

WEEKLY STARGAZERS' NEWSLETTER

by Dr. Bob

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These are the notes that I use for the weekly radio broadcast on Rome Radio Station WLAQ AM 1410 and FM 96.9. The program airs at 7:50 a.m. each Tuesday morning. The radio station also has a live FaceBook broadcast at the same time: WLAQ-Rome. Send questions to: ryoung@highlands.edu

OBSERVATION PERIOD:

08/27/24 – 09/02/24

FUN FACT OF THE WEEK

Using the seasonal definition of Blue Moon, the next Super Full Blue Moon is January and March of 2037. The time between super blue moons is quite irregular — it can be as much as 20 years — but in general, the gap is 10 years on the average. However, if you like to celebrate both **seasonal** and **monthly** blue moons, the gap is closer to five years.

MOON FOR THE WEEK:

The Moon will be Third Quarter on Monday, August 26th. The Moon will be waning during the week from a Full Moon to the Third Quarter. The Moon will be visible after mid-night until sunrise. Notice that the Moon will appear 15 degrees further east each day that you view it.



This week the Moon is at a distance of 360,196 kms from Earth as it orbits the Earth in its monthly journey. The Moon is nearly at perigee during the Full Moon this month, making it is a Super Moon. Incidentally, this Full Moon was also a Blue Moon.

The Sun --

The Sun rises at 07:05 hrs (7:05 a.m.) this week and sets at 20:22 hrs (8:22 p.m.)

This means that the Sun is above the horizon for Sun is “up” for 13 hrs. and 17 minutes which is 31 minutes this week, or 14 minutes less sunlight than last week.

The Sun climbs to an altitude of 68.2 degrees this week which is 2.2 degrees lower than last week. The Sun is in the constellation Leo, the Lion.

The Earth is currently 1.013 AUs from the Sun, this is 0.001 AUs closer than last week.

PLANETS

Mercury: This week Mercury rises in the East around 7:10 a.m. and sets at 19:55 (7:55 p.m.) Since the planet rises and sets close to the Sun we will not get a chance to see it this week. In any case, Mercury is in the constellation Leo, the Lion.

Venus rises in the East at 8:46 a.m. and sets in the west at 9:19 p.m. It rises about an hour and a half after sunrise and about an hour and a half after sunset. You should be able to see Venus in the early evening sky low on the western horizon. Venus is also in the constellation, Leo.

Mars rises in the East at 1:56 a.m. which is more than 3.0 hours before the Sun, making Mars is wonderful object in the predawn sky. Look for its amber hue in the early predawn sky. Mars is in the constellation Taurus.

Jupiter rises in the East at 1:48 a.m. which is also about three hour before the Sun. Look low on the eastern horizon before sunrise to see this planet. It should be very bright in the sky. If you have a pair of binoculars, you should be able to see the four Galilean Moon. Jupiter is in the constellation ,Taurus.

Saturn rises in the East around 9:20 p.m. This means that you can see Saturn practically all night long until sunrise. Saturn is an easy target in the late night sky until the early morning, although not quite as bright as Jupiter. Saturn is in the constellation Aquarius.

MARS ROVER PERSEVERANCE

To get regular and current updates on the progress of NASA's Perseverance 5rover on Mars, go to the websitehis :

<https://www.space.com/news/live/mars-perseverance-rover-update>

SATELLITES FOR THE WEEK (ISS PASSES)

20 Aug	-2.8	06:15:26	16°	W	06:17:42	36°	NW	06:20:51	10°	NNE	visible
21 Aug	-3.8	05:28:43	68°	NW	05:28:48	69°	NW	05:32:09	10°	NE	visible

SPACE HISTORY OF THE WEEK

August 22, 1963: Under the controls of astronaut, Joe Walker, the X-15 rocket plane set a new world altitude record for a winged aircraft at 354,200 feet (a little more than 67 miles up). The X-15 program began in September 1959; 199 missions later it ended on October 24, 1968. The record achieving mission was the X-15's ninety-first mission. Joe Walker hit the 354,200 feet level on his last flight. He was one of only a handful of people to achieve astronaut status by exceeding an altitude of 50 miles; Bob White, Bob Rushmore, Joe Eagle, Bill Dana, and Pete Knight were others from the X-15 legacy.

August 24, 1989: The Voyager 2 space probe flew by Neptune, sending back striking photographs from a distance of some 63,000 miles from the ringed planet.

STAR PATTERN IN THE NIGHT SKY

Brocchi's Cluster (Coathanger Asterism):

We have discussed constellations and asterisms over the past couple years. Constellations are recognized patterns in the sky, often tied to ancient Greek, Roman, and Indian mythologies.

A true origin for the earliest constellations likely dates back to prehistory, whose unknown creators collectively used them to relate important stories of either their beliefs, experiences, creation, or mythology. As such, different cultures and

countries often adopted their own set of constellations outlines, some that persisted into the early 20th century.

Based on the important astronomical need to formally define the placement of all celestial objects in the entire sky, the International Astronomical Union (IAU) ratified and recognized the 88 modern constellations in 1928.

In astronomy, an asterism is any pattern of stars recognized in the Earth's night sky. It may be part of an official constellation or it may be composed of stars from more than one constellation.

This week we will be looking at a beautiful little asterism, the Coathanger Asterism. This asterism is made up of 10 stars ranging from 5th to 7th magnitude which form the conspicuous "coathanger", a straight line of 6 stars with a "hook" of 4 stars on the south side.

Under a dark sky, the Coathanger can be seen with the naked eye as an unresolved patch of light; binoculars or a telescope at very low power are usually needed in order to view the "coathanger" asterism. It is best found by slowly sweeping across the Milky Way along an imaginary line from the bright star Altair toward the even brighter star Vega. About one third of the way toward Vega, the Coathanger should be spotted easily against a darker region of the Milky Way. The asterism is best seen in July–August and north of 20° north latitude it is displayed upside down when it is at its highest point.

QUESTION OF THE WEEK

Dr. Bob, I heard that this Full Moon was a Super Full Blue Moon. What does that mean? Amanda M.

The term "Blue Moon" has two different definitions. This confusion began in 1946 when Sky & Telescope magazine author, James Hugh Pruett, wrote an article that **incorrectly** defined a "Blue Moon" as the **second** full moon in a month that has two full moons in a single month. For example, it could happen when the first Full Moon occurred on October 1st and a **second** Full Moon that takes place on October 31st. The second Full Moon would be called a "Blue Moon".

The original definition of a Blue Moon was (is) the **third** Full Moon during a seasonal quarter (June 20 – September 22). As it happens, the Full Moon yesterday, August 19th, was the **third** of this quarter which will have four Full Moon (June 21st, July 21st, **August 19th**, and September 17th).

The other element of the title is “Super Moon”. This can happen only during a Full Moon that happens when the Moon is at perigee . As the Moon goes around the in an elliptical orbit Earth, there are times when it is close to the Earth (perigee) and there are time when it is furthest away (apogee). Actually this happens twice a month. A “Super Moon” occurs when the Moon is Full and at perigee. So, a Super Moon looks a little larger than normal since it is closer to Earth than normal.

Tying all this together, we have a “Super Full Blue Moon” on August 19st this year. Pretty cool huh?