

ASTRONOMY**Messenger spacecraft gleans clues to Mercury's past**

Tuesday, February 26, 2008 3:00 AM

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This picture shows a new geologic feature, dubbed "the spider," on the surface of Mercury. It was taken a few weeks ago by NASA's Messenger spacecraft on its recent flyby.

Why "the spider"? Those are radial canyons emanating from the central crater. There is no water on Mercury -- its surface temperature is about 800 degrees Fahrenheit in direct sunlight -- so the canyons were not caused by water erosion. Scientists don't know what caused the canyons, but the central crater is almost certainly from a meteor impact. Other pictures, when combined with laser range-finding data from Messenger, show that Mercury has stark mile-high cliffs that stretch for hundreds of miles. The leading idea is that these cliffs are from fault activity early in Mercury's history, when it cooled and its surface contracted. This might sound far-fetched, but how else could these weird surface features have occurred?



NASA

Messenger is an acronym for Mercury Surface Space Environment Geochemistry and Ranging and is aptly named. In Greek and Roman mythology, Mercury was the messenger of the gods.

The planet moves in the night sky at a rate faster than the other planets. Being so speedy, this fleet-footed planet was associated with a runner who delivered messages for the gods. (That was back before e-mail.)

The Messenger spacecraft will return to Mercury in a few years to take

up orbit around this strange planet. Then its entire surface can be mapped and its geology determined.

There are many mysteries of Mercury yet to be understood. For example, why does Mercury have a higher mass density than any other planet? Why do only Mercury and Earth have a global magnetic field?

Data from Messenger will help to solve these mysteries.

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