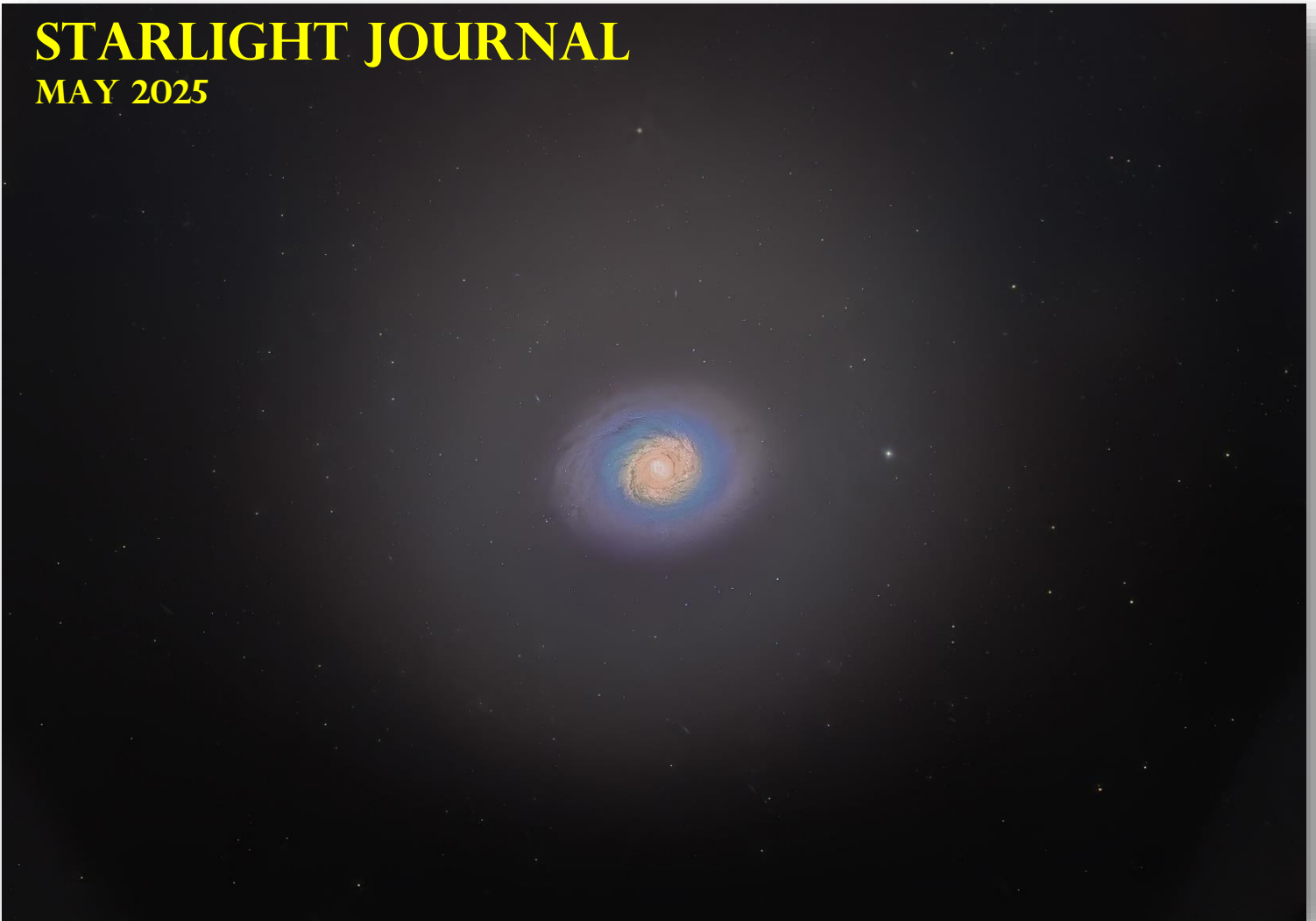


# STARLIGHT JOURNAL

## MAY 2025



M-94 Image by DMAS Member JR Paulson

M-94 is a spiral galaxy located 16 million light-years away in the constellation Canes Venatici, the Hunting Dogs. It was discovered in 1781 by Pierre Mechain and catalogued by Messier. Measuring 50,000 light-years in diameter, it is about half the size of our Milky Way. It can be seen at magnitude 8 with binoculars or a small telescope but only as a tiny patch of light. Although classified as a barred spiral, the bar appears more oval shaped. What is unusual is its double ring structure. Its inner ring has a diameter of about 4,500 light-years (27 quadrillion miles) and the larger outer ring, 45,000 light-years. The inner ring is the site of strong star formation activity and is called a “starburst” ring. However, 23% of the galaxy’s star mass is in the outer ring and new star formation also occurs there.

The most remarkable feature about this galaxy is not its unusual morphology or shape, but the fact that it has very little or no dark matter present. Current astrophysical models require dark matter for the formation and explanation of galaxy shapes. M-94 clearly does not fit this model and why it has no dark matter is puzzling to astronomers. One hypothesis is that another galaxy merged with M-94 in the distant past, but this has not been found to be true. M-94 is also referred to as the Cat’s Eye Galaxy.

*(As with most of the images in this newsletter, you will be greatly rewarded by viewing them on a computer monitor rather than a cell phone screen. – Ed.)*

**SAVE THESE DATES NOW!****Saturday, May 3** Board Meeting 5:00 p.m.**Saturday, May 3** Member Meeting 6:30 p.m.**May 2025 – President's Report**

Our viewing season is off to a busy start with about 20 visitors on our first Saturday night. Although the weather was cold, the sky was clear, and everyone enjoyed the night sky views. Our second public night in April found about 47 visitors to Ashton for the program provided by Greg on the “Planets Parade” and night sky viewing after the program.

Congratulations to Jim VandeBerg, our DMAS Secretary and Starlight Journal Editor. He is being recognized for his outstanding editor contributions to our newsletter and his dedication to astronomy and will be awarded the NCRA 2025 (Newsletter) Editor award at the NCRA Annual Convention on Saturday April 26<sup>th</sup> in Minnetonka, Minnesota. Jim, we appreciate all you do for DMAS, for the public and for the world of astronomy!!

Bruce Mumm has created a program to display on the TV in our observatory lobby for guests to view while waiting for their turn in the domes. This has been well received by our visitors as they learn about DMAS, Ashton Observatory and the night sky objects they might see that evening. This was one of the priorities for 2025 as selected by our DMAS membership. Thank You Bruce for your hard work on making this happen!!



The Globe at Night organization has selected 2 constellations for their May challenge. They are Leo and Boötes. Dates for observing are May 18-27, 2025. Learn more about this wonderful challenge at [www.globeatnight.org](http://www.globeatnight.org).

Enjoy our wonderful spring weather and get outside to enjoy the night sky!!

JoAnn

**The Des Moines Astronomical Society**  
**Monthly Members' Meeting Agenda**  
**May 3, 2025 at 6:30 P.M.**  
**At Ashton Observatory**

- Call to order – Introductions
- Secretary's Report – Minutes
- Treasurer's Report
- Board Meeting report / Recommendations
  - D & O Insurance policy
- Observatory Director's Report
- Timberline Update
- Committee Reports
  - Radio Telescope
- Member comments
- Other Business
  - Photography Class
  - Astronomy Day is Saturday, May 3rd
  - Summer Picnic
  - Lobby Program for Public Viewing nights – created by Bruce
- Adjourn
- Next Meeting Date: June 7<sup>th</sup> at 6:30 PM



**The date and time of this year's first  
astrophotography class will be  
announced at the member meeting on  
May 3<sup>rd</sup>.**



**The Des Moines Astronomical Society**  
**Board of Directors Meeting Agenda**  
**May 3, 2025, at 5:00 P.M.**  
**at Ashton Observatory**

- Call to order
- Secretary's Report – Minutes
- Treasurer's Report
- Insurance policies – review
  - For D&O policy
- Observatory Director's Report
- Timberline Update
- Other Business
  - Photography Class
  - Saturday May 3 is Astronomy Day
  - Summer Picnic
- Lobby program for Public Viewing Nights

Adjourn



# Observatory Committee Report May 2025

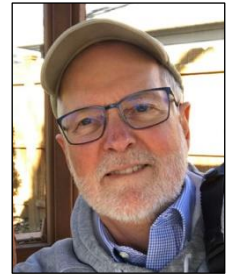
## Greg Woolever, Observatory Director

April showers haven't been too troubling this year, with cloud cover allowing at least marginal views so far. Visitors have been enthused about their experiences.

Private groups came in April, and more are scheduled for May.

Classroom programs are scheduled for the 2nd and 4th Saturdays in May.

Equipment is functioning well, so things are good. We do, however, need more trained operators to cover our efforts to host visitors. We also need members to be hosts when we have large groups waiting their turn to go into the domes. Contact any Observatory Committee member to find out how you might contribute.



Thanks - Greg Woolever & the  
Observatory Committee: Dave Heck,  
Norm Van Klompenburg, Jim  
VandeBerg, Greg Woolever.



## The Night Sky for May 2025

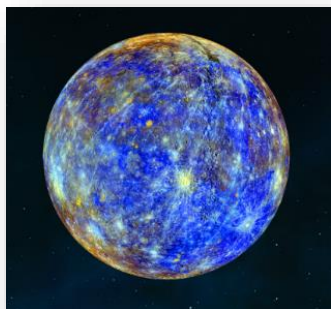
*By JoAnn Cogil*

As most fans know, the fourth day in May became Star Wars Day because of the turn of phrase, "*May the force be with you*," used by Jedi masters in the movies. The classic slogan was originally flip-flopped in 1978 to greet others on the Fourth of July, according to Lucasfilm.

The next year, May 4 became the fandom's unofficial holiday after Margaret Thatcher won the election to become Britain's first female prime minister. To celebrate her victory, her party took up a half-page advertisement in the May 4, 1979, issue of The London Evening News that read, "*May the Fourth Be With You, Maggie. Congratulations!*"

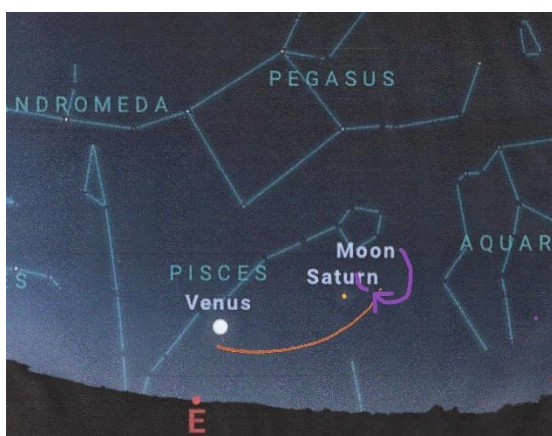
May is a notable month for the popular franchise. The original Star Wars premiered on May 25, 1977, and its creator, George Lucas, celebrates his birthday on May 14.





**Mercury** – will be low in the eastern morning sky, barely rising before the Sun, but will be a tough target to see as it moves across our sky during daytime hours

**Venus** – once again in our morning sky so bright! Venus teams up with the Moon & Saturn to form a nice ‘arc’ in the ESE sky before dawn on May 22<sup>nd</sup>. On the 31<sup>st</sup>, it will be at its greatest western elongation in the eastern sky before sunrise. (Greatest eastern elongation is when a planet sets after the Sun sets)



**Earth** – Happy Mother’s Day on May 11<sup>th</sup>!!

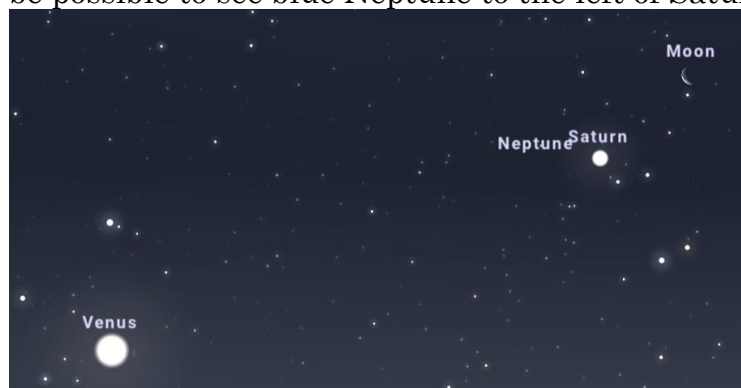
**Mars** – is still close to the Beehive Cluster (M44) this month in the early evening. It is so close to the cluster that it may appear to be part of the cluster but will show nicely; however, to enjoy a good view of the cluster you should have dark, clear skies. On the 3<sup>rd</sup>, the red planet and the Moon are very close together. Look for them about 8:30 PM CDT high in the SW sky. Mars is the closest planet to the Moon this month.





**Jupiter** – lies in the constellation Taurus the Bull with its best viewing early in the month. It does set early in the evening, about 9-11 PM CDT, then it will be gone from view for a while as it heads for the far side of the Sun. On the 4<sup>th</sup>, you may have an opportunity to see the shadow of its moon 'Io' as it makes a transit across the planet.

**Saturn** - now visible in the dawn skies, rising about 2 hours before sunrise. On the 1<sup>st</sup>, our ringed planet will be next to Venus in the early morning ESE sky. May 6<sup>th</sup> is Saturn's equinox with the Sun shining exactly edge-on to the rings, as the rings move through their 15-year cycle. On the 22<sup>nd</sup>, Saturn pairs with the Moon & Venus in the early morning sky, just before sunrise and it may be possible to see blue Neptune to the left of Saturn.



**Uranus** – remains out of view due to its conjunction with the Sun on the 17<sup>th</sup>, as it passes the far side of the Sun.

**Neptune** – by month end it will be near Saturn and may be seen with binoculars





## May Moon

4<sup>th</sup> – first quarter

12<sup>th</sup> – **FULL Moon** at 11:55 AM CDT and is a “micromoon”

20<sup>th</sup> – last quarter

26<sup>th</sup> – **NEW Moon** at 10:02 PM CDT

May’s Moon is known as the ‘Flower Moon’ for the time of year when spring flowers appear in abundance. Also known as the “Corn Planting Moon”.

On May 9<sup>th</sup>→ 10<sup>th</sup>, the Moon and the bright star

Spica, in the constellation

Virgo, will be side-by-side in the WSW night sky with our best viewing well after midnight. If you are so inclined to stay up late or get up early, take a look at this pairing.



## Meteor Showers

Eta Aquarids MS – is an annual meteor shower

-Produced by the leftover dust particles of Comet Halley (1P/Halley)

-Runs from April 19 – May 28 and peaks on May 5-6

-Best viewing time is 2-5 AM CDT

-At peak night, we may see up to 30 meteors per hour in the Northern Hemisphere, although the best viewing will be in the Southern Hemisphere.

-Radiates from the constellation Aquarius

- Meteors could be fast & bright and are known for their speed as they travel about 40 miles per second or about 150,000 mph when entering Earth’s atmosphere and leave lingering bright trails called “trains”
- This is the 3<sup>rd</sup> strongest meteor shower of the year observable on Earth
- The Eta Aquarids MS is one of two meteor showers attributed to Halley’s Comet. In October each year, the Orionids MS is from the inbound portion of Halley’s Comet’s orbit while the Aquarids MS is from the outbound portion of the comet’s orbit.
- Halley’s Comet orbits the sun every 76 years and will not enter our inner solar system again until 2061.



## Did the James Webb Space Telescope (JWST) Find Life on Another Planet? - NASA



On April 16 NASA reported that the JWST found strong evidence of molecules in the atmosphere of another planet that are only typically associated with simple ocean lifeforms (like marine algae). The planet, K2-18b, is about 124 light years from Earth and orbits around its sun in about 33 days. K2-18b is about 2 ½ times the size of Earth and likely covered with water oceans.

The two molecules detected by JWST are dimethyl sulphide (DMS) and dimethyl disulphide (DMDS). On Earth, these gases are produced by marine phytoplankton and bacteria. The amount of this gas in K2-18b's atmosphere is thousands of times higher than what we have on Earth.

The probability that this new finding **actually indicates life** is about 3-Sigmas which is about the same as flipping a coin 10 times and getting the same result (99.7%). To make a final announcement of proof of life, Astronomers are seeking 5-Sigmas which is equivalent to flipping a coin 20 times and getting the same result (99.99999%). More telescope time inspecting this planet is needed to confirm the results. It must be noted that many various astronomers, not involved with this study, are skeptical of the results.

### Wonderful Program on “Planet Parade” Presented by Greg Woolever

On April 12, our observatory director, Greg Woolever, presented an excellent program about the alignment of several planets in the night sky. He explained how this happens and explored other instances from the past and future alignments. About 47 visitors attended this very enjoyable program.



**Word – A monthly article by DMAS member Bruce Mumm**

Every specialty has a specific jargon to describe unique conditions in the field; Astronomy is no different.  
This month's word is:

**Precession** – a slow change in the map positions of everything in the sky, caused by the wobbling of earth's rotational axis.

**Subscribe to the North Central Region Astronomical League  
newsletter and download archived issues at**  
<https://ncral.wordpress.com/newsletter-archive/>

DES MOINES ASTRONOMICAL SOCIETY  
PLEASE WELCOME THESE NEW MEMBERS!

January – Chris Conmy

February – Cindy Cunningham

February – Peter Steier

February – Teddy Collis (Associate)

April – Doug Deval

## Drake Observatory Spring 2025 Lecture Series Schedule

Visitors can expect an Astronomy lesson followed by stargazing with expert guidance. **Lectures begin at 8 PM**, regardless of weather. **Sky Viewing begins at dark if sky conditions are favorable.** Children 15 and younger must be accompanied by an adult. **Admission is free and open to all!**

May 9<sup>th</sup> Program: Black  
Holes: Do They Exist?  
**Nebraska Star**



## Party

It's that time again for the annual Nebraska Star Party 2025, to be held **July 20 to 25<sup>th</sup>** at the beautiful Merritt Reservoir, which is 26 miles south of Valentine, NE. This year marks the 32nd anniversary of the 6-day fun family event.

This week-long star party takes place at the Snake River Recreational Area campground. We have completely dark skies there with no light pollution whatsoever. This is a Bortle Scale 1 site. At times, the Milky Way has cast shadows on the ground.



There at the campground/observing area is where we have our pre-paid catered meals, (supper only) and door prizes are handed out. Your breakfast and lunch are on you at your campsite or cabin. You may also purchase some food items at the Merritt Resort Trading Post, which is near the cabins. You can also rent cabins and boats there and use a shower house. The weather there in July is very changeable so plan accordingly to bring shorts, T-shirts, suntan lotion, bug spray and long pants, sweatshirts, jackets, hats for your night-time viewing. A warm observer is a happy observer. Be prepared.

There are several campgrounds around the

electricity available at campsites. I camp at Boardman Campground. There's also electric sites, cold water pump and vault toilets and trees for daytime shade.

During your free daytime relaxation, you may just sit around and chat with your fellow stargazers, look over your star charts to plan the night's observing session, go swimming, fishing, boating or relax on the beach, drive up to Valentine to go shopping, use the library for internet, go sightseeing, trailbike riding, go golfing, have lunch at the fast-food restaurants, gas up your vehicle. You can also drive up to South Dakota to the Rosebud Casino or continue on towards Wall, South Dakota and see the



reservoir. A lot of the stargazers camp and observe at the Snake River Recreational Area campground, which is out in the open. There are no showers available there at the observing field area, only some vault toilets. There are modern restrooms and coin-operated hot showers available at the Cedar Bay Campground and they also have

a tour of an underground decommissioned missile launch control center for a cost. I recommend pre-arranging that tour.

famous "Wall Drug" shopping area mall and onto Rapid City area to see Mount Rushmore National Monument. On your way back, you can stop by the Badlands National Park and across from there is National Minuteman Missile Site Museum and an replica of a Minuteman Missile in a silo. You can also arrange

During the week on Wednesday, we will all be at the Valentine High School for some scheduled events, including children's

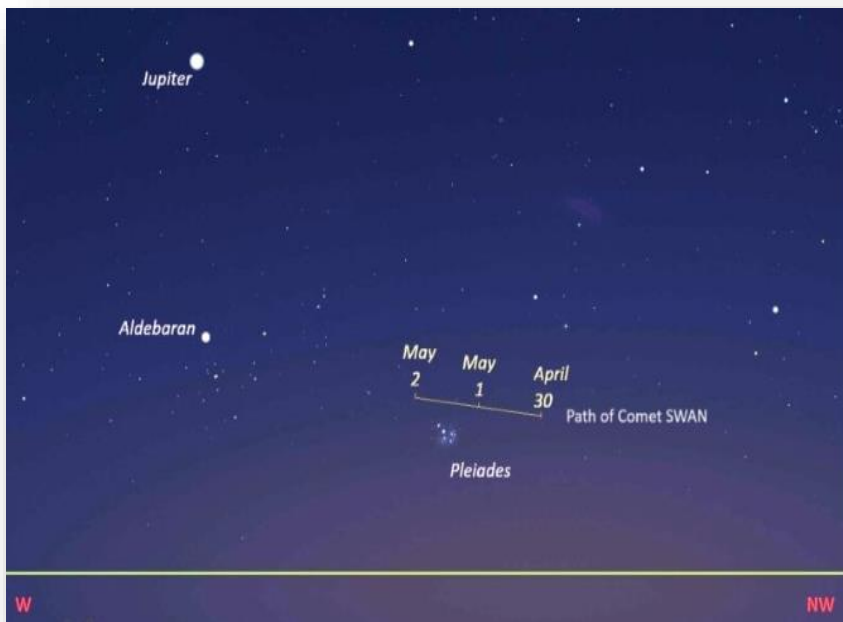
program activities, adult lectures in auditorium, NSP Beginners and Advanced observers school training, a swap meet, astro-photo competition, awards, and door prizes.

After all the events at the high school, we all to go to dinner somewhere in town, fast-food or otherwise and then head back down to Merritt Reservoir for the evening's observing. The star party lasts for 6 days but a lot of the people leave on Thursday to head home or other places. Friday night is our public night there.

The citizens of Valentine come down to see the sky at Merritt and view through some of the remaining scopes there. They really enjoy it. There is cell-phone service there in the area. Most cell carriers are available.

You are also in the Mountain Time Zone there at Merritt, all the way up to the Merritt Trading Post, which is back on Central Time there. Sounds crazy but that's how it is. Your driving distance to the star party is 500 miles from Des Moines. It will take you 8 hours to get there. Don't forget to bring along your star charts, red flashlights, observing chair, WARM clothes and quarters for the coin-operated showers, maybe some snack food items, and drinks.

I can provide a brochure about the star party. You can pre-register for the star party online, by mail or in person. The website is: [www.NebraskaStarParty.org](http://www.NebraskaStarParty.org) Registration will be held at Boardman Campground. L. Allen Beers 515-601-5698



On April 8 Comet c/2025 F2 SWAN appeared brighter than 8<sup>th</sup> magnitude and floated among the stars of Pegasus in the morning sky

A bright new comet has been sending waves of excitement through sky observers over the last few days. Discovered on images made by the SOHO SWAN instrument on March 29, Comet C/2025 F2 SWAN will reach perihelion on May 1 and is currently in the morning sky, moving out of view. In early April the comet was a typical binocular object, but on April 8 it underwent an outburst and brightened to 8<sup>th</sup> magnitude.





Image by DMAS Member JR Paulson

## The Blue Snowball

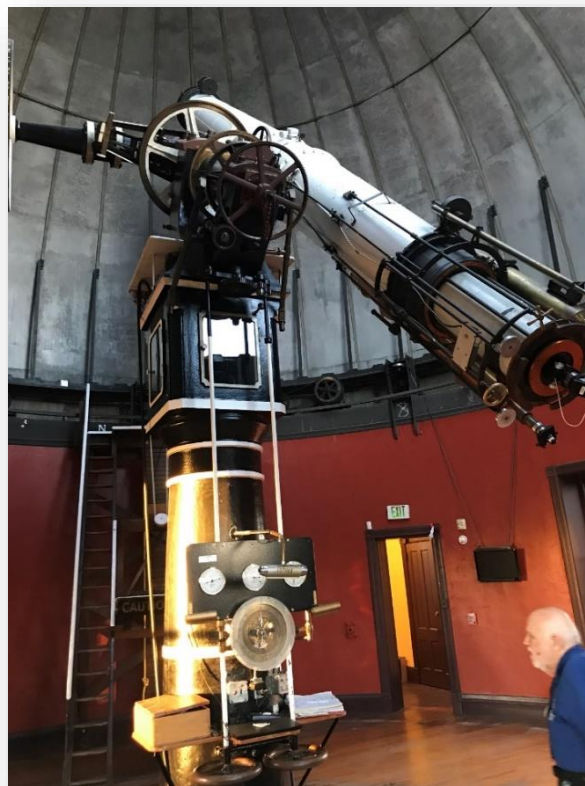
This is a pretty little planetary nebula in the western part of Andromeda. It is one of the finest to observe through a small telescope with its soft blue-green glow. It is listed as 7662 in the New General Catalogue. It is small and magnitude 8.8 although its central star is a variable with a range of 12-16. It has an estimated diameter of 2 light years (about 12 trillion miles).

Planetary nebulae are strange objects in many ways. Their gas clouds have nothing to do with planet formation since they are produced at the end of a star's life. It is only with CCD imaging and major computer processing that the true structure of this planetary can be seen. The 11th magnitude central star is an extremely hot blue-dwarf whose surface temperature is over 55,000 K. Strong ultraviolet radiation from the star causes the bright fluorescent glow of the surrounding double envelopes of gas. The greenish-blue tint is due to the radiation of doubly ionized oxygen. As with all planetary nebulae, it is the remnant of a red giant, which has ejected its outer gaseous shell, leaving behind a small, hot, dense white or blue dwarf. It is estimated that over 90% of all stars, including our sun, will end their lives this way.

## CHAMBERLIN OBSERVATORY



This Christmas, my kids gave my wife and me the gift of a private family tour of the Chamberlin Observatory in Denver, Colorado. My favorite astronomer, Herbert Howe, built this observatory in 1894. He carried the 20" Alvin Clark objective lens personally on a train from Massachusetts to Denver.



The large wrench used to fine-tune polar alignment



320 tons of limestone blocks form the base on which the telescope pier rests.

- Jim VandeBerg

## This Month in DMAS History

*From the StarLight Journal 25 Years Ago, May 2000*

12.5-inch scope has been delayed three or four times; called this week; suppliers are having a problem getting parts. (AS OF THIS WRITING TOM WAS NOTIFIED THE 12.5 INCH SCOPE WILL BE SHIPPED MAY 3RD).

Used equipment sold: Steve Cunningham will purchase the 10-inch scope; the 16-inch primary and secondary mirrors were sold to David Coy for \$420.00. Schiefspiegler is still available for \$400.00; Club has \$365.00 invested in the instrument.

Solar equipment: Harry Wood reported ours is in the second group to be shipped probably in a couple of weeks; the vendor is having trouble getting some of the materials; we were number four on the list.

*From the StarLight Journal 10 Years Ago, May 2015*

Our DMAS @ IOWA SCIENCE CENTER –APRIL 25TH by Joe Forde, Education Committee

Even with overcast skies we were able to introduce DMAS to 246 folks who seemed quite surprised to learn that there is another observatory that gives free presentations of some of the mysteries of the universe with optional viewing of the night skies.

DMAS members who volunteered at the Science [Center] were L. Allen Beers, Kent Hayek, Larry Musselman, Dave Bailey and son, Rod Williams, Joe Forde and Dale Gibson. The next Education Committee event is at the Des Moines Farmers' Market on May 16<sup>th</sup>.

## Astronomical League

### Explore these Rewarding and Educational Observing Programs

The **Astronomical League** is an umbrella organization of amateur astronomy societies. Currently their membership consists of over 330 organizations across the United States, including the **Des Moines Astronomical Society**.

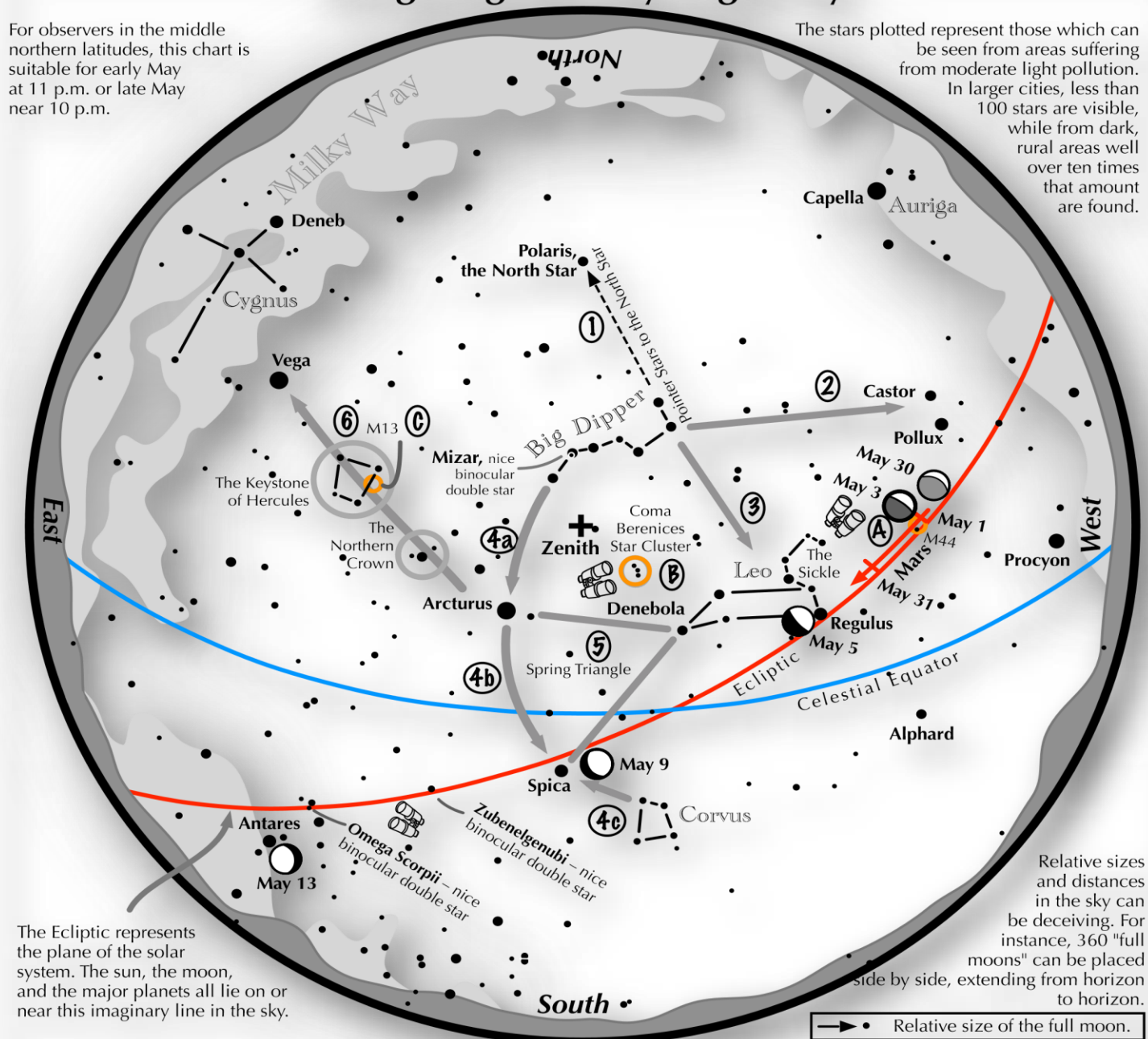




# Navigating the May Night Sky

For observers in the middle northern latitudes, this chart is suitable for early May at 11 p.m. or late May near 10 p.m.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



## Navigating the May night sky: Simply start with what you know or with what you can easily find.

- 1 Extend a line northward from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
- 2 Through the two diagonal stars of the Dipper's bowl, draw a line pointing to the twin stars of Castor and Pollux in Gemini.
- 3 Directly below the Dipper's bowl reclines the constellation Leo with its primary star, Regulus.
- 4 Follow the arc of the Dipper's handle. It first intersects Arcturus, then continues to Spica. Confirm Spica by noting that two moderately bright stars just to its southwest form a straight line with it.
- 5 Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.
- 6 Draw a line from Arcturus to Vega. One-third of the way sits "The Northern Crown." Two-thirds of the way hides the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.

### Binocular Highlights

**A:** M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux. **B:** Look near the zenith for the loose star cluster of Coma Berenices. **C:** M13, a round glow from a cluster of over 500,000 stars.

**Astronomical League** [www.astroleague.org/outreach](http://www.astroleague.org/outreach); duplication is allowed and encouraged for all free distribution.





### Your 2025 Des Moines Astronomical Society Officers, Directors & Observatory Committee

**President:** JoAnn Cogil

**Vice-President:** Pat Meade

**Secretary/ALCor:** Jim VandeBerg

**Treasurer:** Bruce Mumm

**Observatory Director:** Greg Woolever

**At Large Director:** Norm Van Klompenburg

**At Large Director:** Jessica Weinreich

**At Large Director:** Dave Bailey

**Observatory Committee:** Greg Woolever, Norm Van Klompenburg, Dave Heck, and Jim VandeBerg

**Contact us at:** [info@DMastronomy.com](mailto:info@DMastronomy.com)

The *Starlight Journal* is the monthly newsletter of the **Des Moines Astronomical Society, Inc.** P.O. Box 111, Des Moines Iowa 50301-0111. Our Observatory is located in Ashton Wildwood Park, 8755 West 122nd Street North. Founded in 1970, we are a non-profit, 501(c)(3) organization. Our website is [DMastronomy.com](http://DMastronomy.com). More information and photos can be found on our Facebook page.

**Article Deadline:** Before the 21<sup>st</sup> of the month, please send your articles, photos, sketches, poems, cartoons, and news to Jim VandeBerg [FinePineCabin@gmail.com](mailto:FinePineCabin@gmail.com). Articles may be edited to fit the allotted newsletter space. Copyrighted material must have permission from the copyright holder. Views and opinions expressed within submissions are that of the author and not necessarily those of the Des Moines Astronomical Society, Inc.



### The Purpose of our Society

- Secure the pleasure and benefits of an association of persons interested in amateur astronomy
- Promote the science of astronomy
- Encourage and promote activities of an astronomical nature
- Foster observational, computational, technical, and creative skills in various fields of astronomy
- Pursue activities with other amateurs and professionals
- Educate the public

Des Moines Astronomical Society  
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