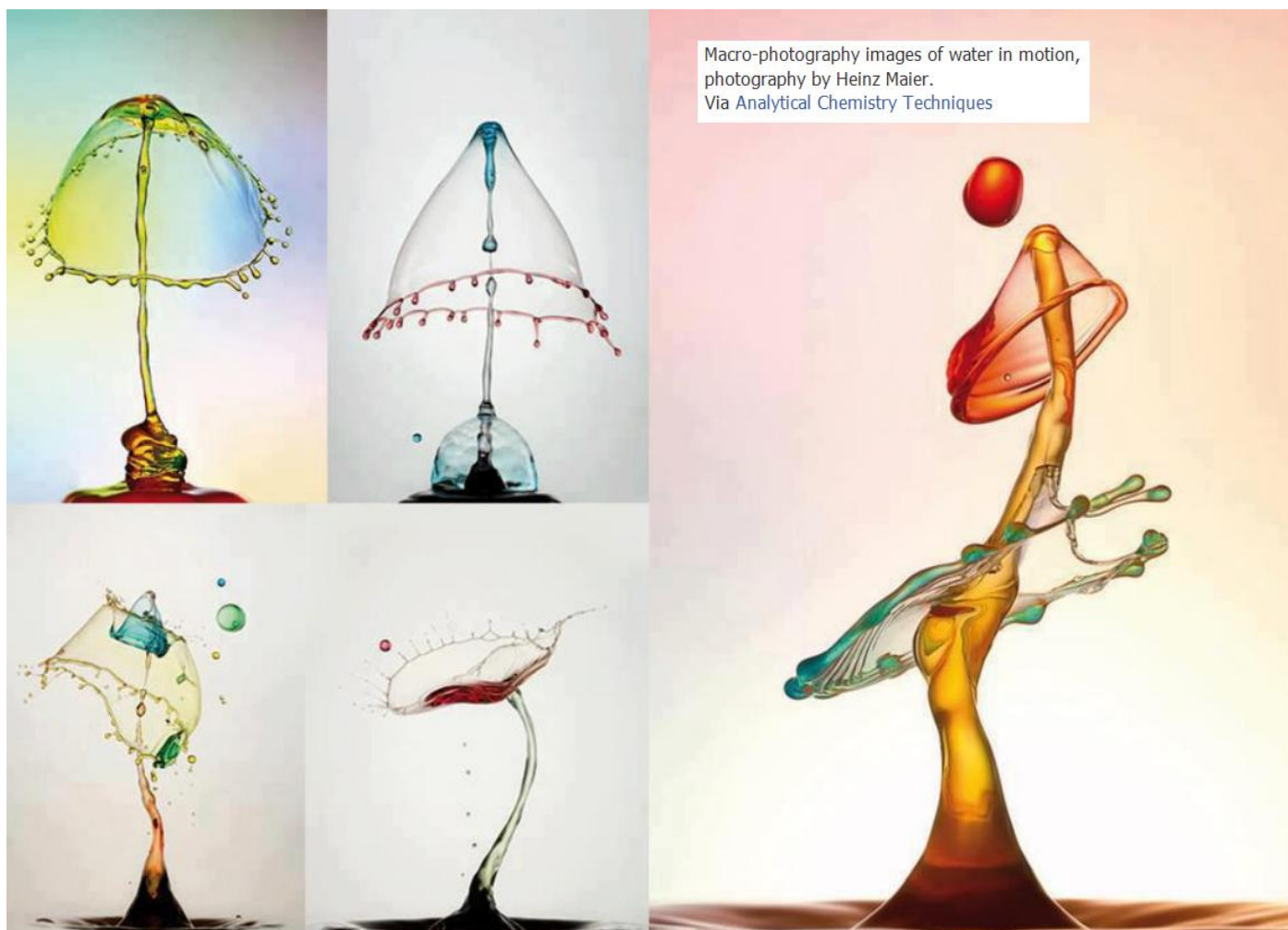
Scientists have measured the temperature of the universe using a a CSIRO radio telescope and found that is is cooling in the exact way predicted by the big bang theory.

ScienceDaily article: <http://bit.ly/XZB9tQ>
Journal paper: <http://bit.ly/Wh36hT>



This is the Giant Leopard Moth. It has a wingspan of approximately three inches, and is found throughout eastern USA.

Photo by Kevin Collins Kevin Collins Photography



Macro-photography images of water in motion, photography by Heinz Maier. Via Analytical Chemistry Techniques

Less than 1% of known species are depicted.
Full size: <http://bit.ly/UMJxMF>

