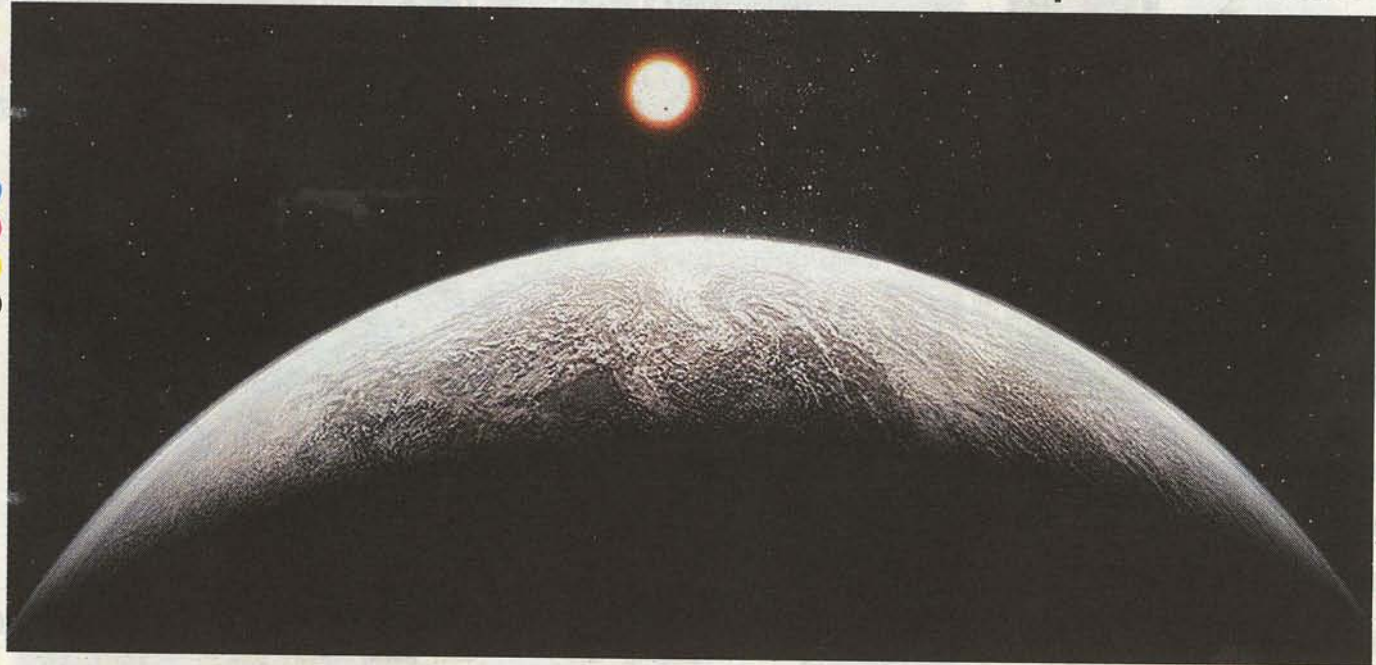


16 PLANETS THAT MAY HARBOUR LIFE

A planet like Earth has to have everything just so to support life – the right size, composition and distance from a star. Astronomers have now discovered a trove of potential candidates



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Astronomers using the European Space Observatory's exoplanet hunter HARPS have today announced a rich haul of more than 50 new exoplanets, including 16 super-Earths, one of which orbits at the edge of the habitable zone of its star. (Planets with a mass between one and ten times that of the Earth are called super-Earths.)

By studying the properties of all the planets found so far, the team has found that about 40 per cent of stars similar to the Sun have at least one planet lighter than Saturn.

The HARPS spectrograph on the 3.6-metre telescope at ESO's La Silla Observatory in Chile is the world's most successful planet finder. This is the largest number of such planets ever announced at one time.

"The harvest of discoveries from HARPS has exceeded all expectations and includes a rich population of super-Earths and Neptune-type planets hosted by stars similar to our Sun," says Michel Mayor, the lead researcher.

In the eight years since it started surveying stars like the Sun and has been used to discover more than 150 new planets. The observatory has also been searching for rocky planets that could support life. Ten nearby stars similar to the Sun were selected for this new survey.

These stars had already been observed by HARPS. After two years of work, the team of astronomers has discovered five new planets with masses less than five times that of Earth.

"These planets will be among the best targets for future space telescopes to look for signs of life in the planet's atmosphere by looking for chemical signatures such as evidence of oxygen," explains Francesco Pepe, the lead author of one of the papers.

A SUPER-EARTH WITH WATER?

One of the newly discovered planets, HD 85512 b, is estimated to be only 3.6 times the mass of the Earth and is located at the edge of the habitable zone – a narrow zone around a star in which water may be present in liquid form if conditions are right.

"In the coming ten to twenty years we should have the first list of potentially habitable planets. Making such a list is essential before future experiments can search for possible signs of life," concludes Michel Mayor, who discovered the first-ever exoplanet around a normal star in 1995.

A PRESENTATION OF THE 50 EXOPLANETS

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