

ASTRONOMY AT MMGM APRIL 2020



First Public Observing Session, 3/1/2020

This monthly newsletter will provide information concerning what will be visible in the night skies over Maine. As photograph above indicates, we also plan to have future observing sessions when the health situation allows, hopefully one or two each month. For now, I will list things that you can try observing on your own, mostly unaided eye and binoculars, but also a few objects that require a telescope, for those who may have one.

01 April

Sun

30 April

Event	Time
Astronomical twilight begins:	04:42
Nautical twilight begins:	05:19
Civil twilight begins:	05:53
Sunrise:	06:23
Maximum altitude:	12:46
Sunset:	19:10
Civil twilight ends:	19:40
Nautical twilight ends:	20:15
Astronomical twilight ends:	20:51

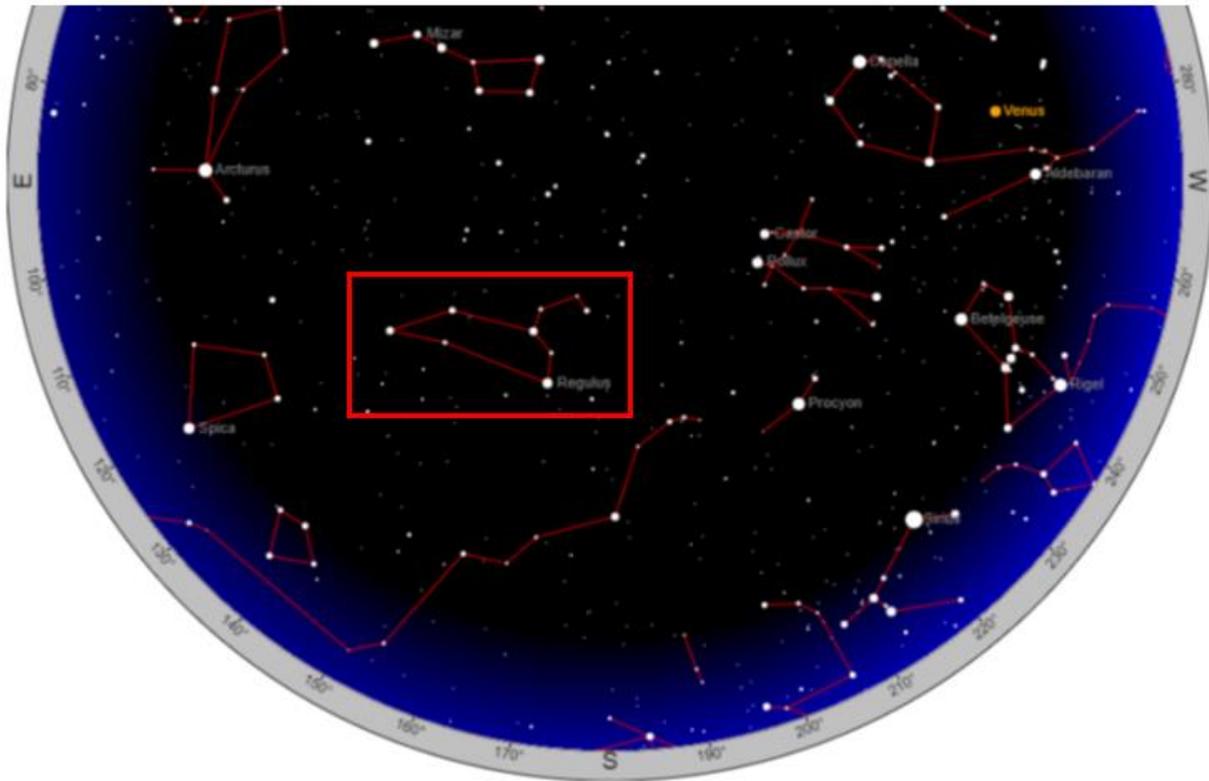
Event	Time
Astronomical twilight begins:	03:40
Nautical twilight begins:	04:23
Civil twilight begins:	05:02
Sunrise:	05:34
Maximum altitude:	12:40
Sunset:	19:46
Civil twilight ends:	20:18
Nautical twilight ends:	20:57
Astronomical twilight ends:	21:41

Moon



UNAIDED EYE

Constellation of the Month: LEO



Approximately 8:30 PM EDT, the sky moves 15 degrees west per hour

Leo the Lion



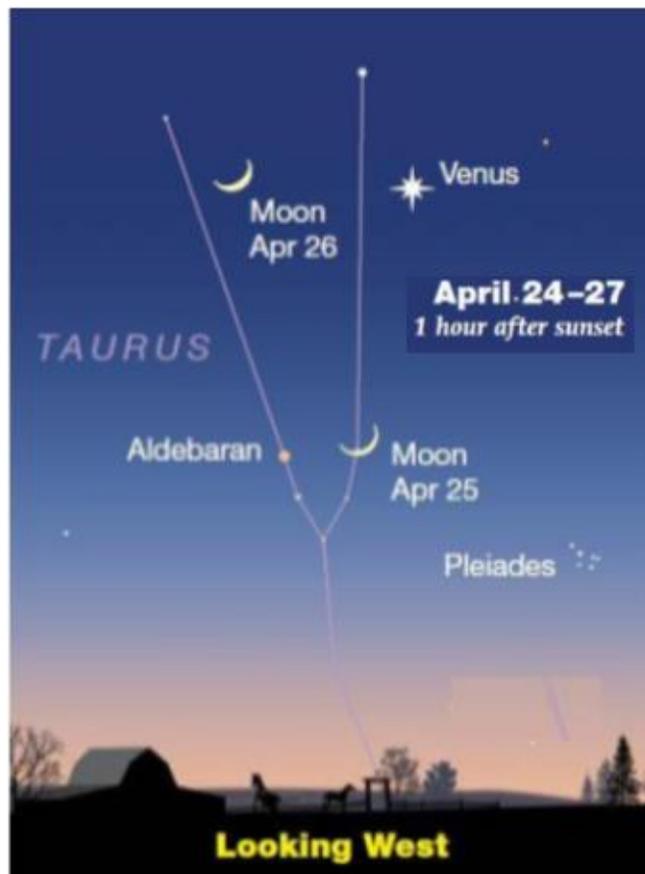
Leo the Lion has been around since at least the early Greeks, supposedly identified as the Nemean Lion which was one of Hercules' twelve conquests. Medieval Christians considered it the Lion's Den of the Book of Daniel, while to earlier Hebrews it was the traditional tribal sign of Judah. Leo is the most easily recognized of the spring constellations located along the ecliptic, the apparent path of the sun through the sky.

Regulus, Alpha Leonis, α Leo: magnitude +1.4 (21st brightest star), distance 79 light years, spectral type B8 (blue subgiant). Regulus is Latin for prince or little king. The stars from Regulus to Algieba and curving up to the right are known as "The Sickle."

Algieba, Gamma Leonis, γ Leo: magnitude +2.2, distance 125 light years, binary system, orbital period 500+ years, spectral type K0 (light orange giant) + G7 (yellow giant). Algieba is from the Arabic meaning "forehead" which is obviously not where it is located.

Denebola, Beta Leonis, β Leo: magnitude +2.1, distance 36 light years, spectral type A3 (white main sequence). Denebola is a shortened Arabic phrase meaning "tail of the lion" which IS where it is located!

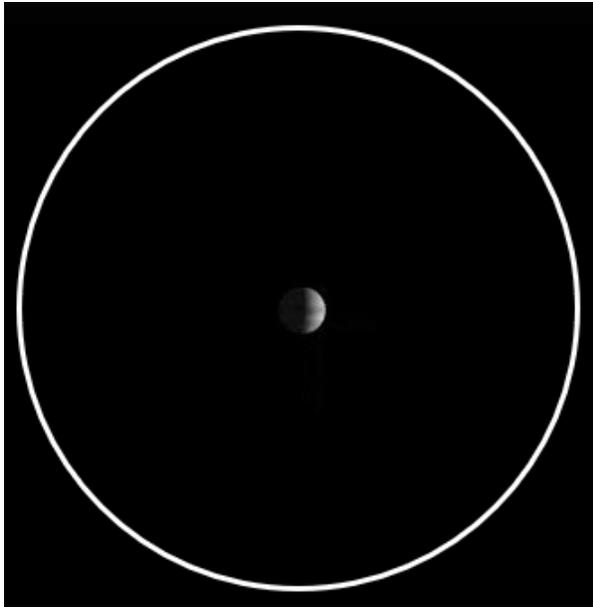
Solar System:



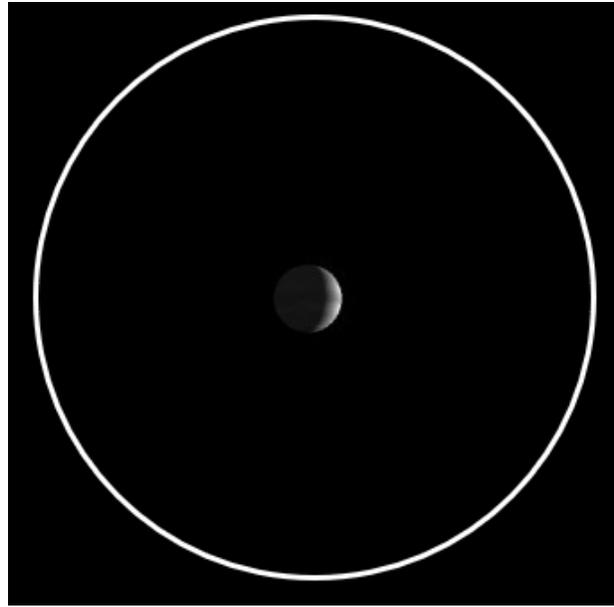
TELESCOPES

Solar System:

Venus, because it is between us and the Sun, goes through phases similar to the moon. Currently the brightest planet shines brilliantly in the west soon after sunset. Since it is now moving closer to us and the Sun, it is growing larger and becoming more of a crescent.

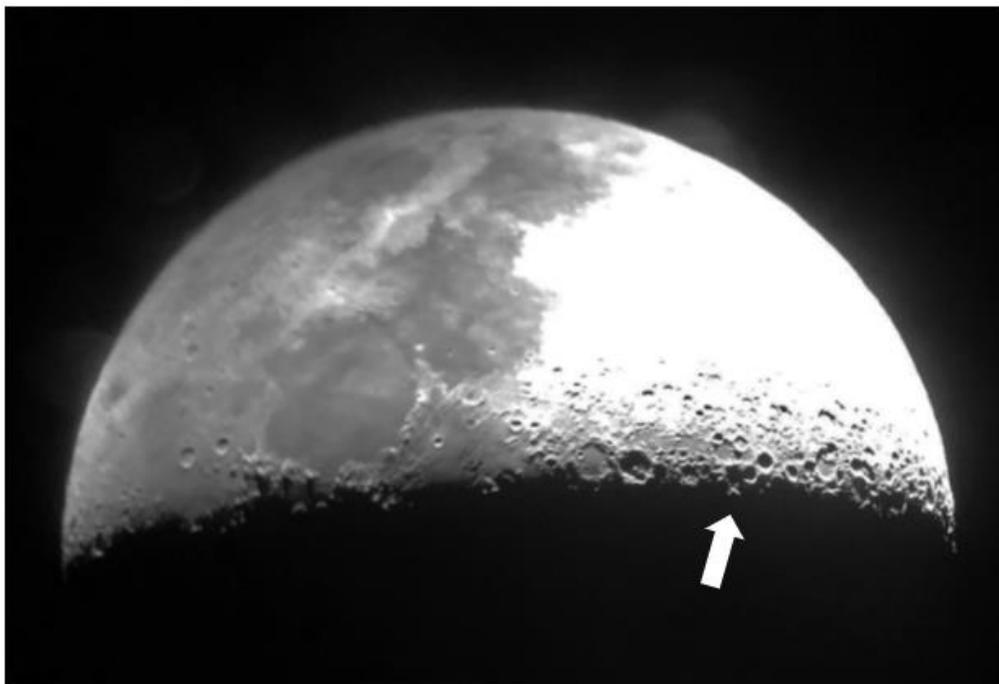


4/1/20

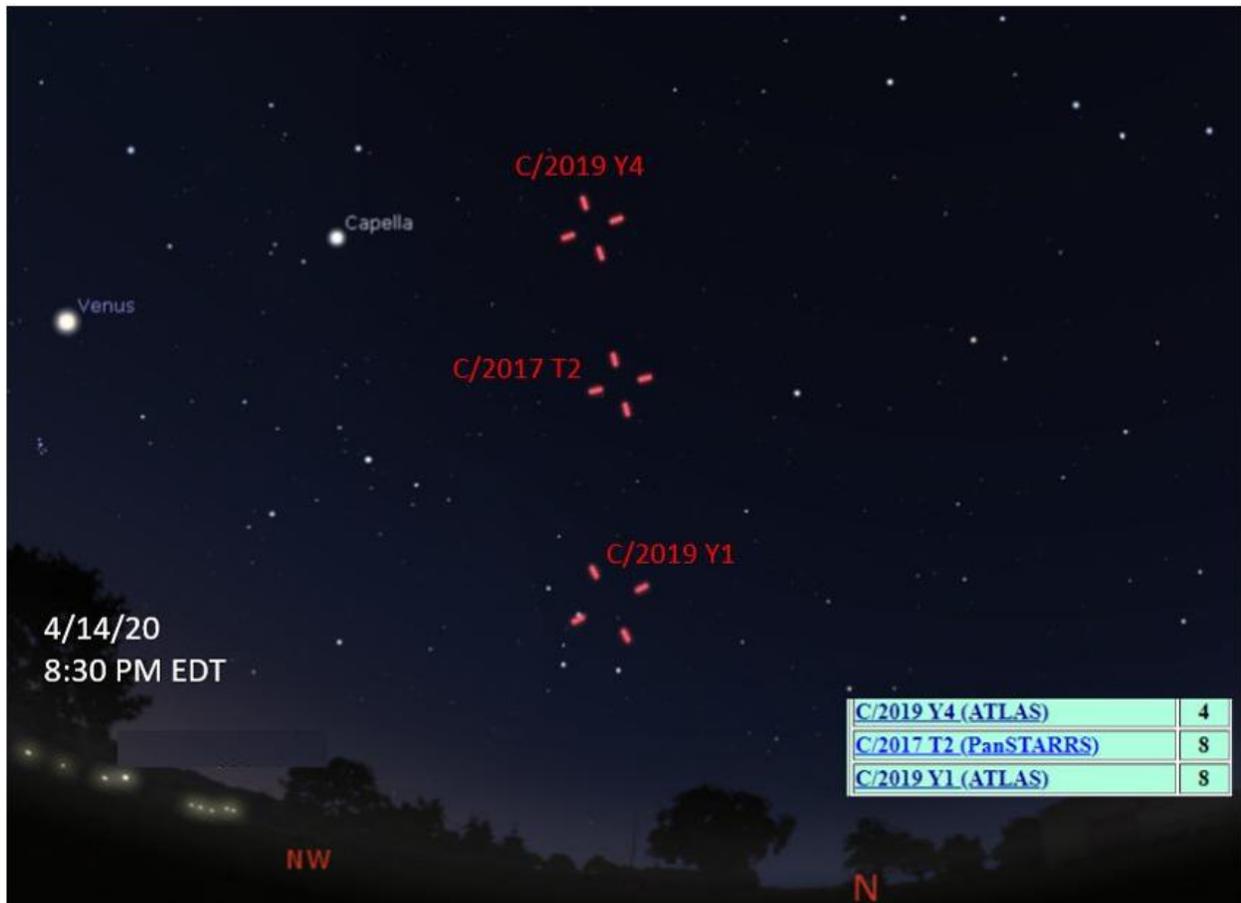


4/30/20

The first public observing session was held last month on an evening that the Lunar X could be seen. The X is formed by sunlight hitting the rims of three intersecting craters when the lunar phase is near first quarter. Since the effect only lasts for about two hours, it is usually only visible a few times a year from any location, making two months in a row unlikely. Nevertheless, the X happens again for us on April 29th around 9:45 PM. This photo, one of many taken by holding a cell phone to the telescope eyepiece, is courtesy of museum cofounder Mary McFadden.

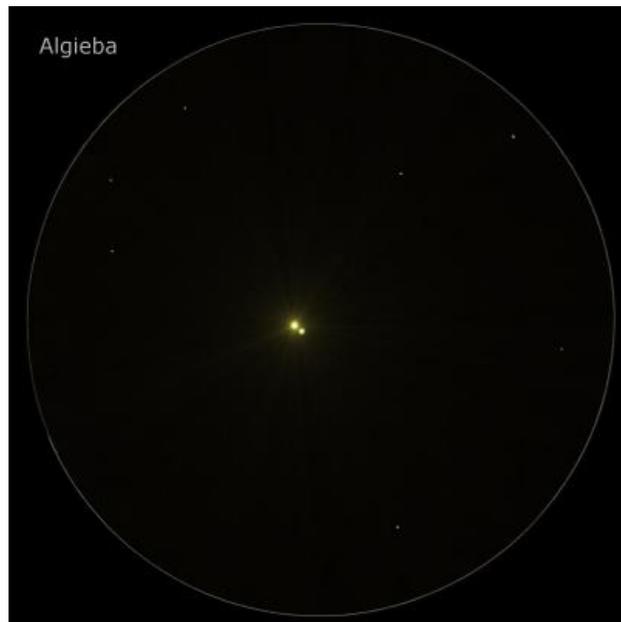


Often there are no comets in the sky bright enough for small telescopes, so it is beyond unusual to have three in the same area of the sky at the same time. The highest one was predicted to be bright enough for binoculars, maybe even the unaided eye, but the nucleus has apparently broken up and it is beginning to dim. The possibility of a 3 comet night still exists.

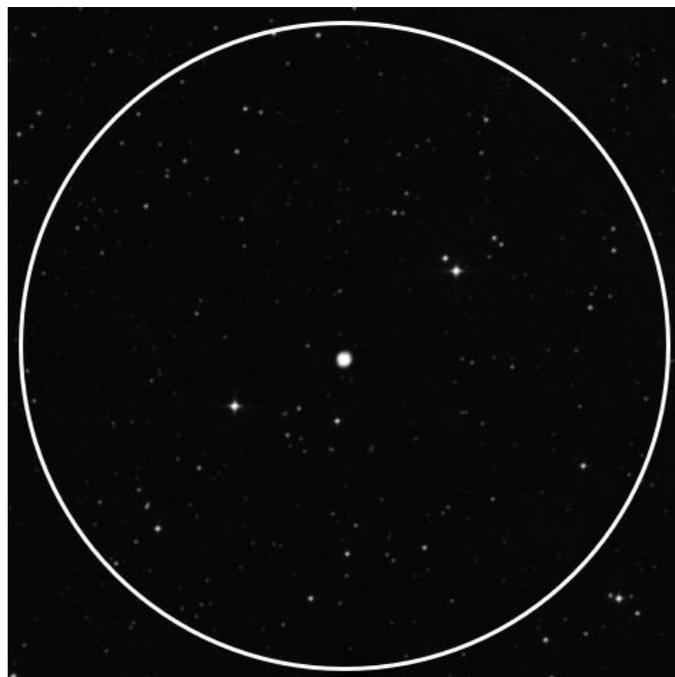


In Our Galaxy:

As noted above, Algieba is a double star; any three-inch scope or greater at 150X should reveal the two components.



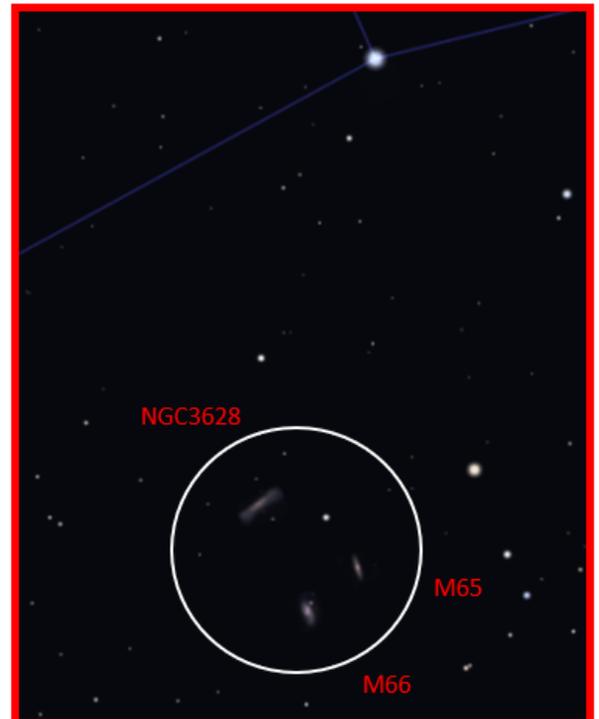
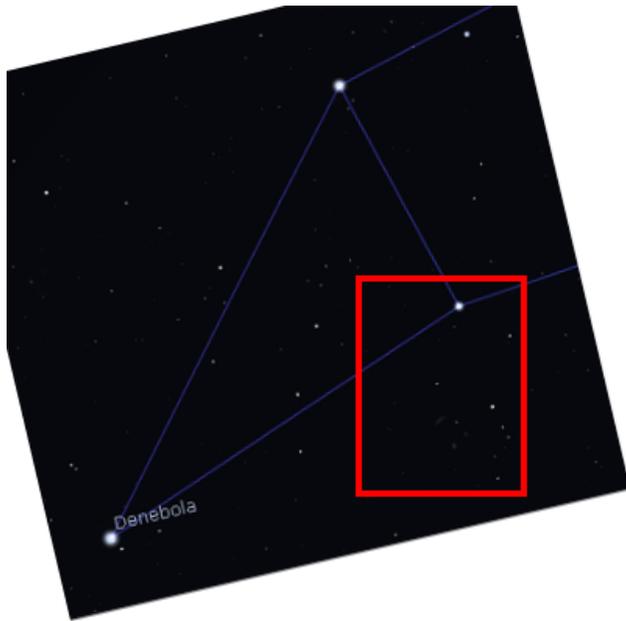
NGC 3242 is a bright planetary nebula known as Jupiter's Ghost because it is approximately the same size as Jupiter in the sky. Being about 3500 light years distant, it is of course much larger, approximately two light years in diameter compared to Jupiter's 80,000 miles.



NGC 3242, 0.5° field of view

Beyond the Milky Way:

When we look up at the “spring night sky,” we are looking perpendicular to the plane of our galaxy, which allows us to see many galaxies beyond our Milky Way. Two of the brightest Messier galaxies, M65 and M66, are easily located in Leo. They can be seen in a 3-inch telescope, while in a 6 inch, a third galaxy, NGC 3628, can also be seen in a one-degree field of view. When glimpsing these three spiral galaxies in an eyepiece, our retinas are being activated by photons that have been traveling through space and time for 35 million years.



QUESTIONS:

If you have any questions (there is no such thing as a dumb one!), please send me an email or a Facebook private message <https://www.facebook.com/rocksnstars>.

If you would like keep updated on current astronomical events, please request to be added to <https://www.facebook.com/groups/236166159862560/>.

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