

Science Snippets 4:

Welcome to this week's roundup of the weird and wonderful world of science. Let's start off with:

Bipedal Crocodiles!

Bizarre as it may seem, an early relative of crocodiles may have walked around on two legs (bipedal), rather than four. Scientists have found a remarkable set of fossilised footprints in South Korea. Originally thought to have been made by pterosaurs (flying reptiles), further study has shown that they were, in fact, made by crocodile-like creatures. You can read more here: <https://www.scientificamerican.com/article/fossil-footprints-help-uncover-the-mysteries-of-bipedal-crocodiles/>

Green Mars:

Some atoms and molecules glow when light shines on them, in a process called fluorescence. For example, the chitin in a scorpion exoskeleton glows blue or green when UV light shines on it, making a UV torch a good way of finding them at night. When astronauts got into space, they noticed that the Earth's atmosphere glows a faint green when sunlight hits it. This was shown to be due to oxygen atoms fluorescing. The Trace Gas Orbiter (TGO) - a joint European-Russian satellite at Mars - has now shown that this also happens on Mars, although the glow is too faint for our eyes to detect. It's thought that the oxygen comes from the breakdown of carbon dioxide in the thin Martian atmosphere: <https://www.bbc.co.uk/news/science-environment-53057055>

More Mars News:

The European Space Agency (ESA) is working with NASA to bring soil samples back from Mars for study. The UK branch of Airbus will be building a new rover module to retrieve the samples collected by NASA's Perseverance rover, and launch them up to a satellite orbiting above Mars, to catch and return to Earth. You can read the details here: <https://www.bbc.co.uk/news/science-environment-53062617>

Help Teach Mars Rovers to Drive:

To help NASA's rovers drive safely across the surface of Mars, their engineers have turned to citizen science project platform Zooniverse for help. They want people with a little spare time to help teach their rovers how to spot dangerous terrain (e.g. soft dust that the rover would bog down in, or slopes that are too steep). You can read more about this here, but do get an adult's permission before you sign up, if you want to get involved:

https://www.zooniverse.org/projects/hiro-ono/ai4mars?utm_source=Newsletter&utm_medium=Email&utm_campaign=announce22june2020

One of our dragons is missing:

Or rather, it was. A rare horn-nosed lizard from Indonesia was last seen over a hundred years ago. Delighted scientists, however, have now found and photographed a live Modigliani lizard in a remote part of the country. It behaves rather like a chameleon, living on tree branches and changing from bright green and yellow to an orange-brown colour when alarmed. The scientists hope to learn more about the lizard, in hopes of being better able to protect its habitat and conserve the population there. You can see pictures of this lovely creature here:

<https://www.sciencenews.org/article/nose-horned-dragon-lizard-lost-science-found>

Drumming makes the heart grow fonder:

Last month some scientists reported (*Scientific Reports* journal) that when people made music together, by drumming to a common rhythm, their heart beats tended to synchronise too. Groups of people who drummed a regular rhythm together reported a greater sense of group cohesion and did better in group activities afterwards than people who drummed to different rhythms together. It looks like music really does bring people together!