

# Space, The Final Frontier – For Nematodes

*Pheronym's Fourth Peer-Reviewed Study Contains Surprising Findings for Interstellar Agriculture and Earth*

DAVIS, CA, UNITED STATES, August 10, 2020 /EINPresswire.com/ -- Pheronym, an ag-biotech pest control company, announced today the results of their fourth peer-reviewed study, this one focused on the results of their collaboration with the Center for the Advancement of Science in Space (manager of the International Space Station U.S. National Laboratory) and USDA-ARS during onboard experiments conducted on the [International Space Station \(ISS\)](#) between December 2019 and January 2020. The study, published in Nature

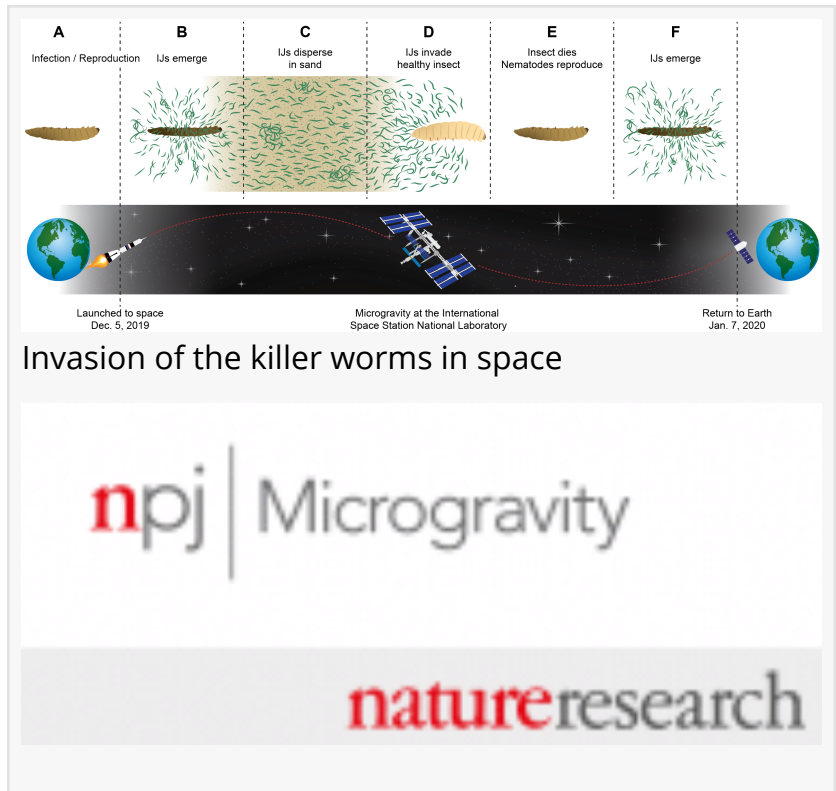
Partner Journal/[npj Microgravity](#), highlights that nematodes successfully emerged from consumed insect host cadavers, moved through the soil, found, and infected bait-insects in a manner equivalent to Earth controls. However, nematodes that developed entirely in space, from the egg stage, died upon return to Earth, unlike controls in microgravity and on Earth.

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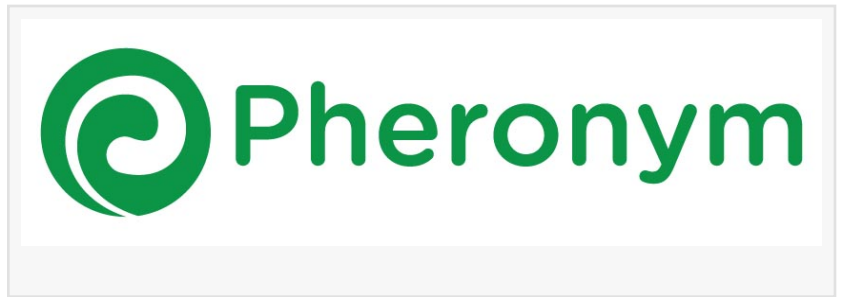


The research, led by Dr. Fatma Kaplan, focused on the beneficial nematodes’ dispersal, foraging, infectivity, and pheromone production in microgravity.

“This agricultural biocontrol experiment in space gives insight to long-term space flight for symbiotic organisms, parasite biology, and the potential for sustainable crop protection in space,” said Dr. Fatma Kaplan, CEO of Pheronym. “It gives us valuable insight on how to keep beneficial nematodes alive and viable for agriculture on

“This mission to space offered a novel perspective and provided new insights into nematode behavior and development; the unique microgravity environment allowed us to explore fundamental mechanisms in parasitism and pathogenesis,” said Dr.

David Shapiro-Ilan, Co-project director, Supervisory Research Entomologist at the USDA-ARS. “It is a small step for nematodes but a giant leap for interplanetary agriculture.”



The success of the nematodes infecting, killing, and reproducing in insects under microgravity conditions is a testament to the broad versatility in controlling agricultural pests in diverse systems,” said Karl Schiller, COO of Pheronym.

The research is sponsored by the ISS U.S. National Laboratory, who partners with NASA to utilize research allocation aboard the orbiting laboratory. After reaching the space station, the project itself was conducted inside of a NanoRacks’ NanoLab. NanoRacks, a for-profit hardware facility partner that supports research on the space station, managed the manifesting, NASA safety review, integration, launch logistics, and on-orbit operations. All of this was done in coordination with and under the ISS National Lab flight allocation.

The newly published study and Pheronym’s previous three peer-reviewed studies can be found [here](#).

About Pheronym:

Award-winning Pheronym is an ag-biotech pest management company that enables sustainable farming through its novel platform of nematode pheromones. Based in Merritt Island, Florida, and Davis, California, the company uses a new pheromone to control plant-parasitic nematodes (microscopic roundworms) in an eco-friendly way and enhances beneficial nematodes’ efficacy to eliminate insect pests. Learn more at <http://www.pheronym.com>.

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