

Chile desert combed for clues to life on Mars

April 6 2017, by Paulina Abramovich



Chile's Atacama desert, like Mars, is hot, and extremely dry, but tiny algae and bacteria that survive there could give clues to potential life on the Red planet

Chile's Atacama desert may seem to contain little besides red-grey rocks and sand—but scientists are busy searching here for clues to life in a place it much resembles: Mars.

This [desert](#) in northern Chile, like the red planet, is hot, dusty and extremely dry.

Yet life exists here: tiny algae and bacteria that have evolved to survive in the parched [earth](#) on little more than sunlight.

If they have done it here, then why not on Mars, 225 million kilometers (140 million miles) away?

"If life existed there, it would probably be very similar to life here," says biologist Cristina Dorador from the nearby University of Antofagasta.

"We do not know if that is the case, because we do not have any evidence," she adds, as she breaks up bits of rock salt in an area of the desert known as Yungay Station.

"But if we manage to understand how these micro-organisms live, how they obtain moisture and how they adapt to these conditions, then probably very soon, when we have more information about life forms on other planets, we will have something here on Earth to compare it with."

Scratching the surface

Dorador will analyze the fragments in a mobile laboratory which she drives around the desert in search of tiny life forms.



If life existed on Mars it "would probably be very similar" to life found in Chile's Atacama desert, says biologist Cristiana Dorador

She is one of dozens of scientists from various countries working on different Mars-related projects in the Atacama desert.

Separately, US [space agency](#) NASA in February carried out its second phase of practice-drilling for samples in the earth of Atacama with specially designed rovers.

"If life exists or ever existed on Mars, the planet's surface dryness and extensive (sunlight) radiation exposure would likely drive it underground," NASA said in a report.

"That makes locations like the Atacama good places to practice looking for life on Mars."

If fossil life on Mars resembled Atacama, it could shed light on our own origins.

"Studying Mars may help understand how life started on Earth," says Christian Nitschelm, a French astronomer at Antofagasta University.

Curiosity

Space agencies and science fiction writers alike have long been fascinated by Mars—one of the closest planets to Earth.



From a mobile research station in Chile's Atacama desert scientists study algae and bacteria that survive on little more than sunlight for clues to possible life on Mars

The Soviet Union and United States started aiming probes there in the 1960s.

For the past four years NASA has had a robot, Curiosity, on the planet searching for life.

It has sent back photographs of the planet's surface whose grey rocks look much like those of Atacama.

NASA plans to send a second robot there in 2018. In 2020, Russia and the European Space Agency also aim to send one to drill the Martian soil.

US President Donald Trump has taken up his predecessor Barack Obama's pledge to send humans to Mars in the 2030s.

Scientists have detected traces of water and methane gas on Mars, raising hopes of finding life there.

Within our solar system, there is nowhere but Mars with such conditions for life, Nitschelm says.

"If there is no [life](#) on Mars, there is none anywhere" but on Earth, he says.

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