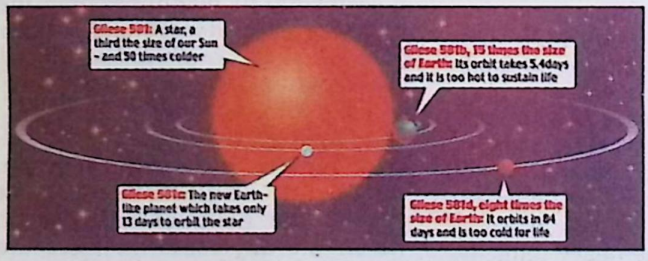
IT's got the same climate as Earth, plus water and gravity. A newly discovered planet is the most stunning evidence that life - just like us - might be out there.

Above a calm, dark ocean, a huge, bloated red sun rises in the sky - a full ten times the size of our Sun as seen from Earth. Small waves lap at a sandy shore and on the beach, something stirs...

This is the scene - or may be the scene - on what is possibly the most extraordinary world to have been discovered by astronomers: the first truly Earth-like planet to have been found outside our Solar System.

The discovery was announced today by a team of European astronomers, using a telescope in La Silla in the Chilean Andes. If forced bookies to slash odds on the existence of alien beings.

Found 20 light years away: The New Earth



The Earth-like planet that could be covered in oceans and may support life is 20.5 light years away, and has the right temperature to allow liquid water on its surface.

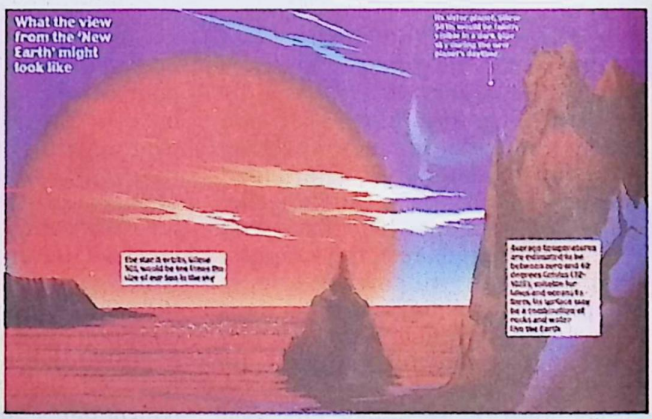
This remarkable discovery appears to confirm the suspicions of most astronomers that the universe is swarming with Earth-like worlds. We don't yet know much about this planet, but scientists believe that it may be the best candidate so far for supporting extraterrestrial life.

The new planet, which orbits a small, red star called Gliese 581, is about one-and-a-half times the diameter of the Earth. It probably has a substantial atmosphere and may be covered with large amounts of water - necessary for life to evolve - and, most importantly, temperatures are very similar to those on our world.

It is the first exoplanet (a planet orbiting a star other than our own Sun) that is anything like our Earth.

Of the 220 or so exoplanets found to date, most have either been too big, made of gas rather than solid material, far too hot, or far too cold for life to survive. "On the treasure map of the Universe, one would be tempted to mark this planet with an X," says Xavier Delfosse, one of the scientists who discovered the planet. "Because of its temperature and relative proximity, this planet will most probably be a very important target of the future space missions dedicated to the search for extraterrestrial life." Gliese 581 is among the closest stars to us, just 20.5 light years away (about 120 trillion miles) in the constellation Libra. It is so dim it can be seen only with a good telescope.

Because all planets are relatively so small and the light they give off so faint compared to their sun, finding exoplanets is extremely difficult unless they are huge. Those that have so far been detected have mostly been massive, Jupiter-like balls of gas that almost certainly cannot be home to life. This new planet - known for the time being as Gliese 581c - is a midget in comparison, being about 12,000 miles across (Earth is a little under 8,000 pole-to-pole). It has a mass five times that of Earth, probably made of the same sort of rock as makes up our world and with enough gravity to hold a substantial atmosphere.



Astrobiologists - scientists who study the possibility of alien life - refer to a climate known as the Goldilocks Zone, where it is not so cold that water freezes and not so hot that it boils, but where it can lie on the planet's surface as a liquid.

In our solar system, only one planet - Earth -lies in the Goldilocks Zone. Venus is far too hot and Mars is just too cold. This new planet lies bang in the middle of the zone, with average surface temperatures estimated to be between zero and 40c (32-102f). Lakes, rivers and even oceans are possible.

It is not clear what this planet is made of. If it is rock, like the Earth, then its surface may be land, or a combination of land and ocean. Another possibility is that Gliese 581c was formed mostly from ice far from the star (ice is a very common substance in the Universe), and moved to the close orbit it inhabits today.

In which case its entire surface will have melted to form a giant, planet-wide ocean with no land, save perhaps a few rocky islands or icebergs. The surface gravity is probably around twice that of the Earth and the atmosphere could be similar to ours.

Although the new planet is in itself very Earth-like, its solar system is about as alien as could be imagined. The star at the centre - Gliese 581 - is small and dim, only about a third the size of our Sun and about 50 times cooler. The two other planets are huge, Neptune-sized worlds called