

Best of Last Week—electric blue tarantula, AI urban planning, link between chemicals and cancer in women

September 25 2023, by Bob Yirka



Chilobrachys natanicharum. Credit: Yuranan Nanthaisong

It was a busy week for biology research as a team of biochemists and molecular biologists affiliated with several institutions in the U.S. and

Spain reported that [mature human sperm lack intact mitochondrial DNA](#). They found that while mature sperm do carry some mitochondria, they lack intact mtDNA. Also, a team of life scientists, botanists and geneticists affiliated with multiple institutions in China, working with one colleague from Japan and another from Canada, found that [a parasitic plant of the Balanophoraceae family persuades hosts to grow into its own flesh](#)—an example of genome shrinkage. And a team of biologists at Khon Kaen University, in Thailand, working with an amateur YouTube biology enthusiast, discovered [a new electric blue tarantula species in Thailand](#)—the first known example of a tarantula that lives inside bamboo stalks.

In technology news, a team of engineers at the University of Science and Technology of China, Chinese Academy of Sciences, designed [an ultra-stable, high-energy-density Zn–Mn battery](#). And another team at the Chinese Academy of Sciences developed [a new way to recycle materials inside lithium-ion batteries](#)—a method that is both greener and more efficient than other methods. Also, a team of urban planners and information scientists at Tsinghua University in China developed [an AI-based urban planning system that outperforms human experts in creating urban planning designs](#). And a combined team of engineers from Université Clermont Auvergne, CNRS and the University of Toronto Institute of Aerospace Studies, developed [a framework for building risk-aware robot navigation systems operating in unknown environments](#).

In other news, a team of neuroscientists from Harvard Medical School, UCLA and the Wyss Center for Bio and Neuroengineering, tested a technique that involved [regeneration of nerve cells across complete spinal cord injuries](#), reversing paralysis in mice. Also, a combined team of hydrologists from Bangor University in the U.K. and the Swedish University of Agricultural Sciences, [disproved Leonardo da Vinci's, "rule of trees" technique for drawing trees](#). And finally, a combined team of medical researchers from UC San Francisco, the University of

Southern California and the University of Michigan found [significant chemical exposures in women with several types of cancers.](#)

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Citation: Best of Last Week—electric blue tarantula, AI urban planning, link between chemicals and cancer in women (2023, September 25) retrieved 6 July 2025 from <https://sciencex.com/news/2023-09-week-electric-blue-tarantula-ai-urban.html>

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