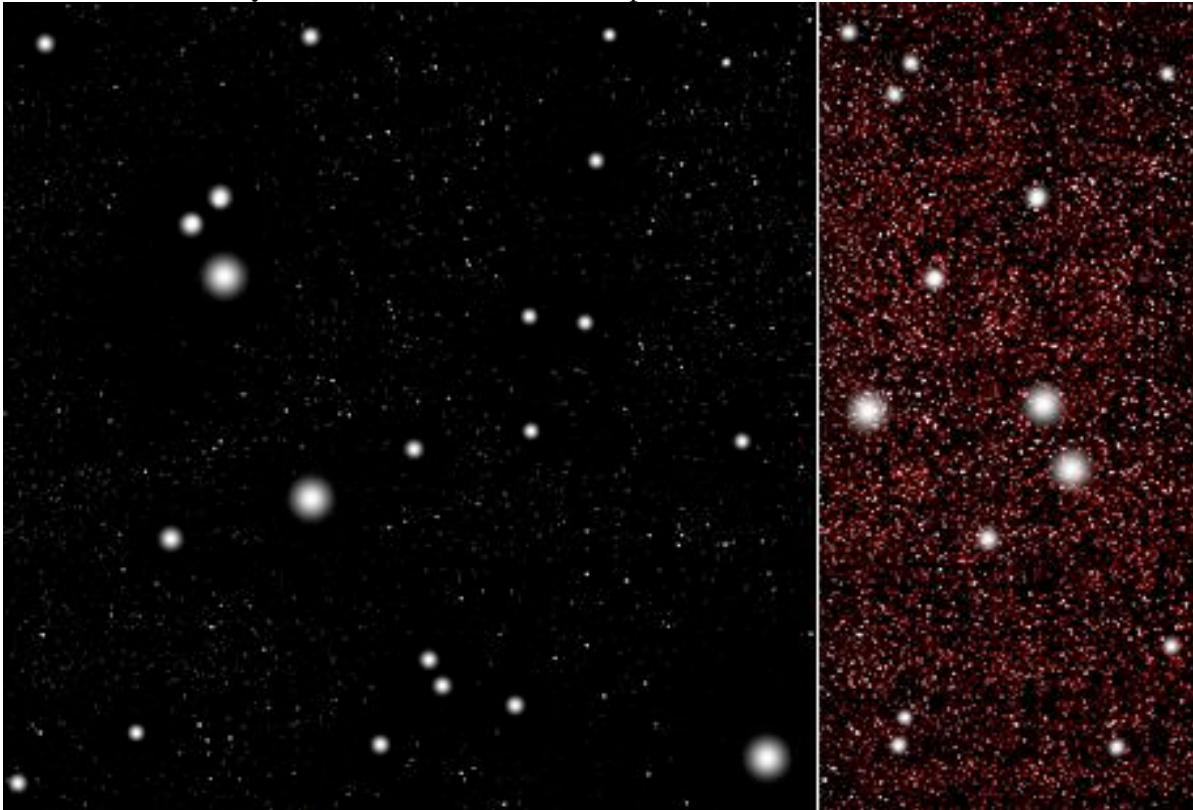


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'Trillions' of Earths orbit red stars in older galaxies



By Pallab Ghosh Science correspondent, BBC News



Red sky at night: The view from a planet in our galaxy (left) but planets in older galaxies (right) are bathed in a rosy glow from the many red stars in the night sky (artist's impression)

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Astronomers say the Universe may contain three times the number of stars as is currently thought.

Their assessment is based on new observations showing other galaxies may have very different structures to our Milky Way galaxy.

The researchers [tell the journal Nature](#) that more stars probably means many more planets as well - perhaps "trillions" of Earth-like worlds.

The Yale University-led study used the Keck telescope in Hawaii.

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“Start Quote

There are possibly trillions of Earths orbiting these stars”

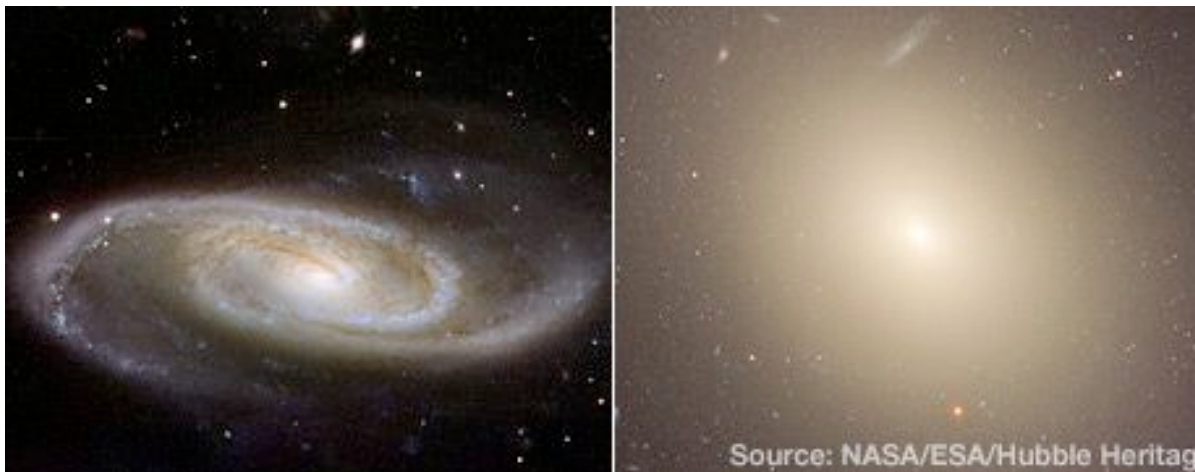
End Quote Professor Pieter Van Dokkum Yale University

It found that galaxies older than ours contain 20 times more red dwarf stars than more recent ones.

Red dwarfs are smaller and dimmer than our own Sun; it is only recently that telescopes have been powerful enough to detect them.

According to Yale's Professor Pieter van Dokkum, who led the research, the discovery also increases the estimate for the number of planets in the Universe and therefore greatly increases the likelihood of life existing elsewhere in the cosmos.

"There are possibly trillions of Earths orbiting these stars," he said. "Red dwarfs are typically more than 10 billion years old and so have been around long enough for complex life to evolve on planets around them. It's one reason why people are interested in this type of star."



Two-thirds of the observable Universe consists of spiral galaxies (L) like our own Milky Way. The remainder is made up of older elliptical galaxies (R)
The findings also help to account for what astronomers describe as the "missing mass" in the Universe.

The movement of galaxies suggests there is more material in the cosmos than can be observed, so scientists have suggested that some is invisible, referring to it as "dark matter".

Dr Marek Kukula of the Royal Observatory Greenwich (ROG), UK, said: "the discovery of more stars in the Universe means that we might not need quite as much dark matter as we thought to explain how the Universe looks and behaves.

"It also tells us something about how the very first galaxies must have formed from the gas left over from the Big Bang."

And the ROG's Dr Robert Massey added: "Finding red dwarfs in other galaxies is quite

something and shows how far we've come with the latest generation of large telescopes.

"If these stars are more common in elliptical galaxies than in our own, it's also consistent with the idea that they have a larger number of older stars than us. The lifespan of red dwarfs is many times longer than that of stars like our Sun."