

WATER TRACES FOUND ON ASTEROID BENNU

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Seeds of life: Analysis of samples from Bennu may offer some clues to the origins of life on the earth. | Photo Credit: [AFP](#)

NASA's OSIRIS-REx spacecraft has discovered ingredients for water on a nearby skyscraper-sized asteroid, a rocky acorn-shaped object that may hold clues to the origins of life on the earth, scientists said on Monday.

OSIRIS-REx, which flew last week within a scant 19 km of the asteroid Bennu some 2.25 million km from the earth, found traces of hydrogen and oxygen molecules — part of the recipe for water and thus the potential for life — embedded in the asteroid's rocky surface.

The probe, on a mission to return samples from the asteroid to the earth for study, was launched in 2016. Bennu orbits the Sun at roughly the same distance as the earth.

There is concern among scientists about the possibility of Bennu impacting the earth late in the 22nd century.

“We have found the water-rich minerals from the early solar system,” planetary scientist Dante Lauretta from the University of Arizona, who is also OSIRIS-REx mission's principal investigator, said.

Asteroids are among the leftover debris from the solar system's formation some 4.5 billion years ago. Scientists believe asteroids and comets crashing into early earth may have delivered organic compounds and water that seeded the planet for life, and atomic-level analysis of samples from Bennu could provide key evidence to support that hypothesis.

“When samples of this material are returned by the mission to the earth in 2023, scientists will receive a treasure trove of new information about the history and evolution of our solar system,” Amy Simon, a scientist at NASA's Goddard Space Flight Center in Maryland, said in a statement.

“We're really trying to understand the role that these carbon-rich asteroids played in delivering water to the earth and making it habitable,” Ms. Lauretta added.

OSIRIS-REx will pass later this month just 1.9 km from Bennu, entering the asteroid's gravitational pull and analysing its terrain. From there, the spacecraft will begin to gradually tighten its orbit around the asteroid, spiralling to within 2 meters of its surface so its robot arm can snatch a sample of Bennu by July 2020. The spacecraft will later fly back to the earth, jettisoning a capsule bearing the asteroid specimen in September 2023.

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