

Study: Earth shares its orbit with tiny asteroid

27 July 2011, By MALCOLM RITTER , AP Science Writer

(AP) -- Like a poodle on a leash, a tiny asteroid runs ahead of Earth on the planet's yearlong strolls around the sun, scientists report.

The discovery of this companion, which measures only about 300 yards across, makes Earth the fourth planet in the solar system that's known to share its orbit with an asteroid.

Imagine Earth and the asteroid traveling around a clock face, with the sun in the middle. Generally, the asteroid runs about two numbers ahead.

However, the asteroid sometimes ranges so far ahead that it's on the opposite side of the sun from Earth, said Martin Connors of Canada's Athabasca University in Alberta. He reports the work with colleagues in Thursday's issue of the [journal Nature](#).

Asteroids are giant space rocks that orbit the sun, and ones that share an orbit with a planet are called Trojans. Scientists had previously found a few for Mars and [Neptune](#) and nearly 5,000 for Jupiter. Spotting one in Earth's orbit is difficult from the ground because the potential locations are generally in the daytime sky.

The newfound object, called 2010 TK7, was discovered last year by NASA's WISE satellite. Connors and colleagues were able to focus a ground-based telescope in Hawaii on it in April, determining its [orbit](#) with enough precision to show it was a Trojan.

Donald K. Yeomans, manager of NASA's Near-Earth Object Program Office, who didn't participate in the discovery, agreed that the [asteroid](#) is a Trojan. Most scientists suspected Earth had them, he said, and "I would guess there's others.

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APA citation: Study: Earth shares its orbit with tiny asteroid (2011, July 27) retrieved 18 September 2020 from <https://phys.org/news/2011-07-earth-orbit-tiny-asteroid.html>

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