

Uranus and Four of Its Fifteen Moons

by Greg Morgan

With so much attention being focused on Mars this year, we shouldn't forget about Uranus. It is in an excellent part of the sky to observe in the evening through October. Uranus should be included along with your observations of Mars since Uranus is only about four degrees NW of Mars. The disk of the planet is small, just less than four arcseconds across. It was at opposition on August 24, 2003. So, it is still about as big and bright as it gets. It stands out against the background stars enough to be able to make an easy positive identification even with binoculars. The outer atmosphere of Uranus consists of methane. The methane gas absorbs the red part of the sunlight and reflects a bluish-green color that also helps distinguish it from the surrounding field of stars.

Uranus distinguishes itself from all the other planets in that its axis lies almost in its orbital plane. This gives the impression that Uranus lies on its side. The theory is that a collision with another celestial body caused this unusual position. Uranus has very thin rings. They were discovered in 1977 as Uranus occulted a star causing the star to blink repeatedly indicating that the rings temporarily blocked the star light. Uranus has fifteen moons. Titania and Oberon were discovered by William Herschel in 1787. William Lassell found the moons Ariel and Umbriel with a 61-cm reflector on Malta in 1851. Gerard Peter discovered the fifth brightest moon, Miranda, near magnitude 17 in 1948. Voyager 2 discovered an additional ten moons in 1986. Our moon has a radius of 1738 km. The moons of Uranus are small by comparison. The radius of each are; Oberon 815, Titania 800, Ariel 665, Umbriel 555 and Miranda at only 200 km.

Figure 1: This image shows the planet Uranus and four moons along with one star, North is up. This image was made with a 10 inch LX200 with eyepiece projection at f/44 and a ST-10XME CCD camera, clear filter, 2x2 binning with only a single 10 second exposure on 9/12/03 22:59 PDT. The image shows the planet near saturation. Thus, Uranus appears bigger in the image than it actually is. The fifth brightest moon, Miranda, is lost in the glare between Ariel and the planet. The moon identifications were made with Cartes du Ciel's high precision planetary moon module.

