

Abrams Planetarium Skywatcher's Diary October 2000

To the reader:

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If you would like a printed sample of the October issue, please send a long, self-addressed stamped envelope to:

October Sky Calendar
Abrams Planetarium
Michigan State University
East Lansing, MI 48824

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Skywatcher's Diary: October 2000

Sunday, October 1

A lovely three-day-old crescent Moon hangs low in the SW as twilight descends. Craters along the terminator (light/dark line) are particularly prominent. Venus is 22 degrees (two "fist widths") to the Moon's lower right. Look for it low in the WSW 30 to 45 minutes after sunset. Fainter Mercury presents a real challenge. It is 5 degrees to the lower right of Venus.

Monday, October 2

Tonight at dusk the Moon stands 7 degrees (less than a fist width) above the reddish star Antares, heart of Scorpius. The Moon's terminator passes through the Sea of Tranquillity tonight, famous as the site of the first human lunar landing. Look for the dark, roughly semi-circular area just above the middle of the terminator.

Tuesday, October 3

Saturn rises in the ENE 2 1/4 hours after sunset, followed by Jupiter, a half-hour later. The Pleiades, or "Seven Sisters," star cluster is 7 degrees above Saturn. Use binoculars for the best view of the cluster, then see if you can detect any of Jupiter's moons. In binoculars they look like faint stars to either side of the planet.

Wednesday, October 4

Tonight the Moon marks the way to the zodiac constellation of Sagittarius. Classically known as the Archer, most people today recognize a teapot shape. Look below the Moon for 8 faint stars spread across 10 degrees that resemble a large teapot-"handle" to the upper left and "spout" to the lower right.

Thursday, October 5

The First Quarter Moon occurs at 6:59 p.m. EDT tonight. After dark, see if you can detect that the Moon is past First Quarter, that is, a little more than half full.

Mercury is now "rounding the bend" of its orbit, as seen from Earth. This relatively wide angular separation between Mercury and the Sun does not guarantee easy visibility of the planet, however. Tonight Mercury will be difficult to spot, setting in the WSW only 40 minutes after the Sun and 6 degrees to the lower right of Venus.

Friday, October 6

As morning twilight begins, Mars can be found one "fist" (10 degrees) up in the east among the stars of Leo, the Lion. Regulus, the brightest star in Leo, appears 11 degrees to Mars' upper right. Mars is slightly fainter than Regulus and should seem noticeably redder.

Saturday, October 7

Mars is beginning an exciting transformation. It is currently a 2nd-magnitude object, about as bright as the North Star. Eight months from now Mars will blaze at magnitude -2.4, nearly 50 times brighter! The reason for this dramatic change: Earth will overtake Mars, passing within 42 million miles of the red planet in mid-June 2001.

Sunday, October 8

To the upper right of the Moon, tonight, lies a 3rd-magnitude star, four moon diameters away. It is the brightest star in the faint zodiac constellation of Capricornus. To trace the pattern, wait until the Moon has moved out of the way and get a star map that shows the shape. Uranus and Neptune currently lie nestled within these stars, too, but to find them you need a detailed chart and optical aid.

Monday, October 9

The waxing gibbous Moon is in the SE an hour after sunset. If you can stand the glare, point your binoculars toward the Moon. (There is no harm in looking at a brilliant Moon.) Pick out the bright crater near the bottom edge. If the light is right you will see streaks radiating from it. The chasm is 56 miles across. It is named Tycho after the 16th century Danish astronomer, Tycho Brahe, who was famous for his observational skill-and his gold nose. But that's another story.

Tuesday, October 10

Saturn rises in the ENE two hours after the Sun sets. A month from now it will rise at sunset. Jupiter follows a half-hour later. By dawn both planets have slipped to the SW, perched two-thirds of the way toward overhead.

Wednesday, October 11

The Big Dipper and Cassiopeia straddle the Pole Star. The Big Dipper currently sinks into the NW as evening progresses while Cassiopeia ascends the NE sky, sitting halfway up at the end of evening twilight. Although not as prominent as the dipper shape, the "w" pattern of Cassiopeia is easy to learn, and once memorized, becomes a key figure in the northern sky.

Thursday, October 12

The Summer Triangle, composed of three bright, widely spaced stars, roosts overhead these evenings. Why is the group associated with the warm season when it dominates the night skies of autumn? This time of year the trio is up only during the first half of night, whereas in summer the pattern is visible all night long.

Friday, October 13

The superstitious may wish to note the Moon is full at 4:53 a.m. EDT. A double whammy: Friday the 13th and lunacy all on the same day. The rest of us can enjoy the Hunter's Moon, the Full Moon following last month's Harvest Moon. Those two well-known moon's are similar in effect. They rise during twilight for several nights in a row, providing continuous illumination for evening activities.

Saturday, October 14

The Moon rises about an hour after sunset tonight. It resides on the border between two faint constellations: Aries, the Ram, and Cetus the Whale. During the next 24 hours it passes through Aries and into Taurus, a more prominent zodiacal group that currently harbors two bright planets-Jupiter and Saturn.

Sunday, October 15

Tonight the Moon rises in the ENE an hour and 45 minutes after sunset. Saturn rises nearly simultaneously 4 degrees (eight moon diameters) to the left of the Moon. An hour before sunrise tomorrow morning the Moon and Saturn stand halfway up in the WSW. They will seem to have changed places, with Saturn now to the right of the Moon. It's only an illusion created primarily by the Earth's

rotation.

Monday, October 16

Two and a half hours after sunset the Moon breaks the ENE horizon. Jupiter sits 3 degrees (six moon diameters) above the Moon, having risen about 15 minutes earlier. The bright star Aldebaran, part of Taurus, the Bull, rises with the Moon-5 moon diameters to the right.

Tuesday, October 17

Bright planets Jupiter and Saturn both lie among the stars of the constellation Taurus, the Bull, one of the more distinguishable constellations of the zodiac. Jupiter will remain in this constellation until the middle of next year, while slower moving Saturn does not leave Taurus until mid 2003.

Wednesday, October 18

Next farther along the zodiac after Taurus is Gemini, the Twins. The Moon is found in the "feet" of Gemini tonight, once that constellation rises, a bit more than 4 hours after sunset. The brightest star in this part of the Twins is 2nd-magnitude Gamma, 6 degrees to the right of the Moon.

Thursday, October 19

The Moon is near the "heads" of the Gemini Twins tonight. Six hours after sunset look for the Moon low in the ENE with two bright stars above it. All three objects are nearly in line. The Moon is lowest. The star Pollux is 7 degrees (14 moon diameters) to the upper left of the Moon, and Castor is 9 moon diameters to the upper left of Pollux. Careful scrutiny will reveal the Twins are not equally bright.

Friday, October 20

Last Quarter Moon occurs at 3:59 a.m. EDT this morning. Tomorrow morning the Moon will be in Cancer, the Crab, and near a faint cluster of stars called Praesepe, or Beehive. With the Moon so close, binoculars are necessary to observe this sprinkling of stars. A meteor shower is also active tomorrow morning.

Saturday, October 21

The Orionid meteor shower reaches its peak in the predawn hours this morning, although the shower is rather broad and so continues tomorrow morning. Not a robust shower, one meteor every 5 minutes is an average count for the Orionids, although that number will be diminished by the light of the waning crescent Moon.

Sunday, October 22

The Sun enters the astrological sign of Scorpio today. If you could see the stars clustered around the Sun, however, you could identify the constellation of Virgo. The zodiac, those star patterns through which the planets pass, clearly has a different definition for astronomers than for astrologers, and it serves vastly different purposes for the two groups.

Monday, October 23

Tomorrow morning the Moon assists in identifying Mars. The crescent sits 4 degrees (8 moon diameters) to the lower left of the planet. Don't expect a brilliant image-Mars is only 2nd magnitude. Watch in the east one to two hours before sunrise.

Tuesday, October 24

Tomorrow morning provides the last opportunity to easily see the old crescent Moon. Look low in the east 1 to 1 1/2 hours before sunrise. It will add a touch of beauty to the start of your day. The following morning (26th) it may be possible to see a hairline crescent. Search 30 to 45 minutes before sunrise near the horizon just to the south of east. Use binoculars.

Wednesday, October 25

Much nighttime lighting is wasted because of poorly designed fixtures. It is scattered upward rather than at the intended target. Next time you are out at night pay close attention to the artificial lighting around you. Notice how much of it "leaks" into the sky instead of being focused downward. For more information on this issue see the International Dark-Sky Association's website: <http://www.darksky.org/ida/key/parade.html>.

Thursday, October 26

At dusk Venus perches just above the SW horizon. Look 30 to 45 minutes after sunset. Binoculars may initially help locate Venus. The bright star Antares is 3 degrees (6 moon diameters) to the planet's lower left. Binoculars may be needed to find it. Venus is significantly brighter than the star. By Saturday the Moon joins the scene.

Friday, October 27

New Moon occurs at 3:58 a.m. EDT. Autumn mornings without moonlight are an ideal time to stalk the illusive zodiacal light. Dust particles in the solar system reflect sunlight, creating a ghostly cone-shaped glow-fainter than the Milky Way-rising out of the east. Dedication is required. You must travel to a dark location and start observing before the beginning of morning twilight (approximately 5:30 a.m.).

Saturday, October 28

Daylight Saving Time ends tomorrow morning. Set your clock back tonight. The young crescent Moon makes its first appearance tonight at dusk. Search low in the WSW 30 to 45 minutes after sunset. Venus is farther to the left, with Antares below the planet.

Sunday, October 29

The Moon, Venus and Antares form a pleasant triangle in the SW at dusk. The planet is 6 degrees (12 moon diameters) to the left of the Moon, and the star is 4 degrees below Venus. Binoculars help spot Antares.

Monday, October 30

The Moon is now above Venus. Tonight these two objects, along with the star Antares, line up, with the planet in the middle. Antares is 5 degrees (10 moon diameters) to the lower right of Venus, while the planet and Moon are 7 degrees apart. Look early to see all three. Antares sets an hour after sunset, the Moon 1 1/2 hours later.

Tuesday, October 31

Tonight is All Hallows Eve or All Saints Eve. Although today's not known as an astronomical date, there is a connection. Halloween is one of four cross-quarter days that were used in earlier times to mark the approximate midpoints of the seasons. Today lies almost halfway between the Autumnal Equinox and Winter Solstice. In some circles it marked the beginning of the "dark time" of the year.

*Please send any comments, suggestions, or questions to
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