Richland Astronomical Society
The Warren Rupp Observatory

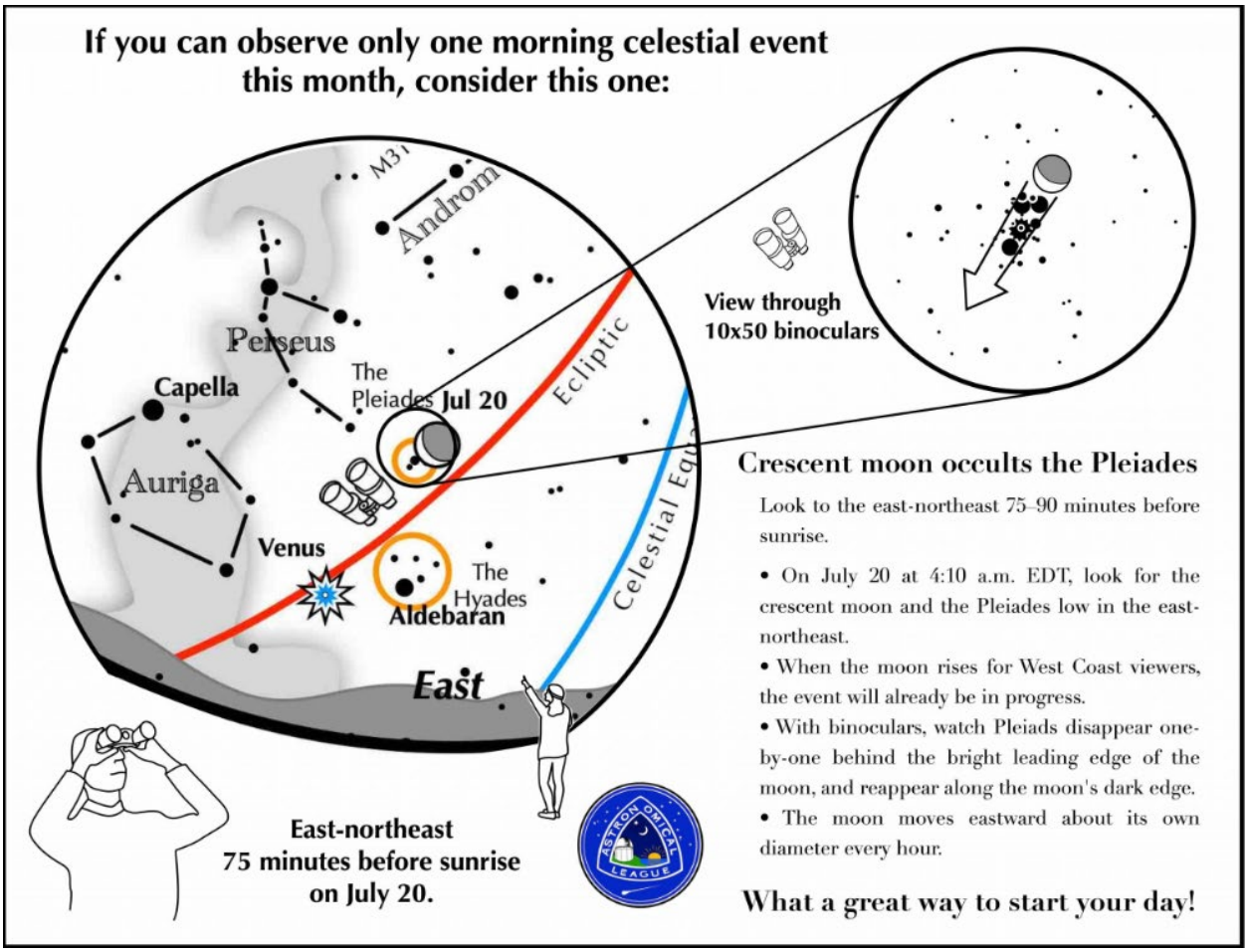
# M111

July 2025

The newsletter of the Richland Astronomical Society and Warren Rupp Observatory

## Moon Occults the Pleiades on July 20, 2025

Wake up early on Sunday, July 20th to see the Moon pass in front of the Pleiades.



# Bruce Scodova Featured in Colorado News Story

*Credit: Lake City Silver World*

"Fervent amateur astronomer Bruce Scodova is a recent transplant to Lake City, in large part for the night skies. His 20" Dobsonian reflector telescope stood almost 6' tall in the upright position and seemed to be the largest telescope in a field littered with impressive equipment. He is looking forward to getting his new house completed and settling further into the comfort of Lake City."

The full story can be found at the Lake City Silver World website: https://lakecitysilverworld.net/starry-eyed-crowds-mesmerized-at-annual-dark-sky-celebration/

# Updates to Membership Roster Data

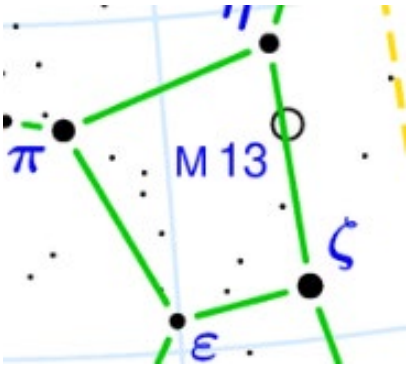
Because we're a small and frugal club, we maintain our membership data using the free Night Sky Network website maintained by the Astronomical Society of the Pacific and sponsored by the Jet Propulsion Laboratory and NASA. All RAS members have an NSN account. Additionally, every member of RAS is also a member of the Astronomical League. Our membership data for the Astronomical League is maintained in a spreadsheet that's updated manually.

If a member moves, changes phone numbers, or wants to update their profile in some other way, they can do so easily by logging onto their NSN account. Additionally, they can email the club secretary (secretary@wro.org) and ask that it be updated. If you update your data – especially your mailing address, please email the secretary so that he can update the Astronomical League's roster as well.

# Big Blue Targets for July

M13

Messier 13, or M13 (also designated NGC 6205 and sometimes called the Great Globular Cluster in Hercules, the Hercules Globular Cluster, or the Great Hercules Cluster), is a globular cluster of several hundred thousand stars in the constellation of Hercules. Messier 13 was discovered by Edmond Halley in 1714, and cataloged by Charles Messier on June 1, 1764. Messier 13 is often described by astronomers as the most magnificent globular cluster visible to northern observers.




About one third of the way from Vega to Arcturus, four bright stars in Hercules form the Keystone asterism, the broad torso of the hero. M13 can be seen in this asterism 2⁄3 of the way north (by west) from Zeta to Eta Herculis. With an apparent magnitude of 5.8, Messier 13 may be visible to the naked eye with averted vision on dark nights. Messier 13 is prominent in traditional binoculars as a bright, round patch of light.

About 145 light-years in diameter, M13 is composed of several hundred thousand stars, with estimates varying from around 300,000 to over half a million. The brightest star in the cluster is a red giant, the variable star V11, also known as V1554 Herculis, with an apparent visual magnitude of 11.95. M13 is 22,200 to 25,000 light-years away from Earth, and the globular cluster is one of over one hundred that orbit the center of the Milky Way.

# M16

The Eagle Nebula (catalogued as Messier 16 or M16, and as NGC 6611, and also known as the Star Queen Nebula) is a young open cluster of stars in the constellation Serpens, discovered by Jean-Philippe de Cheseaux in 1745–46. Both the "Eagle" and the "Star Queen" refer to visual impressions of the dark silhouette near the center of the nebula, an area made famous as the "Pillars of Creation" imaged by the Hubble Space Telescope. The nebula contains several active star-forming gas and dust regions, including the Pillars of Creation. The Eagle Nebula lies in the Sagittarius Arm of the Milky Way at a distance of 5,600 light years.

*M16 Credit: European Southern Observatory*

# M17

The Swan Nebula is an H II region in the constellation Sagittarius. It was discovered by Philippe Loys de Chéseaux in 1745. Charles Messier catalogued it in 1764. It is by some of the richest starfields of the Milky Way, figuring in the northern two-thirds of Sagittarius. This feature is also known as the Omega Nebula, Checkmark Nebula, Lobster Nebula, and the Horseshoe Nebula, and catalogued as Messier 17 or M17 or NGC 6618.

*M17 – Credit: OmegaCen/Astro-WISE/Kapteyn Institute*

The Astronomical League OC Open Cluster Program

# M6 & M7

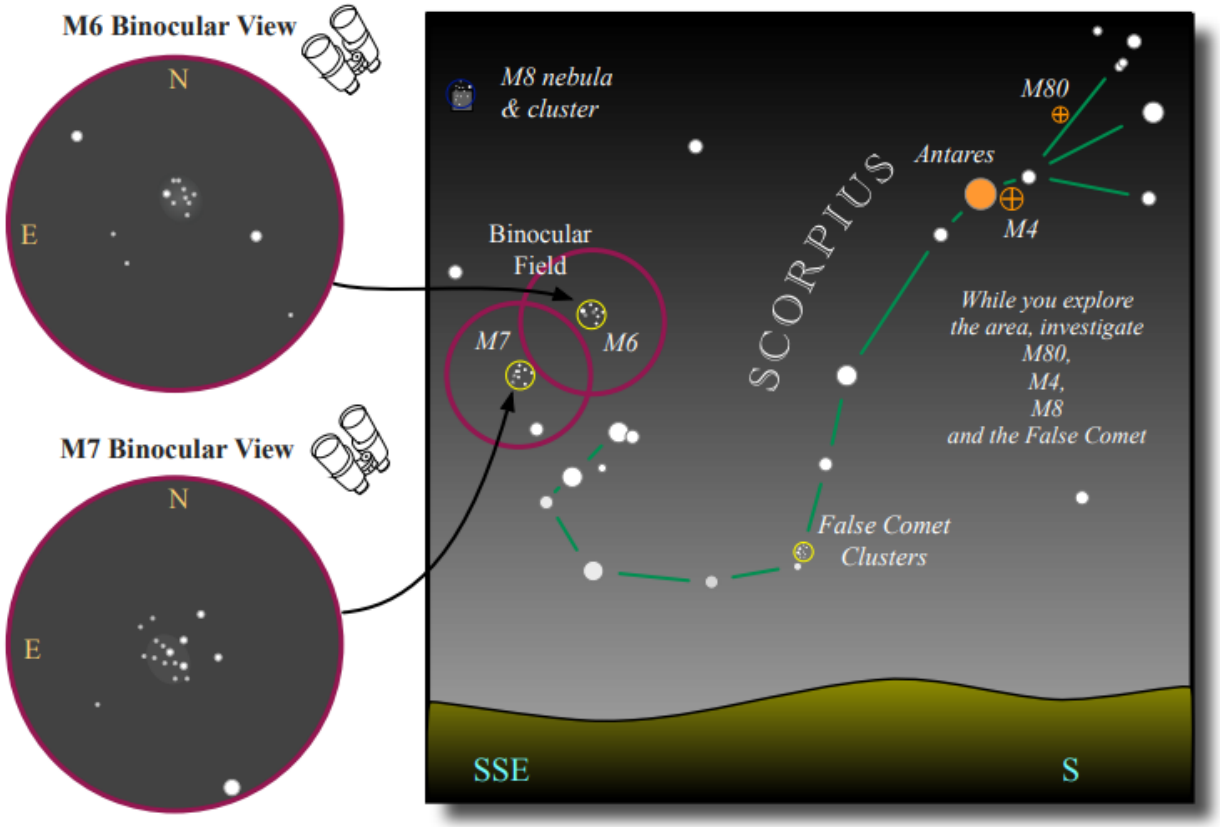
*When these two big, bright, and beautiful open star clusters appear in the early evening in mid June, summer is not far behind.*

If you have recently begun your journey under the stars, why not whet your appetite by exploring southeastern Scorpius and its two wonderful open star clusters, M6 & M7. You will return to them year after year!

While they are visible to the unaided eye from a dark location, binoculars help greatly.
1. Identify Scorpius standing low in the south-southeast on a late spring or early summer evening. As summer proceeds, it is found low in the south, then low in the southwest in the early fall.
2. From red Antares, direct your gaze southward down the scorpion's back, then turn eastward.
3. When its tail hooks northward, continue the length of that hook.
4. M6 and M7 should be plainly visible in the binocular field.

**M6:**
A faint hazy glow is seen by the unaided eye from a dark, clear site. Two dozen stellar lights can be discerned with 10x50 binoculars.

**M7:**
A glittery glow is easily spotted off the scorpion's tail by the unaided eye. Binoculars reveal many faint stars.



# Corvus, take a closer look

*With its two northernmost stars pointing towards Spica, it is a welcome friend in the southern spring sky.*

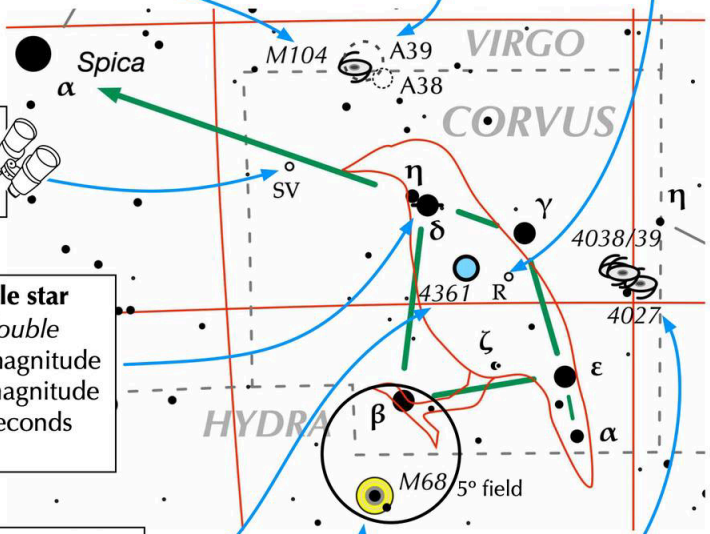
**Corvus** is a small constellation composed of a quadrangle of moderately bright stars with an additional star dangling below the main four. Some say the stellar configuration resembles a sail. Once you meet it, it'll be a friend for life!

Other than its distinctive form, what does it offer the inquisitive stargazer? How about ...

**M104, Sombrero Galaxy**
Just outside the boundary of Corvus
Magnitude: 8.0
Size: 9 x 4 arc minutes

**A39 & A38, ast.**
The Stargate and the Jaws asterisms are best seen through a small telescope.

**R Corvi, var.**
Mag.: 6.7 - 14.4
Period: 370 days




**SV Corvi, var.**
Mag.: 6.7 - 7.2
Period: 4 hr 23 m

**Delta Corvi, double star**
*A tough binocular double*
A component: 2.9 magnitude
B component: 9.3 magnitude
Separation: 24 arc seconds
PA: 214°

**NGC 4361, planetary nebula**
Apparent magnitude: 10.7
Diameter: 1.3 arc minutes.

**M68, globular cluster**
Across the border in Hydra. To find:
1. Place Beta Corvi near the northern edge of a 5° field.
2. M68 lies at the southern edge of the field.

- Mag.: 7.8; Size: 11 arc min
- Distance: 33,000 light-years.
- Visible in binoculars as a dim, round smudge.

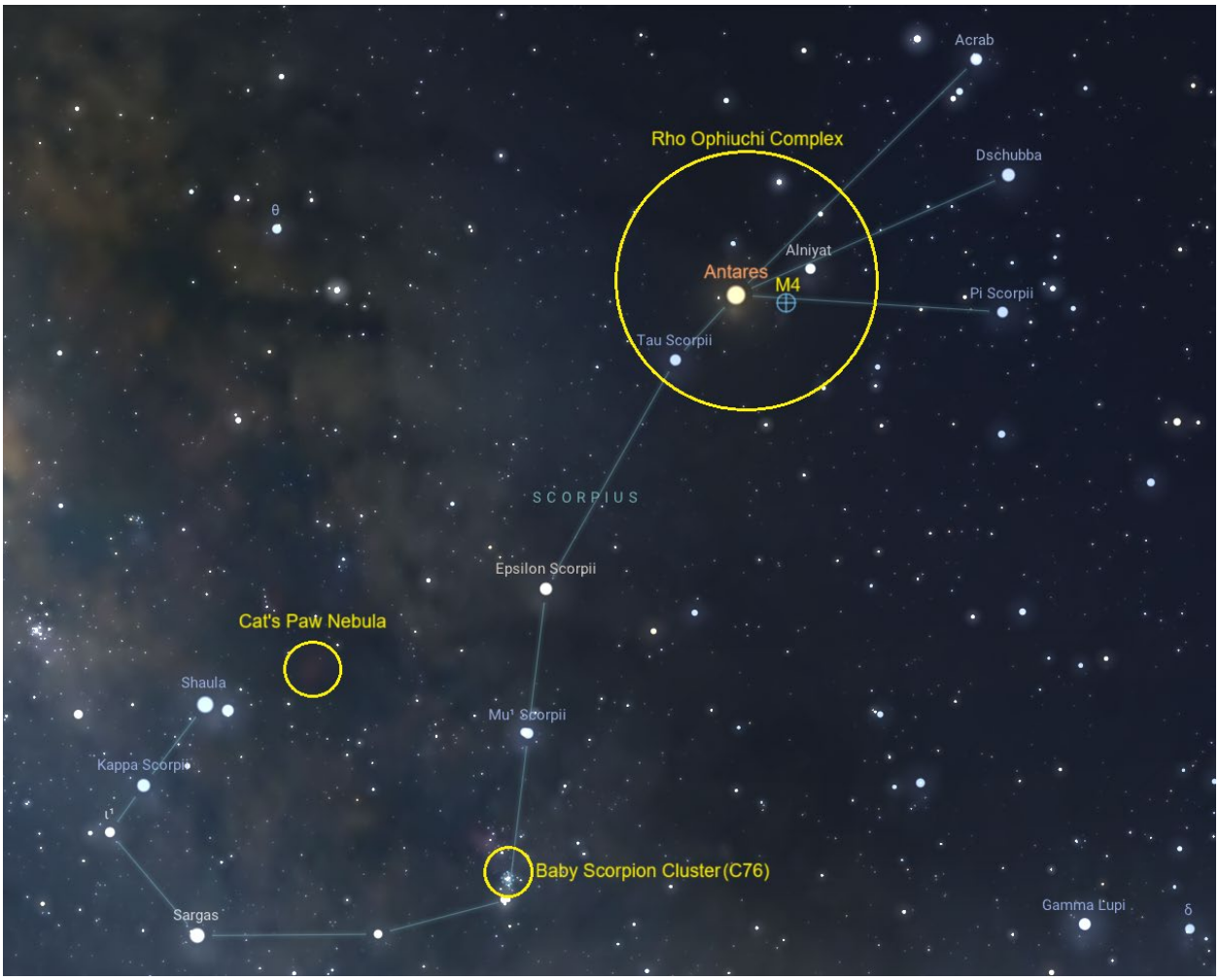
**NGC 4038/4039 (Caldwell 60 & 61),**
**Antenna Galaxies**
NGC 4038 - 11.3 mag.,
Size: 2.6 x 1.8 arc min
NGC 4039 - 11.1 mag.,
Size: 3.2 x 2.2 arc min

**NGC 4027 (Arp 22)**
11.7 magnitude,
Size: 3.2 x 2.4 arc min

# July's Night Sky Notes: Spy the Scorpion

By: Kat Troche

As summer deepens in the Northern Hemisphere, a familiar constellation rises with the galactic core of the Milky Way each evening: Scorpius the Scorpion. One of the twelve zodiacal constellations, Scorpius contains many notable objects, making it an observer's delight during the warmer months. Here are some items to spy in July:




*The star map of the Scorpius constellation highlights the star Antares and several notable deep-sky objects like the Rho Ophiuchi Complex, Messier 4, the Cat's Paw Nebula, and Caldwell 76, the Baby Scorpion Cluster. Credit: Stellarium Web*

- **Antares:** referred to as “the heart of the scorpion,” this supergiant has a distinct reddish hue and is visible to the naked eye. If you have good skies, try to split this binary star with a medium-sized telescope. Antares is a double star with a white main-sequence companion that comes in at a 5.4 magnitude.
- **Messier 4:** one of the easiest globular clusters to find, M4 is the closest of these star clusters to Earth at 5,500 light years. With a magnitude of about 5.6, you can spot this with a small or medium-sized telescope in average skies. Darker skies will reveal the bright core. Use Antares as a guide star for this short trip across the sky.
- **Caldwell 76:** If you prefer open star clusters, locate C76, also known as the Baby Scorpion Cluster, right where the ‘stinger’ of Scorpius starts to curve. At a magnitude of 2.6, it is slightly brighter than M4, albeit smaller, and can be spotted with binoculars and the naked eye under good sky conditions.

*A digital map of the Rho Ophiuchi Complex. Credit: Stellarium Web*

Lastly, if you have an astrophotography set up, capture the Cat's Paw Nebula near the stinger of Scorpius. You can also capture the Rho Ophiuchi cloud complex in the nearby constellation Ophiuchus. Brilliant Antares can be found at the center of this wondrous structure.

## Manaiakalani

While many cultures tell tales of a 'scorpion' in the sky, several Polynesian cultures see the same stars as the demigod Māui's fishhook, Manaiakalani. It is said that Māui didn't just use his hook for giant fish in the sea, but to pull new islands from the bottom of the ocean. There are many references to the Milky Way representing a fish. As Manaiakalani rises from the southeast, it appears to pull the great celestial fish across a glittering sea of stars.

## Measure Your Darkness

While you can use smartphone apps or dedicated devices like a Sky Quality Meter, Scorpius is a great constellation to measure your sky darkness with! On a clear night, can you trail the curve of the tail? Can you see the scorpion's heart? Use our free printable Dark Sky Wheel, featuring the stars of Scorpius on one side and Orion on the other for measurements during cooler months. You can find this resource and more in the Big Astronomy Toolkit.