



Week ending Friday, March 11, 2022

Aging Reversal

A study published in the journal *Nature Aging* documents how U.S. researchers successfully turned back the biological clock in animals with a form of gene therapy. While such success in humans is not likely for many years or even decades, mice with equivalent ages of between 35 and 50 in humans that were treated with what are known as Yamanaka factors for several months appeared much younger. Their skin and kidneys were said to have shown significant signs of rejuvenation. But older mice with ages equivalent to 80 years in humans showed little or no sign of improvement. The use of Yamanaka factors in humans can trigger cancer, so scientists say far more research is necessary before people can expect a fountain of youth.

Earthquakes

Southern Mexico was jolted by three tremors, with the strongest centered in Oaxaca registering a magnitude of 5.7.

- Tremors were also felt in northwestern Sumatra, Taiwan and West Texas.

Litter Shelters

Octopuses are increasingly being observed and photographed using discarded cans, bottles and other trash as shelter, and even places to safely lay their eggs, hidden from predators. Writing in the journal *Marine Pollution Bulletin*, lead researcher Maira Proietti at Brazil's Federal University of Rio Grande says her team examined hundreds of images from "citizen scientists" to see how the creatures are literally embracing such trash. "They clearly see that there's a lot of litter around, and it can therefore act as a kind of artificial camouflage," said Proietti. But she cautions that sheltering or laying eggs in discarded tires, batteries, plastic containers and other man-made items could expose the octopuses to heavy metals or hazardous chemicals.

Avian Adaptation

A long-term study of birds in Europe reveals many species are being profoundly affected by climate change. By looking at how and when 60 different species lay their eggs, the number of offspring and death rates, researchers found that not all changes have been due to higher temperatures alone. Garden warblers are now having one-quarter fewer chicks, while some classic songbirds, sparrows and finches are getting smaller. Some species are laying their eggs up to 12 days earlier than 50 years ago. Habitat loss, pollution and urbanization could be responsible for some changes.

Fiery Eruptions

A 26-hour surge in activity at Guatemala's Volcán de Fuego (Volcano of Fire) prompted officials to evacuate nearby residents to shelters. An eruption in 2018 killed 194 people and left another 234 missing.

- Hundreds of people living near Indonesia's Mount Merapi fled superheated clouds of volcanic debris and lava flows as the mountain erupted multiple times in a single day on Java.

Carbon Removal

It will now be necessary to efficiently remove carbon dioxide from the atmosphere to keep global warming from exceeding 1.5 degrees Celsius, the aspirational goal outlined in the Paris climate agreement. A new report from Britain's Energy Transitions Commission examines various ways to cleanse the air of carbon emissions, ranging from projects to plant trees around the world to carbon capture and storage. The current technology for removing CO₂ from the air and safely storing it produces almost as much in carbon emissions as it removes. The report says much cleaner methods must be developed because a switch to green and renewable energy won't be enough to meet current climate change goals.

Tropical Cyclones

Cyclone Gombe drenched northern Madagascar before nearing Mozambique late in the week.

- An unnamed tropical storm formed briefly in the southwestern Bay of Bengal.

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