New bacteria found on International Space Station

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In news : Four species of bacteria have been identified on ISS, one of which has been named after Indian biodiversity scientist Seyed Ajmal Khan who is a professor at the Annamalai University in Tamil Nadu.

Key updates on the recent discovery

- The discovery began questions about how they got there, and how they have managed to survive.
- Researchers from the University of Hyderabad, working with NASA, have described the discovery and isolation of four strains of bacteria
- Of the four, one strain was identified as Methylorubrum rhodesianum bacteria, the other three strains were previously undiscovered
- The researchers have proposed to call one of the novel strains as Methylobacterium ajmalii, after Seyed Ajmal Khan
- The rod-shaped bacteria found in ISS are involved in nitrogen fixation, plant growth and biocontrol activity against plant pathogens.
- These new bacteria were identified from swabs of various locations inside the ISS.
- All of them are rod-shaped bacteria belonging to the Methylobacteriaceae family – usually found in soil and freshwater, where they help to promote plant growth and defend against pathogens.

Significance of the discovery:

It may bolster future efforts to cultivate crops during long spaceflight missions, since related species are known to promote the growth of plants and help them fight off

pathogens. Biotechnologically useful genetic determinants for the growing of crops in space.

Previous studies on the survival of bacterias

Previous studies had suggested that certain resilient strains of bacteria could survive the harsh conditions of space, including dried pellets of Deinococcus bacteria listed in the Guinness World Records as the world’s toughest which survived on the space station’s surface for three years.

These bacteria were deliberately placed there to test the “panspermia” theory, that life exists throughout the universe and may be transported between planets by space dust, asteroids, comets, or even contaminated spacecraft.