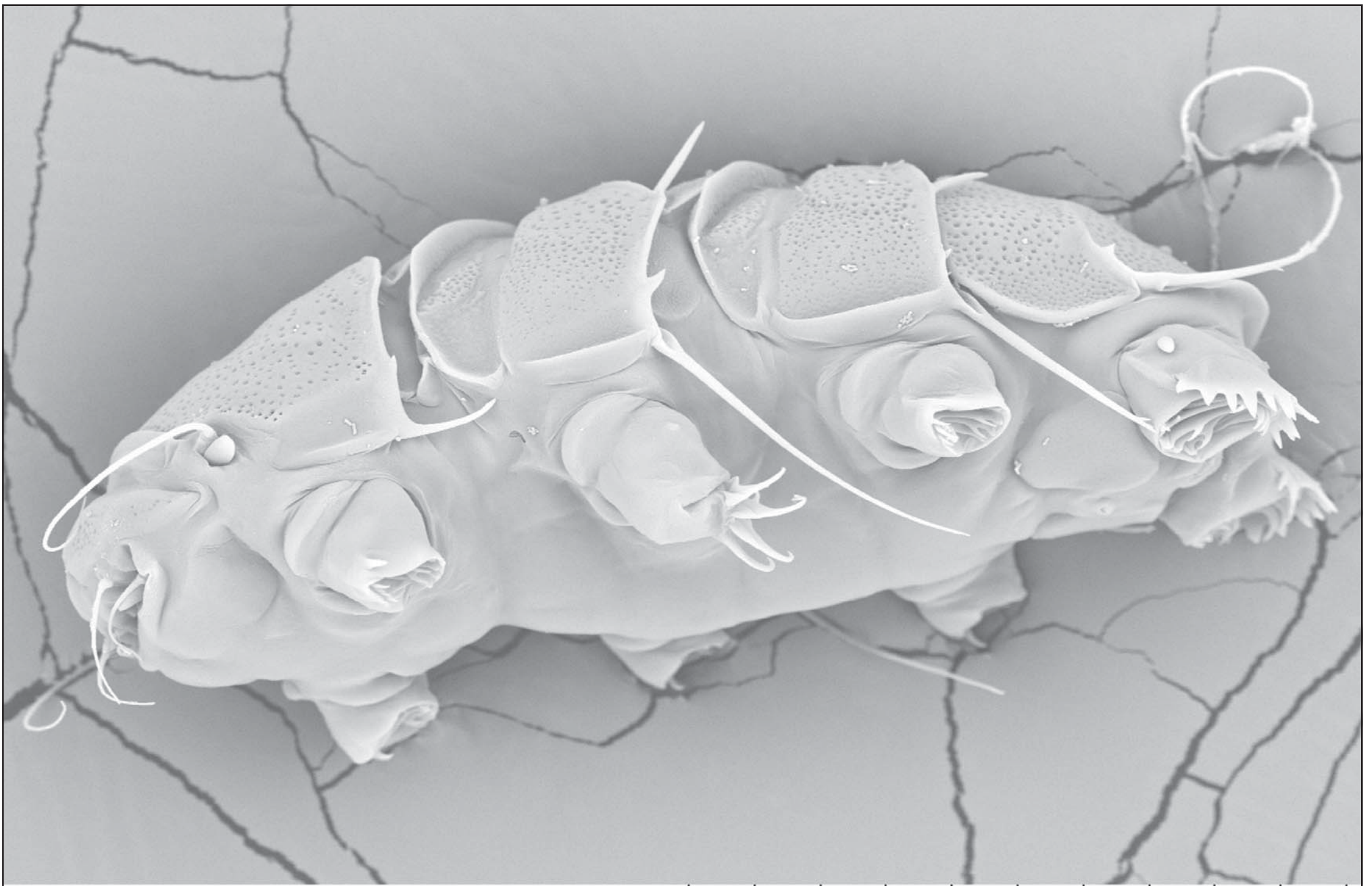


World News Roundup



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Genpak

This undated electron microscope image provided by William Miller of Baker University in March 2019 shows a tardigrade of the class Heterotardigrada, also known as a 'water bear'. The small animals, about the size of a period, are able to survive extreme heat, cold, radiation and even the vacuum of space. (AP)

Science

'Ultimate survivors'

Tardigrades can teach humans about survival

WASHINGTON, March 21. (AP): Earth's ultimate survivors can weather extreme heat, cold, radiation and even the vacuum of space. Now the US military hopes these tiny critters called tardigrades can teach us about true toughness.

These animals are pipsqueaks, only about the size of a period. Under a microscope they look like some combination of chubby bear and single-eyed alien. And they are the closest life gets to indestructible.

No water? No worries. Tardigrades survive. Antarctic cold, 300-degree heat (150°C), a lack of oxygen, even punishing radiation doesn't stop these animals. They are so resilient in the face of so many dangers that scientists think their unique biology may hold clues to how we can make crops more resistant to drought, better preserve blood and medicines, and even make more effective sunscreen.

When the going gets tough for tardigrades, they curl up, dry out and wait. Then, when the environment gets better and they get water, they spring back to life.

Scientists say they can stay dormant for decades before reanimating.

In 2007, scientists put two species of tardigrades in containers, launched them into orbit and opened them up to cold, airless space full of punishing radiation from the sun and stars.

"If you were put into that same thing, you would explode," said tardigrade expert **Randy Miller**, a biologist at Baker University in Kansas. They lived and later multiplied, and the offspring from those tardigrade astronauts are still alive, Miller said.

There are as many as 1,200 species of tardigrades, and they live all over Earth, from mountain tops to ocean depths to driveways. Not all have the ability to go dormant and come back to life.

Speaking from McMurdo Station in Antarctica, Brigham Young University biologist Byron Adams said he can walk a few hundred yards outside and find tardigrades. He called them the tigers of inland Antarctica, near the top of the limited food chain, eating algae and aquatic plants.

Miller said tardigrades seem to be the first animals on Earth to have evolved legs, and, sure enough, they look like a first draft: The rear two legs face backward while the front six face forward.

If they are hurt when they are in an active phase and can't go into survival mode, they die like other creatures. But they don't have a circulatory system or a skeleton, so that allows them to curl up in a hyper-survival mode called "cryptobiosis."

Not all the critters come back from suspended animation, Miller said. But overall, they survive, even living through Earth's five mass extinctions.

University of North Carolina biologist Thomas Boothby wanted to know how they manage to survive in "environments we think of as being impossible to live in." So he isolated the genes that activate when tardigrades need to go into cryptobiosis.

Boothby engineered those genes into yeast and says their tolerance to drought increased 100-fold. He hopes the genes could also help crops better survive drought.



Miller



A statue of 'The god Amun protecting Tutankhamun' is displayed as part of 'Tutankhamun, the treasure of the Pharaoh', an exhibition in partnership with the Grand Egyptian Museum at the Grande Halle of La Villette in Paris, France on March 21. (AP)



Steeds



Musk

Discovery

Boeing delays test flights: Boeing Co has delayed by at least three months its first uncrewed flight to the International Space Station under NASA's human spaceflight program, and pushed its crewed flight until November, industry sources said on Wednesday.

Reuters reported last month that NASA has warned Boeing and rival contractor SpaceX of design and safety concerns the companies need to address before flying humans to space.

Boeing's first test flight was slated for April but it has been pushed to August, according to two people with direct knowledge of the matter. The new schedule means that Boeing's crewed mission, initially scheduled for August, will be delayed until November.

A Boeing spokesman declined to comment.

A NASA spokesman declined to comment but said a new update to the launch schedule would be posted next week.

NASA is paying Boeing and SpaceX about \$6.8 billion to build rocket and capsule launch systems to return astronauts to the International Space Station from US soil for the first time since America's Space Shuttle program went dark in 2011.

Earlier this month an unmanned capsule from **Elon Musk's** SpaceX completed a six-day round-trip mission to the International Space Station. Its astronaut flight is planned for July.

For years, the United States has relied on Russia for rides to the space station. The clock is ticking because there are no seats available for US crew on the Russia space-

Climate

Clean energy companies withholding support

Green New Deal too extreme: firms

WASHINGTON/LOS ANGELES, March 21, (RTRS): US solar and wind power companies may have the most to gain from the Green New Deal, an ambitious proposal backed by several Democratic presidential candidates to end US fossil fuel consumption within a decade.

But do not expect the renewable energy firms to endorse it.

Representatives of America's clean energy companies are withholding their support for the climate-fighting plan, calling it unrealistic and too politically divisive for an industry keen to grow in both red and blue states.

The cool reaction reflects the difficulty that progressive politicians vying for the White House may have in selling aggressive global-warming policy to the business community and more moderate voters.

It also underscores a new reality for US solar and wind power companies long associated with the environmental left: As they have improved technology and lowered prices, their growth is shifting from politically liberal coastal states to the more conservative heartland, where skepticism of climate change and government subsidies runs high.

"If you just broadly endorse the Green New Deal, you are liable to upset one side of the aisle or the other. And that's not constructive," said Tom Werner, the CEO of SunPower Corp, one of the nation's biggest solar power companies.

"The idea that you could go 100 percent (clean energy) in 10 years would require a lot of things happening perfectly, simultaneously," he said. "You'd have to have bipartisan support, 52-state support."

The Green New Deal was introduced last month by Alexandria Ocasio-Cortez, a Democrat Congresswoman from New York, along with fellow Democrat Senator Edward Markey of Massachusetts. It has since become the center of a renewed debate in Washington about how vigorously the government must act to address climate change.

The Congressional resolution, which has no force of law, calls for the federal government to make investments to achieve net-zero greenhouse gas emissions in a decade by meeting 100 percent of America's power demand with clean, renewable sources such as solar, wind, hydroelectric, or geothermal energy.

It also calls for massive investments in green infrastructure projects like "smart grids" to improve efficiency, along with a guarantee of millions of high-wage jobs with paid vacations, medical leave and retirement security. The resolution does not get into detail about how subsequent legislation would achieve these goals.

So far, at least eight Democratic presidential hopefuls – including senators Bernie Sanders of Vermont, Elizabeth Warren of Massachusetts and Amy Klobuchar of Minnesota – have endorsed the plan as they seek to stand

in stark opposition to the pro-drilling policies of President Donald Trump.

Trump's fellow Republicans have widely panned the Green New Deal, saying it would cost trillions of dollars of taxpayer money, may be technically unfeasible, and smacks of radical socialism.

Rhiana Gunn Wright, founder of the think tank New Consensus, which is drawing up Green New Deal policies, said her group will not estimate costs of the plan until it is more fully drafted next year. She said opponents' estimates are premature and do not account for the benefits of climate action and the costs of inaction.

The feasibility of the proposal has been a source of concern for the clean energy industry, too.

"We love the enthusiasm the Green New Deal has brought to the climate issue ... but we need to operate in political reality," said Dan Whitten, vice-president of public affairs at the Solar Energy Industries Association, the solar industry's main lobby group.

Another concern is the fact that the plan extends beyond energy and climate policies to include guarantees of jobs, training and healthcare for communities affected by climate change, said Greg Wetstone, president of the American Council on Renewable Energy, a non-profit organization promoting renewable energy industries.

"It creates controversy and complexity, tying this to issues that are not in our sphere," he said.

craft after 2019 given production schedules and other factors.

NASA said it was considering paying for two more seats to the space station for au-

turn of 2019 and spring of 2020 to ensure US access. (RTRS)

Motor burning out culprit: A drama in



Shards of ice pile up on Lake Michigan along the South Haven Pier in South Haven, Mich, on March 19. (AP)

which a submersible made an emergency ascent from 250 meters (820 feet) below the Indian Ocean was caused by condensation burning out a small motor in the cockpit, the director of the British-led Nekton Mission said on Wednesday.

Oliver Steeds told The Associated Press that the burnout produced an acrid smell of smoke which triggered the pilot's emergency response.

"That's all now been fixed so we're confident now to undertake a dive," Steeds said. (AP)

'Sherlock Holmes' dog cloned: Scientists in southwest China's Yunnan province have cloned what they called the "Sherlock Holmes of police dogs" in a programme they hope will help cut training times and costs for police dogs, state media reported on Wednesday.

The dog, named Kunxun, was cloned from a police sniffer dog by the Beijing-based Sinogene Biotechnology Company and the Yunnan Agricultural University, with support from the Ministry of Public Security, the state-owned tabloid Global Times reported. (RTRS)