



A Tale of Two Terras

Ever since Galileo peered into his first telescope in 1608, man has been scouring the skies in search of another world like ours. On 24 April 2007, astronomers around the globe finally popped the celestial champagne cork: Gliese 581c, a potentially habitable planet, was found.

Discovered in the constellation Libra by a team from the Geneva Observatory, Gliese 581c orbits a red dwarf star, which is smaller and cooler than our sun. The planet lies in the narrow "Goldilock zone" of its solar system, the slim stretch of space around a star where temperatures are not too hot like Mercury, not too cold like Pluto, but just right like Earth's average of 57°F/14°C. This means that liquid water, the key ingredient for life as we know it, may exist on the surface. The equilibrium temperature on Earth's long-lost twin is estimated to be 26.6°F/-3°C, but may be warmer depending on the presence of an atmosphere.

Known as a "super-earth", the planet has five times the mass of Earth, a radius 50 percent larger, and a 13-day

year. What's not so super is that Gliese 581c is thought to be "tidally locked", meaning one hemisphere is stuck facing the sun where it is perpetually day and too hot to support life, while the other hemisphere faces away from the sun where it is perpetually night and too cold. However, it is along this slender crescent between the two hemispheres, aptly called the "twilight zone," where we are most likely to find our nearest galactic neighbors.

"This planet will most probably be a very important target of the future space missions dedicated to the search for extra-terrestrial life," reports Xavier Delfosse, a team member from Grenoble University in France, in a press release from the European Southern Observatory. "On the treasure map of the Universe, one would be tempted to mark this planet with an X."

But don't plan to drop by with a muffin basket just yet. Gliese 581c is about 120 trillion miles away, so the only welcome wagon we'll be sending any time soon is a possible interstellar probe. JM ◻