

Saturn, Neptune meet once in 36 years

MARCH is the month in which spring begins and Easter arrives. In addition, there will be a conjunction (grouping) with Mars and Jupiter, and a very rare conjunction with Saturn and Neptune.

The visible planets in March include Mars and Jupiter in the evening sky and Saturn in the morning sky. Mercury and Venus are too close to the sun to be observed.

The amount of sunlight we receive continues to increase rapidly. On March 1 the sun rose at 7:07 a.m. and set at 6:22 p.m., allowing for a possible 11 hours and 15 minutes of sunlight.

On March 31, sunrise is at 8:16 a.m., and sunset is at 6:57 p.m., for a possible 12 hours and 41 minutes of sunlight. This is an increase of one



skywatch
Raymond E. Bullock

hour and 26 minutes.

THE RARE conjunction between Saturn and Neptune occurred March 2, when Saturn passed 0.2 degrees below Neptune.

Its rarity makes it worth noting: It's 36 years between Saturn-Neptune conjunctions. The last meeting occurred in 1953. The next will occur in 2025.

Saturn's orbital period — the time it takes to complete one orbit around

the sun — is about 30 years. But during those 30 years, Neptune is moving, too, moving through about 18 percent of its 165-year orbit. Thus, another six years are needed for Saturn to catch up with Neptune.

Saturn is easily visible, 45 minutes before sunrise in the south southeast. Looking through an astronomical telescope, which inverts images, Neptune will be a very faint star below Saturn. This meeting is actually the first of a triple conjunction that

occurs in 1989.

Saturn will go into retrograde (backward) motion later this year and pass Neptune a second time. When prograde (forward) motion resumes, Saturn will pass Neptune a third time.

NEPTUNE NOW is the farthest planet from the sun, not Pluto. This is due to the very high eccentricity (oval shape) and tilt of Pluto's orbit.

Beginning in 1980 and going through 1999, Pluto is at the point in its orbit where it is its closest to the sun. Neptune, having one of the least eccentric orbits in the solar system, is essentially at its normal distance from the sun.

Don't worry about a collision occurring where the orbits "cross-over." Pluto's orbit is tilted by 17 degrees. The points where the orbits cross are separated by millions of vertical kilometers.

If you are not certain about identifying Saturn correctly, use the moon: It is five degrees below Saturn on the morning of March 3.

JUPITER, MARS and the Pleiades (PLEE a dees) form a tri-

angle on the evening of March 4.

Look high in the southwest sky and you'll see bright Jupiter. To the west (right) of Jupiter is the red planet, Mars. Above Mars is the Pleiades star cluster, which looks like a tiny "dipper" through binoculars.

To the east (left) of this triangle is the red star Aldebaran (al DEE a ran), the "eye" of Taurus. Watch as Mars draws closer to Aldebaran this month.

New Moon occurs at 1:19 p.m. on March 7. The moon is located between the earth and the sun and is not visible. In fact, the moon is located almost exactly between Earth and Sun, causing an eclipse of the sun.

Unfortunately, the eclipse is not visible from the metro Detroit area. It will be seen from Hawaii and North America, west of a line running from Texas to northern lower Michigan. The farther west of the line, the more of the eclipse you'll see.

The triangle formed by Mars, Jupiter and the Pleiades on March 4 has been transformed into a line on the 10th. Mars is now between Jupi-

ter and the Pleiades. A planet's motion through the sky becomes very apparent when you can compare its position with other nearby bright objects.

THE MOON. Mars and Jupiter form a nice conjunction on the evening of March 12.

The moon is six degrees above Jupiter and four degrees above Mars. Mars is two degrees above Jupiter. In a conjunction that occurs about every 27 months, Mars last passed Jupiter on Dec. 19, 1986, and will pass Jupiter again on July 14, 1991.

Obviously, Mars-Jupiter conjunctions are not as rare as those of Saturn and Neptune. Mars completes an orbit around the sun in about 2 years.

The moon, almost at first-quarter phase, passes 12 degrees above Aldebaran on the evening of the 13th.

First Quarter Moon is at 5:11 a.m. on March 14. The moon is one-quarter of its way around the earth.

The writer is former coordinator of the Cranbrook Institute of Science Planetarium and Observatory and now is with Image Engineering Corp. in Troy.

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