

Abrams Planetarium Skywatcher's Diary August 2000

To the reader:

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

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

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Skywatcher's Diary: August 2000

Tuesday, August 1

Two days after New, the thin crescent Moon appears low in the west after sunset. Thirty minutes after sunset look for Venus less than a fist's width (7 degrees) to the Moon's lower right, just above the WNW horizon. It won't be easy; Venus sets about 15 minutes later. Success will be more likely from southern states.

Wednesday, August 2

The crescent Moon is a beautiful sight in the west tonight an hour after sunset. For the next several nights as the Moon waxes, it appears higher and farther toward the south at the same time of night. It passes through the stars of the constellation of Virgo.

Thursday, August 3

An hour before sunrise Mercury can be found low in the ENE. To its upper left are the Gemini Twins, stars Pollux and Castor. Mercury's orbit is carrying it back toward the Sun, so the swift planet appears lower each morning. A week from now Mercury will pass Mars, but this morning the Red Planet has yet to rise.

Friday, August 4

This evening the Moon appears just less than a fist's width (8 degrees) to the upper right of Spica, the brightest star in Virgo. Classically, Spica marks the spike of wheat that the young maiden holds in her left hand. The star makes a good brightness reference since it is almost exactly 1st magnitude. Compare it to other bright stars you can find. Are they brighter or fainter than 1st magnitude?

Saturday, August 5

Tonight the Moon is a fist's width to the upper left of Spica. The Moon will be at this same spot in relation to Spica again in 27 and 1/3 days from now. Astronomers refer to this period as the Sidereal Month, the length of time the Moon takes to orbit the Earth, relative to the stars. To go through a complete series of phases (for example, from Full to Full) the Moon requires 29 and 1/2 days, the Synodic Month.

Sunday, August 6

The Moon is First Quarter tonight at precisely 9:02 p.m. EDT. Most people think of it as the "half moon" although no such designation exists. Tonight the sunrise terminator, the line between light and dark that marks sunrise on the Moon, splits the Moon exactly in two. This is a good time to inspect the craters with binoculars or telescopes, since the lunar sunrise produces shadows that accentuate the features.

Monday, August 7

Tonight the Moon passes from Libra, a faint, obscure zodiac constellation, to Scorpius, a prominent one. The two brightest stars of Libra (only 3rd magnitude) are a fist's width to the right of the Moon and separated vertically by a fist. Scorpius is to the lower left of the Moon. The most prominent star is Antares, 1 and 1/2 fists (15 degrees) away. Tomorrow night the Moon will stand directly above Antares, just under a fist (7 degrees) separating them.

Tuesday, August 8

Tomorrow morning 45 minutes before sunrise Mercury appears just 1 and 1/2 degrees (about the width of your index finger held at arm's length) to the upper right of fainter Mars. The two planets are poised barely above the ENE horizon. Use binoculars. Over the next several mornings the planets' relative motion is obvious. On Thursday morning only 0.2 degrees separate the planets. By Friday

morning Mercury has slid to the lower left of Mars, again a finger-width away.

Wednesday, August 9

The Perseid meteor shower, the most consistent of the year, is firing up over the next several mornings. Although peak activity is predicted for Saturday morning, August 12th, the two mornings previous (10th and 11th) will offer longer periods of dark skies. Begin observing soon after moonset each morning: 2 a.m. on the 10th, 2:45 a.m. on the 11th, 3:30 a.m. on the 12th.

Thursday, August 10

The Perseids are named after the constellation Perseus, the Hero and slayer of Medusa, because if you trace the streaks of light backward they seem to radiate from that constellation. You shouldn't concentrate your view on Perseus, however, because the meteors can appear anywhere in the sky. Lying on the ground (or in a comfortable lounge chair) to take in the widest field of view will maximize your ability to spot meteors.

Friday, August 11

Although tomorrow morning before dawn will produce the greatest number of Perseid meteors, the late moonset creates a narrow viewing window of less than an hour before the start of morning twilight. If you are new to meteor watching, however, an hour may be sufficient to sample the sport. Set your alarm so that you can get to a dark, wide-open site by 3:30 a.m. Dress warmly and take something to lie on so you can scan as much of the sky as possible.

Saturday, August 12

Meteors, often called "shooting stars," occur when bits of dust from space plunge into the Earth's atmosphere. The friction produced by the high-speed collision heats up a column of air through which the dust grain travels, causing the air to glow as a streak of light. Meteor showers are created when the Earth passes through a cloud of such dust, usually debris from a comet. The Perseids are attributed to Comet Swift-Tuttle.

Sunday, August 13

Tonight the Moon is among the stars of Capricornus, one of the faintest zodiac constellations. Both Uranus and Neptune lie in this region, on either side of the Moon tonight. Both planets have recently passed their opposition, which means they are now at their brightest. Uranus is magnitude 5.7; Neptune is 7.8. If you want to look for them, wait until the Moon has moved out of this area and get a detailed finder chart. Here's a place to start:
<http://www2.astronomy.com/astro/SkyEvents/thismonth/Planets.html>.

Monday, August 14

The Moon is Full tomorrow morning at 1:13 a.m. EDT, so tonight can be considered the night of Full Moon. Moonphase designations on wall calendars may occasionally disagree on which day a particular phase occurs. The confusion usually results when different time zones are used. For example, the current Full Moon occurs tomorrow on the U.S. East Coast and tonight (10:13 p.m. PDT) on the

West Coast.

Tuesday, August 15

The Moon rises a half hour after sunset tonight, making for a picturesque scene in the eastern sky during twilight. Each night the Moon will rise about 30 minutes later. By the end of the week the Moon comes up after the end of twilight, providing a lengthening period of moonless skies—desirable for serious skywatching.

Wednesday, August 16

Jupiter and Saturn can be found high up in the ESE sky an hour before sunrise these mornings. Eight degrees separate the planets. Jupiter's -2.3 magnitude dominates the scene. Saturn, to the right and slightly above Jupiter, is a respectable 0.2 magnitude, but appears only one-tenth as bright as the largest planet.

Thursday, August 17

Mars is in the morning sky, but much harder to locate than its bright companions Jupiter and Saturn. If you want a challenge look for the Red Planet an hour before sunrise just above the ENE horizon. Binoculars will be necessary to find this 2nd-magnitude object. Unfortunately, Mercury is no longer close by to aid in the search, as it was earlier in the month.

Friday, August 18

Review the bright stars tonight an hour after sunset: Follow the Big Dipper's handle first to Arcturus and then to Spica in the west and WSW, respectively. The Summer Triangle is high in the east with Vega nearly overhead, Altair in the SE and Deneb in the NE. Antares sits a quarter of the way up in the SSW. Two of these six stars are 0th magnitude; the others are 1st magnitude. See if you can determine by observation which two are 0th magnitude. Answer tomorrow.

Saturday, August 19

Arcturus, high in the west, and Vega, overhead, are the two brightest objects in the current evening sky. They are both magnitude 0 stars. Vega is 25 light years away, so the light you see from it tonight left the star 25 years ago. Arcturus is slightly farther, only 37 light years distant. Both stars are relatively nearby—beyond the solar system but close neighbors in the Milky Way galaxy.

Sunday, August 20

Now that the Moon rises several hours after sunset, we enjoy dark evening skies without moonlight interference. The time is ripe for observing the star clouds of our Milky Way galaxy. The Milky Way passes nearly overhead these evenings. Choose an observing site as far from city lights as possible. Use binoculars to slowly scan the galaxy, pausing to carefully examine interesting patterns or concentrations of stars.

Monday, August 21

We have moonless evening skies for the rest of this month. Use them to seek out fainter objects. Look for Uranus and Neptune. Under ideal conditions Uranus may even appear to the unaided eye. You'll need a good finder chart, however, and some familiarity with the constellation Capricornus. Binoculars are also helpful. Look for a chart at this website: <http://www2.astronomy.com/astro/SkyEvents/thismonth/Planets.html>.

Tuesday, August 22

The Moon passes Last Quarter at 2:51 p.m. EDT today. The Moon sets around that same time, too, so it is visible primarily during morning hours now (roughly between midnight and noon). An hour before sunrise the Moon is high in the SE. Saturn is 6 degrees (12 moon diameters) to the Moon's left. Tomorrow morning the Moon will be 3 degrees below Jupiter and 1 and 1/2 degrees above the bright star Aldebaran, in Taurus.

Wednesday, August 23

A number of interesting "deep sky" objects are found low in the south at the end of evening twilight, in the area between the constellations Scorpius and Sagittarius. This is a favorite "hunting ground" for amateur astronomers. Many of the objects are within range of binoculars and small telescopes. From a dark location slowly scan that region with binoculars, looking carefully for star clusters and hazy concentrations.

Thursday, August 24

For those people tired of summer and yearning for cooler times, a preview of the coming winter evening sky is available every morning before dawn. Orion, the Hunter, stands one-third of the way up in the ESE, with Sirius, the brightest nighttime star, sitting directly below Orion's belt, just above the horizon. Can you almost feel the snow in your face?

Friday, August 25

Go out an hour before sunrise over the next several mornings and watch the old waning Moon appear lower each day at the same time. Tomorrow morning the Moon is 7 degrees (just under a fist's width) to the lower right of the Gemini Twins, stars Pollux and Castor. Sunday morning the Moon is 15 degrees below the Twins and 10 degrees (a fist) to the upper right of faint Mars.

Saturday, August 26

The Andromeda Galaxy, the nearest large galaxy beyond the Milky Way, is just visible to the unaided eye from a dark site. Two hours after sunset look in the NE a third of the way above the horizon. Scan the region with binoculars for a faint, hazy, oval shape, then see if you can pick it out with just your eyes. That fuzzy patch of light represents 300 billion stars at a distance of 2 million light years—the farthest the unaided eye can see.

Sunday, August 27

Tomorrow morning is the last opportunity to see the old slender Moon. Look about 45 minutes before sunrise low in the ENE. You'll need a low horizon, and don't forget the binoculars. Faint Mars

appears 7 degrees to the Moon's upper right.

Monday, August 28

New Moon occurs tomorrow morning at 6:19 a.m. EDT, marking the beginning of the new lunar cycle. Folks in Hawaii will have a chance to catch first sight of a very thin crescent tomorrow night. The rest of us will have to wait until Wednesday night.

Tuesday, August 29

Many small, faint constellations attract the eye, particularly once you've discovered them. One such constellation in this evening's sky is Corona Borealis, the Northern Crown. One and a half hours after sunset find two bright stars: Arcturus, a third of the way up in the west, and Vega, overhead. Imagine a line drawn between these two stars. One-third of the way from Arcturus toward Vega look for a semi-circular pattern of faint stars with one 2nd-magnitude star among the group, reminiscent of a laurel wreath crown or a jeweled tiara, perhaps.

Wednesday, August 30

Tonight is the first opportunity to see the young Moon. Look low in the west about 45 minutes after sunset. Use binoculars to find the very thin crescent. Three degrees (6 moon diameters) to the Moon's lower left is elusive Venus. This planet has been hovering near the horizon just after sunset all month long, but has been tough to spot. Tonight is your best chance to find it, thanks to the Moon's guidance.

Thursday, August 31

The crescent Moon will make a pretty sight in the west tonight during evening twilight. It is placed almost equidistant from Venus, to the lower right, and the star Spica, to the left. If you want to find Venus look 45 minutes after sunset. The planet sets an hour after sunset.

*Please send any comments, suggestions, or questions to
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