

STEMazing NEWS



Ancient Plague!

Archaeologists often find the remains of civilizations that just seem to have vanished. One reason for these sudden changes may be from outbreaks of plague. A mass grave dated at 3000 BCE was discovered in a farming region of Sweden some years ago. The skeletons are now being analyzed for the presence of bacterial DNA. Lurking in the teeth of the skeletons, scientists have identified the bacteria associated with plague. This is definitely a cold case mystery that looks like it finally can be solved. See and read more at: <https://www.sciencenews.org/article/5000-year-old-mass-grave-harbors-oldest-human-plague-case>



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WALKING ON WATER!

There are a few animals who can walk on water, the ultra-light water strider, an insect that uses the surface tension to skate on the water's surface, and the basilisk lizard that maintains a super high speed hydroplaning action on the water. Tiny geckos have also been observed crawling on the surface. They use a combination of surface tension on their front legs and fast crawling legs on the rear end. Keeping the front part of their body out of the water reduces drag and allows them to skitter over short stretches. See the video and read more at: <https://www.sciencenews.org/article/physics-how-geckos-almost-walk-water?tgt=nr>



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FOG DRINKING BEETLE!

There isn't much water in the Namibian desert on the west African coast. That is an understatement—it almost never rains there, but they do experience coastal fogs. How do some creatures survive without liquid water? One strategy is to hoist up your abdomen when the fog comes in and harvest the dew on your wing covers. Tenebrionidae beetles do just that with hydrophilic exoskeletons. Why should we study these beetles? Learning how we might copy nature and make synthetic materials to attract water may help collect fog water and hydrate humans in dry climates. Read and see more at: <https://asknature.org/strategy/water-vapor-harvesting/#.XAmywRNKigQ>



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Science in the Madhouse!

A new book, *Genetics in the Madhouse* by Theodore M. Porter explores the origins of a formal theory of heredity. Many in the scientific and medical community of the 1800's were obsessed with insanity. There were no apparent therapies or cures, so the aim was to prevent madness from starting. Based on meticulous data on family histories and mental illness, theories of inherited madness were designed from statistical correlations. These data and mathematical calculations were purported to predict mental illness based on the characteristics of the parents. If they could determine the parental characteristics then the aim, of course, was to prevent some people from procreating. These early iterations of human heredity fueled the eugenics movement pushed by the Nazis a century later. Click on the book title above to locate the book and read a review at: <https://www.sciencenews.org/article/study-human-heredity-got-its-start-insane-asylums>



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PEE FLINGER!

If you are standing under a tree and suddenly feel wet, it might be because hundreds of plant bugs are catapulting pee into the air. Glassy-winged sharpshooters (plant sucking fulgorids), use their piercing-sucking mouthparts to remove sap from a plant. They digest the sugars and nutrients and excrete the excess water to the tip of their abdomen. A special hair-like trigger collects the water into a droplet. At the right time, the trigger fires the pee into the air at amazing velocities. This story gives new light on the idea of a “*pea shooter!*”

See and read more at: <https://www.sciencenews.org/article/how-some-sap-sucking-insects-fling-their-pee>

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