

TRAPPIST-1 Star System

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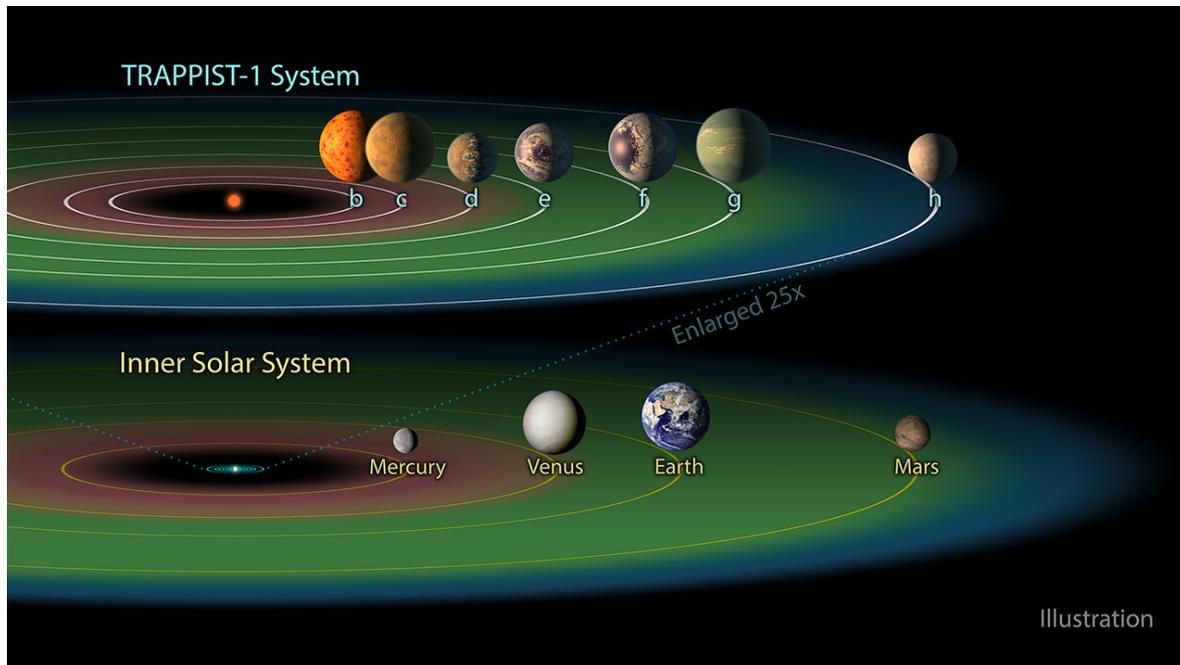
Abstract

The James Webb Space Telescope (JWST) will soon transcend what the Hubble has been able to explore. One of its first targets will likely be the TRAPPIST-1 star system in Aquarius. This essay explores why one puny red dwarf is so interesting, and why the hunt for alien life forms may never be the same.

Humans have long been selfishly obsessed with the unwelcome possibility that God also creates life elsewhere, and that we are not really that special. Some of that obsession comes from our reading old tribal religious texts, and some comes from curiosity. In light of recent sightings of actual alien spacecraft by American fighter jets, the quest for smart alien life is a worthy endeavor. The [JWST](#) is our latest window into that puzzle. We explore what the James Webb and similar technology can and cannot discover.

At the beginning is cellular life itself, however primitive. That vast level is absent from pre-scientific religious texts. Mystical Bronze Age narratives portray humans as valued moral actors from the very start of Creation a few thousand years ago.

The real reason for seeking, for now, only the most basic life forms is to prime the money pump for more ambitious scientific discoveries, hopefully involving details about who or what has sent alien craft to buzz our planet. We could just wait for the aliens to properly present themselves; but who knows how long that will take, if ever? Also, the best defense is a good offense.



Why is the above artistically imagined [18.8 visual magnitude TRAPPIST-1 star system](#) so interesting and attractive? Here are ten reasons:

- (1) It is "only" 39.46 light years away = 235 trillion miles;
- (2) This common red dwarf star is old and small;
- (3) We have detected several Earth-sized rocky planets;
- (4) At least two or three planets are in the Goldilocks zone;
- (5) It's close enough that maybe, just maybe, the buzzing alien craft in our skies are from one of those planets;
- (6) All TRAPPIST-1 planets' atmospheres are within the JWST's powers to discover some basic signs of possible life;
- (7) This target is something our space budgets can handle;
- (8) Our future robot astronauts may eventually visit them;
- (9) Advanced lives in other stellar systems are more exciting than finding bacteria and viruses within our solar system;
- (10) Our visible universe has trillions of potential life friendly stellar systems. What then about our special creation?

Below are additional reasons for why these first ten attractions *may not* all be so compelling in our search for advanced life:

(1) TRAPPIST-1 is 39.46 light years away – and then double that for any single round trip. Even traveling at the speed of light, it would take 78.92 years to make one physical visit. In reality, space vessel speeds are far slower – taking centuries for any single visit – and that’s just for this fairly close star system.

(2) Red dwarf stars can have planets, as do yellow and larger dwarfs such as Sol, our home star. Red dwarfs have less net gravitational attraction, so their planets have much closer orbits. Red dwarfs are also notorious for their energy bursts, but this particular red dwarf seems not to be too severe at this time.

(3 and 4) Having multiple planets is interesting, but not critical by itself. Other factors, such as rocky planetary mass, atmospheric gases, and if they orbit within their local Goldilocks zone, are critical. As seen from the image above, there is hope for complex life within at least two or three of the planets.

(5) Alien aircraft zipping around our atmosphere have to come from somewhere. Their origin need not be restricted to the TRAPPIST-1 system. As long as the alien ships are inhabited by robots, they could be from any of many other sources in our galaxy’s neighborhood. In theory, alien ships could arrive from anywhere in the universe, but time and extreme distances forbid that as anything other than a thought experiment. Fortunately, several planetary sources of advanced life with space technology even better than our own [could be within travel range](#).

(6 and 7) The JWST has a segmented mirror 6.5 meters in diameter, versus the Hubble’s 2.4 meters, yielding almost six times the light gathering power of the HST, and finer resolution. Furthermore, the new optics come with five layers of solar heat shields for better cryonic results. The new computers are much faster, and so forth. Still, only a telescope array, possibly on the Moon, devoted to examining nearby planets could give us strong evidence for some form of industrial life. Even such an awesome compound lunar instrument could not by itself identify which alien planet is the source of those mystery alien craft in our skies.

(8) It would be exquisitely ironic if in future centuries Earth's advanced robotic space craft were to become "ancient aliens" visiting distant ecosystems. Let's hope we squishy ape creatures are still here on Earth to help engineer the amazing journeys, and enjoy the irony.

(9 and 10) Going on vacation trips can be more fun than vacation destinations. The hunt for big game trophies can be more fun than killing the trophy animal. We likewise may spend several human generations preparing our robots for future cosmic Columbus journeys – while continuing to minimize how we are selfishly trashing our own planet, and critically imperiling our precious existence. Even a future Elon Musk from his base on Mars could not cleverly spin this seductively suicidal scenario.

