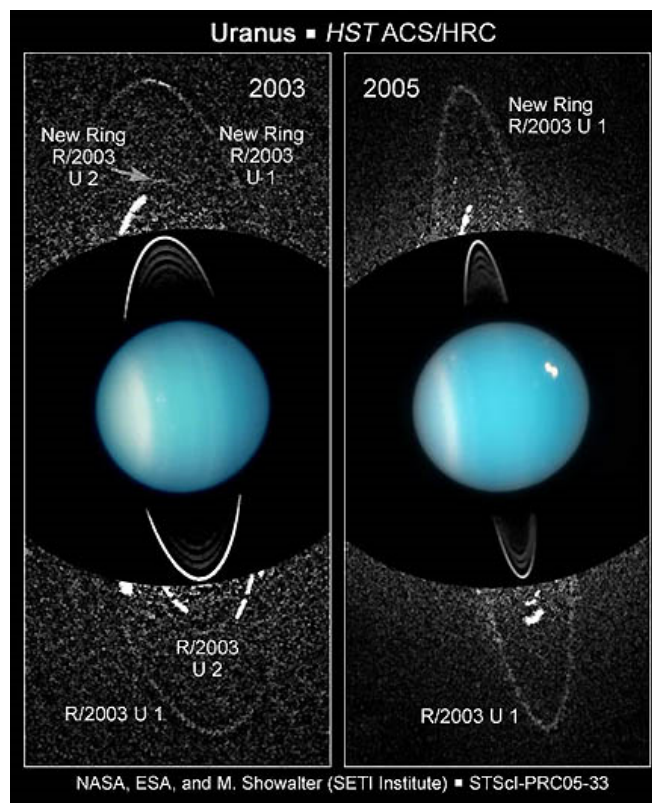




Hubble Telescope Discovers More Moons and Rings Around Uranus

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Until now, nobody had a clue the two other rings were there..." - Mark Showalter, SETI Institute

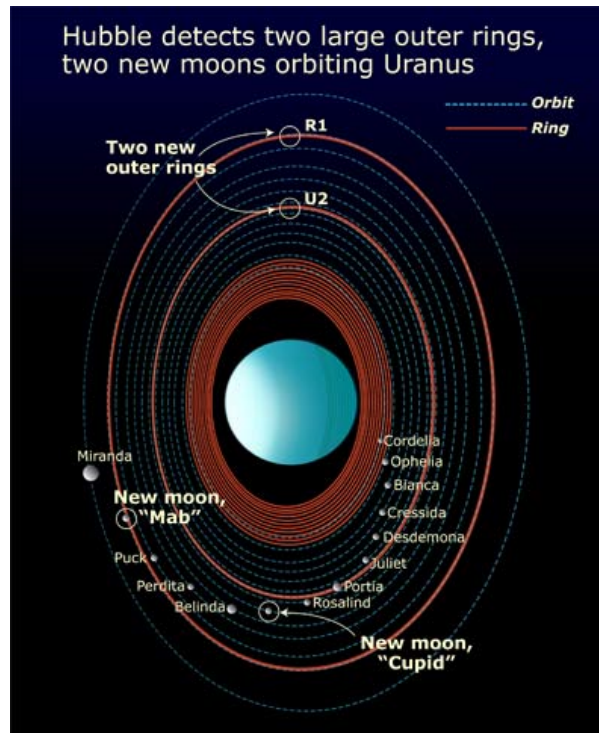


Hubble Space Telescope images credit: NASA, ESA, and M. Showalter, SETI Institute.

December 23, 2005 Baltimore, Maryland - Hubble researchers report: "These composite images from several observations by NASA's Hubble Space Telescope reveal a pair of newly discovered rings encircling the planet Uranus. The left composite image is made from Hubble images taken in 2003. The new dusty rings are extremely faint and required long exposures to capture their image. The background speckle pattern is noise in the image. The outermost ring (R/2003 U 1) is likely replenished by dust blasted off a newly discovered satellite called Mab, embedded in the ring and visible as a bright streak at the top of the outer ring. The new outermost ring is twice the radius of the previously known ring system around Uranus, as seen near image center. (The inner rings are much brighter, so no noise is visible in the background). Approximately halfway between the outermost ring and inner ring system is a second newly discovered ring (R/2003 U2). Only a faint segment of it appears at the 12:00 o'clock position. Because of the long exposures, the moons are smeared out and appear as arcs within the ring system.

"This image also shows the positions of Uranus's other known satellites. The earliest Uranian moons discovered were primarily named for fairies and sprites taken out of English literature, and that trend continued through Voyager's discovery of Puck (from Shakespeare's *A Midsummer Night's Dream*) in late 1985. When the number of moons discovered by Voyager became so large, the rules were generalized so that names from traditional English literature could be used. Therefore the moons have names like Juliet, Rosalind, Ophelia, Cordelia, etc. The Hubble team actually identified the name Mab (Queen Mab the fairies' midwife in *Romeo and Juliet*) before their first Hubble observation, in the likelihood new moons would be discovered. Besides being a Roman god, Cupid is also a character in Shakespeare.

"In the image at right, taken two years later, the rings appear more oblique because Uranus has moved along its solar orbit. The planet Uranus itself is approaching spring equinox, when the Sun will be directly shining over the planet's equator in 2007. Cloud bands and storms are becoming more pronounced in the atmosphere. A bright storm appears at northern latitudes in the 2005 images."



The Hubble Space Telescope photographed two new outer rings around Uranus designated in the above graphic as "R1" and "U2." The rings are so far from the blue planet that they are being called the "second ring system" of Uranus. In addition to Uranus's 12 moons, two new ones were also found and named "Mab" and "Cupid." Graphic courtesy NASA.

More Information:

For more about Hubble Telescope research, please see reports below in **Earthfiles Archives** :

- 12/17/2005 -- **Sirius's Companion Star, Sirius B, Finally "Weighed"**
- 11/09/2005 -- **Dust Storm On Mars, Cosmic First Light and Black Hole At Our Galaxy's Center**
- 07/10/2005 -- **First Data from Deep Impact Crash Into Comet Tempel I**
- 06/29/2005 -- **July 3-4, 2005: NASA "Deep Impact" Spacecraft to Blast Hole in Comet Tempel I**
- 05/07/2005 -- **Did Milky Way Gas and Dust Turn Earth Into Icy Snowball Four Times?**
- 10/07/2004 -- **Exploding Stars: Investigating the 1604 and 1987 Supernovas**
- 03/05/2004 -- **Part 3 - Mars: A Sulfate Salty Planet - Could It Have Sulfate-Loving Microbes?**
- 03/03/2004 -- **Part 2 - Mars: Scientific Challenge of Identifying Substances**
- 02/23/2004 -- **Is There Liquid Water on Martian Surface?**
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- 05/14/2003 -- **Hubble Telescope Finds "Ashes" of First Stars in This Universe**
- 01/05/2003 -- **What Are the Grooves in the Martian South Pole?**
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- 07/11/2002 -- **Hubble Telescope Photographs Seven Objects Traveling In Pairs Beyond Pluto**
- 06/01/2002 -- **Scientists Surprised by Abundance of Water On Mars**
- 12/24/2000 -- **Martian Bacteria?**
- 12/14/2000 -- **A Pleiadian Star Tears Apart Black Interstellar Cloud**
- 11/26/2000 -- **Hubble Telescope Solves Puzzle of Stephan's Quintet of Galaxies**
- 10/09/2000 -- **Astronomy Updates**
- 04/24/2000 -- **A Black Hole in the Big Dipper?**
- 01/28/2000 -- **Black Hole Mystery at the Center of the Andromeda Galaxy**
- 12/26/1999 -- **Hubble Repair, Gamma Ray Bursts and Unidentified Aerial Objects**
- 11/07/1999 -- **Environmental Updates and Calf Fetus Shocks Los Brazos, New**

Mexico

· 02/01/1999 -- **Astronomy Updates with Brian Marsden and John Huchra, Harvard**

Websites:

Hubble Site News Desk: <http://hubblesite.org/newscenter/newsdesk/archive/releases/2005/33/image/a>

Hubble Space Telescope: <http://www.stsci.edu/resources/>

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