

# Hayabusa2 spacecraft of Japan carrying asteroid samples

December 8, 2020

In news

Recently, Japan retrieved a space probe carrying asteroid (first extensive )samples that may hold clues to the origin of planets

## Key highlights of the mission

- Japan Aerospace Exploration Agency's (JAXA) Hayabusa2 mission seeks to answer some fundamental questions about the origins of the solar system and where molecules like water came from.
- Hayabusa2 spacecraft, launched from Japan's Tanegashima space centre in 2014, took four years to reach the asteroid Ryugu before taking a sample and heading back to Earth in November 2019.
- JAXA's space probe, named for the peregrine falcon, orbited above the asteroid for a few months to map its surface before landing. Then it used small explosives to blast a crater and collected the resulting debris.
- The mission is a follow-up of Hayabusa, which returned samples of asteroid Itokawa to Earth in 2010 despite numerous technical difficulties.

## Asteroid Ryugu

- Asteroids are believed to have formed at the dawn of the solar system, and scientists say this one may contain organic matter that may have contributed to life on Earth.
- Asteroid 162173 Ryugu is a diamond-shaped space rock visited by the Japanese spacecraft Hayabusa2, which took a sample from the asteroid's surface to return to Earth.

- This asteroid was discovered in 1999 by the Lincoln Near-Earth Asteroid Research (LINEAR) project, a collaborative, U.S.-based project to catalogue and track space rocks.
- Ryugu is orbiting the sun between Earth and Mars and occasionally crosses Earth's orbit, which means the space rock is classified as "potentially hazardous," though the body poses no imminent danger to our world.