

'Spidernaut' finds home at Smithsonian museum

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Astronauts Joe Acaba and Sunita Williams photographing the jumping spider in its space flight habitat on board the International Space Station. Credit: NASA

(Phys.org)—A jumping spider named Nefertiti that lived on the International Space Station in a habitat designed and built by a University of Colorado Boulder team has returned to Earth after 100 days in space and found a new home at the Smithsonian Museum of Natural History in Washington D.C.

Dubbed the "Spidernaut," the arachnid was part of a worldwide science project contest called "YouTube Space Lab" in which officials invited

students aged 14-18 from around the world to submit two-minute videos suggesting science experiments that could be conducted aboard the space station. The winning proposal from 18-year-old Egyptian student Amr Mohamed, to see if jumping spiders could adjust their natural hunting behavior to catch prey in microgravity, was transformed into an actual space experiment by researchers at CU-Boulder's [BioServe Space Technologies](#).

"We never would have guessed our little jumping spider would become so famous," said Stefanie Countryman, business manager and outreach coordinator for BioServe. "One of our major thrusts over the years has been to provide educational opportunities for K-12 students around the world, and this was another opportunity for us to work with students on space payloads, a unique project that we hope will help steer many students from around the world into careers in the sciences."

The [jumping spider](#)'s new home is the Smithsonian [National Museum of Natural History](#)'s Insect Zoo, one of the institution's most popular exhibitions. Upon return from ISS to CU-Boulder, Nefertiti was transported from Colorado to Washington, D.C., by National Museum of Natural History Director Kirk Johnson, formerly the director of Denver's Museum of Nature and Science.

Countryman said BioServe worked closely with Paula Cushing at the Denver Museum of Nature and Science and Mary Ann Hamilton of the Butterfly Pavilion in Westminster, Colo., to obtain the jumping spiders and analyze their behavior. BioServe designed, developed and built the spider flight habitat, which was placed inside a BioServe-built device known as a Commercial Generic Bioprocessing Apparatus, or CGBA, on the space station.

BioServe also developed an HD camera system to record high-resolution still images and HD video of the spider habitat, which included the

arachnid and its food, fruit flies, Countryman said. One of BioServe's CGBA devices on board ISS provided power for the lighting system and thermal control of the spider habitat.

During the space experiment the spider's behavior was observed by NASA astronaut Sunita Williams in space and streamed online to Earth. The results? Nefertiti was indeed able to adjust her feeding behavior to account for the effects of microgravity and still catch her prey, said Countryman.

After circling the Earth more than 1,500 times and traveling more than 41 million miles, the spider will spend the rest of her life, estimated to be about six months, at the Insect Zoo. The student space contest was sponsored by YouTube, Lenovo and Space Adventures with the involvement of NASA, the European Space Agency and the Japanese [Space](#) Agency.

More information: www.youtube.com/spacelab
www.colorado.edu/engineering/BioServe/

Provided by University of Colorado at Boulder

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