

Doggone! Pluto gets a planetary demotion

Ron Cowen

The solar system has only eight planets, and Pluto isn't one of them. That's the official word from the International Astronomical Union (IAU). On Aug. 24, astronomers at an IAU meeting in Prague, Czech Republic, voted overwhelmingly to demote Pluto from planet to "dwarf planet." In doing so, the astronomers also approved the first-ever definition of a planet.

Viewed as an oddball ever since its discovery in 1930, tiny Pluto loops around the sun in a highly tilted orbit relative to the orbits of earlier-named planets. As astronomers have discovered some 1,000 objects in Pluto's neighborhood, known as the Kuiper belt, debate has intensified about whether the body should be called a planet. Last year, researchers discovered that a belt object informally dubbed Xena is bigger than Pluto.

"Some people are going to be a bit sad about losing Pluto," says planetary scientist Brian G. Marsden of the Harvard-Smithsonian Center for Astrophysics in Cambridge, Mass., who adds that he hopes that "they'll accept that maybe a mistake was made in 1930, and it's being corrected after 76 years."

That outcome, however, represents a turnaround from the proposal developed by an IAU-appointed definitions committee. Under that plan, unveiled Aug. 16, the number of planets in the solar system would have expanded from 9 to 12 (SN: 8/19/06, p. 115:

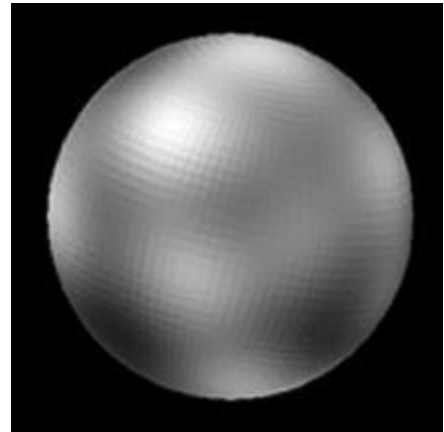
<http://www.sciencenews.org/articles/20060819/fob1.asp>). These would have included the eight classical planets Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune, as well as the largest asteroid, Ceres, and a trio of outer-solar system objects termed plutons, including Pluto, its moon Charon, and Xena.

The original proposal called any object a planet if it's not a satellite and is massive enough to pull itself into a rounded shape. Charon, though a moon, was included because of its sizable mass relative to that of Pluto. Because members of the IAU executive committee supported the proposal, its reversal was "a big surprise," says Rick Binzel of the Massachusetts Institute of Technology, a member of the definitions committee.

But some scientists objected to conferring planetary status on Ceres and Charon. Others charged that the proposal had been veiled in secrecy, and that its consideration was far too abrupt and chaotic.

Under pressure by astronomers at the Prague meeting, the IAU amended the definition of planet to include an additional criterion: A planet must be heavy enough to clear other objects from its path. That took Pluto, as well as Ceres, Xena, and Charon, out of the running.

"It's the obvious way to sort out the solar system," comments Mike Brown of the California Institute of Technology in Pasadena. But as co-discoverer of Xena, he says that he was also a little sad not to have that body declared a bona fide planet. Said Brown: "I've been mourning all weekend."



REJECTED. Pluto is no longer a planet, according to the Aug. 24 vote of the International Astronomical Union. This computer-enhanced image of the former planet's surface was taken by the Hubble Space Telescope.

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