

UWA Zadko Telescope helps reconstruct 'Barbarian' asteroids

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The University of Western Australia's Zadko Telescope has been used by an international team to reconstruct the shape of a rare 'Barbarian' asteroid (space rock).

Named after the first asteroid of this type discovered, Barbara (234), Barbarians are a key to understanding how the solar system first formed. Barbarians are extremely rare and ancient, and were present before the Earth was created. Only 13 Barbarians have ever been discovered.

UWA School of Physics Zadko Director Associate Professor David Coward said in the creation of the solar system the [space rocks](#) were the foundation for planet formation, such as the Earth, and ultimately the start of life.

"Like a time machine, being able to re-construct their [shape](#) and properties helps us go back in time to better understand our beginnings," he said.

The shape of asteroids is important because it is like a fossil record of the environment when they first formed. This environment was extremely violent, with collisions between [space](#) rocks common place. Earth's Moon, covered in impact craters, is evidence of this violent past.

Associate Professor Coward said Barbarians were usually too far away to be observed by telescopes.

"To get around this, 16 telescopes involved in the study were used to detect tiny changes in light intensity to reconstruct the shape of the Barbarian from the light pattern using powerful computers," he said.

"The Zadko telescope was critical in determining the shape of the asteroid because it provided critical data only available from Western Australia."

The Zadko [telescope](#) located near Gingin in Western Australia is part of a global network of telescopes linked to a NASA satellite ground station. Its unique geographical location allows it to explore a huge section of uncharted and previously unmonitored parts of space.

The global research led by scientists from France and Belgium, includes sixteen research institutes across the globe.

The Zadko Telescope, operated by the UWA School of Physics, was made possible by a philanthropic donation to UWA by James Zadko.

Provided by University of Western Australia

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