

Strange planet has triple sunsets and a super-long year

World in three-star system also experiences unusual seasons.

Elena Bozhkova

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A bizarre solar dance has been uncovered by researchers who spotted a giant planet orbiting one of the three suns of a triple-star system.

The system was found in the constellation Centaurus, about 98 parsecs (320 light years) from Earth¹. As shown in an artist's impression in this video, the planet, called HD 131399Ab, orbits the largest of the three stars. The other two stars also orbit the largest, and each other.

This is not the first planet to be found with three suns, but HD 131399Ab's enormously wide orbit makes it unlike any other known world. The planet, which is four times the size of Jupiter, is 82 astronomical units (the distance between Earth and the Sun) from its primary star, and 300–400 astronomical units from the other two.

A year on the planet lasts for about 550 Earth years. For the first few hundred years, when the planet is on the side of the system opposite all three stars, the team says that it will experience three sunrises and three sunsets each day. During its second 'season', it is in constant daylight.

Now, the researchers that detected HD 131399Ab need to wait until it has moved within the system before they can say more about its origin and fate. The planet is young, and may not remain part of the system.

"Computer simulations predict that planets in such extreme configurations can experience exotic behaviour," says Kevin Wagner, an astronomer at the University of Arizona in Tucson, who led the study.

Such behaviour could include irregular and rapidly evolving orbits or, in more extreme scenarios, the complete ejection of the planet

from the solar system.

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References

1. Wagner, K. *et al.* *Science* <http://dx.doi.org/10.1126/science.aaf9671> (2016).