



Observations

A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

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June 2026

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Orion Nebula

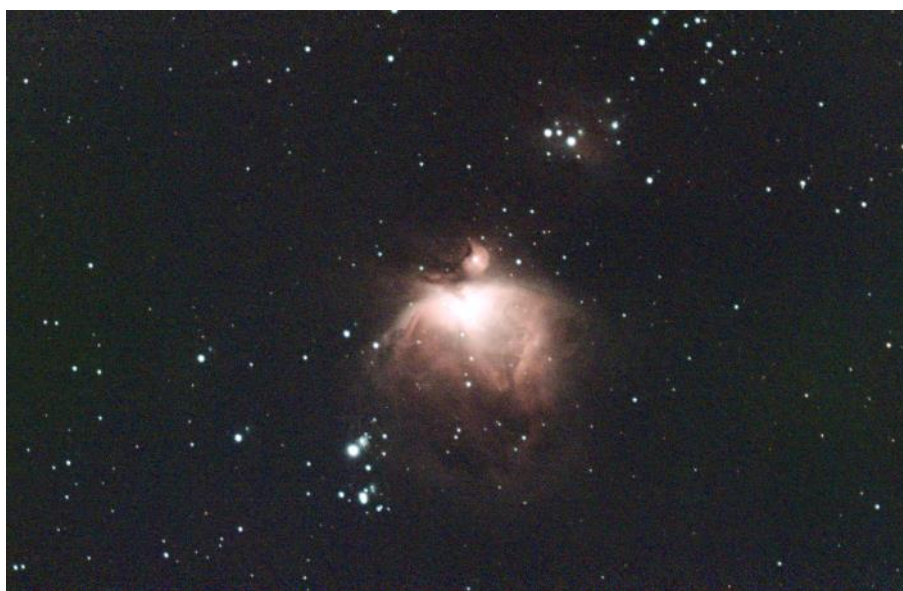


Image taken by CCAS Member Tom Kovic using a Dwarf 3 Smart Telescope on 21 April 2026. For more of Tom's astrophotography, see pg. 11.

Membership Renewals Due

06/2026	Bremser Crabb Curry Dhargalkar Harris Hebding Lindtner Mazziotta/Calobrisi McCausland Myers O'Neill Scott Thomas
07/2026	Hunsinger LaRocca Piehl Rauenzahn
08/2026	Borowski Johnston & Stein Knabb Family Lurcott, L. Manigly Schultz Trunk Zullitti

June 2026 Dates

- 8th** • Last Quarter Moon (6:00 a.m. EDT).
- 8th-9th** • Venus and Jupiter will have a conjunction; They will be only one° apart.
- 14th** • New Moon (10:54 p.m. EDT).
- 17th** • The Moon occults Venus on June 17th but from our location this will happen around 4:30 p.m. EDT.
- 15th** • Mercury greatest eastern elongation at 24.5 ° from the sun (sets after the sun in the western sky)
- 21st** • First Quarter Moon (5:55 p.m. EDT).
- 29th** • Full Moon, the [Strawberry Moon](#) (7:56 p.m. EDT).



CCAS Upcoming Nights Out

In addition to our monthly observing sessions at the Myrick Conservancy Center, BRC (for directions, see pg. 17), CCAS schedules special "nights out" throughout the year. Members are encouraged to help out during these events any way they can. See below for more information.

- ☼ Friday, June 12, 2026: CCAS Monthly Observing Session: Myrick Conservancy Center, BRC. Rain date: Saturday, June 13th.
- ☼ Saturday, June 20, 2026: CCAS Special Observing Session, Hibernia Park, 8:30 PM to 10:00 PM EDT.
- ☼ Monday, June 22, 2026: Downingtown Library Loaner Scope Talk #2, 7:00 PM to 8:00 PM EDT. Downingtown Public Library.
- ☼ Friday, June 26, 2026: Friday Night Lights. Natural Lands ChesLen Preserve, 8:00 PM to 10:00 PM EDT (Arrive between 5:00 & 6:00 PM for setup).

For more information about future observing opportunities, contact our [Observing Chair](#), Don Miller.

Spring/Summer Society Events

June 2026

12th • CCAS Monthly Observing Session, Myrick Conservancy Center, BRC. The observing session starts at sunset. Rain date: June 13th.

20th • Open call for articles and photographs for the July 2026 edition of [Observations](#).

20th • CCAS Special Observing Session, Hibernia Park, 1 Park Rd, Coatesville, PA 19320.

21st • Summer Solstice, 4:24 a.m. EDT. First day of summer in Northern Hemisphere.

22nd • Downingtown Library Loaner Scope Talk #2, 122 Wallace Ave, Downingtown, PA 19335. The event is scheduled from 7:00 to 8:00 p.m. EDT.

26th • Deadline for newsletter submissions for the July 2026 edition of [Observations](#).

26th • [Friday Night Lights](#), ChesLen Preserve, 1199 Cannery Road, Coatesville, PA 19320. The event is scheduled from 7:00 to 10:00 p.m. EDT.

July 2026

10th • CCAS Special Observing Event, Starr Farm Park, 1079 Skelp Level Rd, West Chester, PA 19380. The event is scheduled from 8:30 pm to 10:30 p.m. EDT.

15th-18th • Green Bank Star Quest XXI Optical "Star Party" & Conference, optical and radio amateur astronomy event, 155 Observatory Rd, Green Bank, WV 24944

14th-17th • CCAS camping trip to Cherry Springs, 4639 Cherry Springs Rd, Coudersport, PA 16915

17th • CCAS Monthly Observing Session, Myrick Conservancy Center, BRC. The observing session starts at sunset. Rain date: July 18th.

20th • Open call for articles and photographs for the August 2026 edition of [Observations](#).

26th • Deadline for newsletter submissions for the August 2026 edition of [Observations](#).

May 2026 Meeting Minutes

by Bea Mazziotta, CCAS Secretary

- Dave Hockenberry welcomed attendees to the May 12, 2026 meeting. This final meeting of the year was held at WCU and via Zoom.
- Don Miller, Observing Chair, reviewed some May night sky observing highlights including:
 - M51 - the Whirlpool Galaxy in Canes Venatici
 - M53 - a distant globular cluster in Coma Berenices and planetary viewing opportunities
- He reminded members of the monthly Hubble Night Sky Challenge which has 8 objects to observe in May in the northern hemisphere.
 - Link for details at <https://science.nasa.gov/mission/hubble/science/explore-the-night-sky/hubbles-night-sky-challenge/>
 - He went over upcoming CCAS observing events both night sky and solar. Go to [CCAS.US](#) for details.
- Dr. Ken Koeplinger was the evening's speaker. His presentation "Stars & Stripes in the Sky; U.S. Astronomy at 250 Years" was a timely discussion of American discoveries and contributions to the science of Astronomy going back to the time of the country's founding and ending with modern day telescopes and space exploration.
 - Dr. Koeplinger, a retired research chemist, is a NASA Caltech/JPL Solar System Ambassador and adjunct Chemistry instructor.

September 2026 CCAS Meeting Agenda

by Bruce Ruggeri, CCAS Program Chair

Our next meeting will be held on September 8, 2026, in person (and via Zoom & YouTube) at West Chester University's Merion Science Center, Room 112. The meeting starts at 7:30 p.m. EDT. The Science Center is located at 720 S. Church St., West Chester, PA.

Please note that inclement weather or changes in speakers' schedules may affect the program. In the event there is a change, CCAS members will be

notified via e-mail with as much advance notice as possible.

As for future meetings, we are looking for presenters for the coming 2026-2027 season. If you are interested in presenting, or know someone who would like to participate, please contact me at programs@ccas.us.

June 2026 Light Pollution News Roundup

by Bill McGeeney, Host of Light Pollution News Podcast

This month, we had a spirited Light Pollution News as I welcomed back two past guests, Ken Walczak, formerly of the Adler Planetarium, and Mark Baker of the Soft Lights Foundation. I also welcomed charismatic author and naturalist, Charles Hood to the show. This is his first appearance. You can learn more by heading over to LightPollutionNews.com and checking out 'June 2026: Let Bats Be Themselves!' and 'June 2026: Avoiding Light Fetish.'

In the news, Finland's Kruunuvuori Bridge debuted. It's a rail bridge with pedestrian pathways featuring targeted, shielded fixtures that illuminate without aiming upward or to-

ward water. Meanwhile, over in San Francisco, the Bay Bridge showed off its new lightshow. Illuminate's Ben Davis raised 11 million dollars to bring decorative lighting back after original lights degraded in 2023. Artist Leo Villareal redesigned the installation with Musco Lighting. By March, half of 50,000 LEDs were installed, doubling the original design. Mark Baker of the Soft Lights Foundation sued, citing failure to provide mandatory environmental review. The project's official name, "Bay Lights 360," suggested expansion of lighting rather than restraint, with plans to extend lighting to the other side of the support cables. Interestingly, Musco Lighting's sports lighting

is endorsed by Dark Sky International. Musco Lighting did not respond when asked as to what measures, if any, were taken to minimize light pollution impacts on the Bay Bridge.

In ecology, research found that light reduced foraging activity of Denmark's Daubenton's bats by 43% at the source. In a separate study, Reunion Island bats showed 62-73% increased levels of activity under partial lighting. Research on spider and crayfish food webs found light expanded spider dietary niche width by 14%. Crayfish shifted focus toward midges and amphipods under light. These studies indicate how light at night exaggerates ingrained predation behaviors.

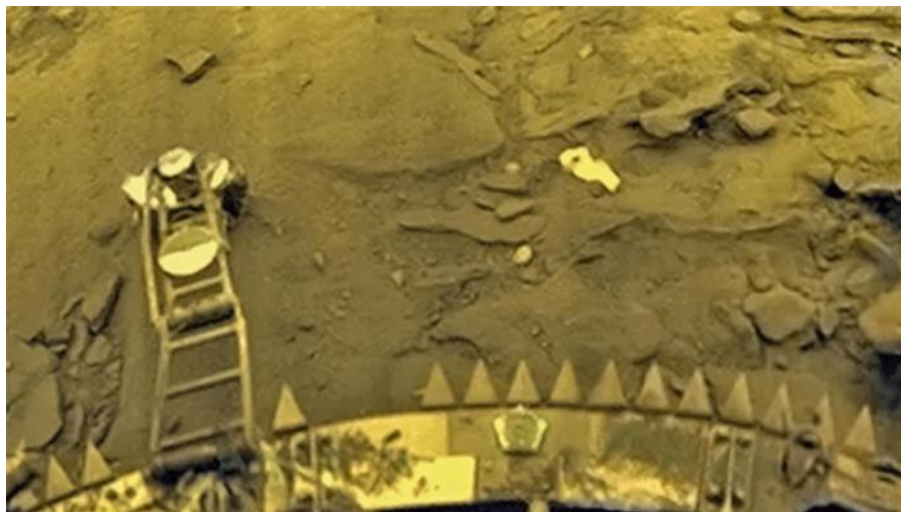
Over in the policy world, Big Bend faced renewed border wall threats. The Trump administration allocated the largest border wall contract to the Big Bend section despite its rugged terrain and existing surveillance infrastructure. Ontario dismantled green building standards through three bills. Things like dimming and shielding may be effectively eliminated. On the positive side, Illinois passed SB3037 establishing voluntary lighting standards for commercial buildings via the Illinois Stretch Energy Code. If adopted by a community, standards would outdoor lighting to 25% of IES standards and cap color temperatures at 3000K.

Health research revealed artificial light disrupted immune timing in wild rodents. Mice facing 10-15 lux lighting lost 24-hour immune rhythms and faced

(Continued on page 13)

Soviet Venera Landers May Have Lasted Longer

by James Felton, IFL Science



The surface of Venus seen by the Venera 14 rear camera. Image credit: Russian Academy of Sciences, courtesy of Ted Stryk © IFL Science

Between 1961 and 1984, the Soviet Union launched 18 probes to Venus as part of the Venera and Vega space programs. Of these, 10 probes would successfully land on the surface of the hottest planet in

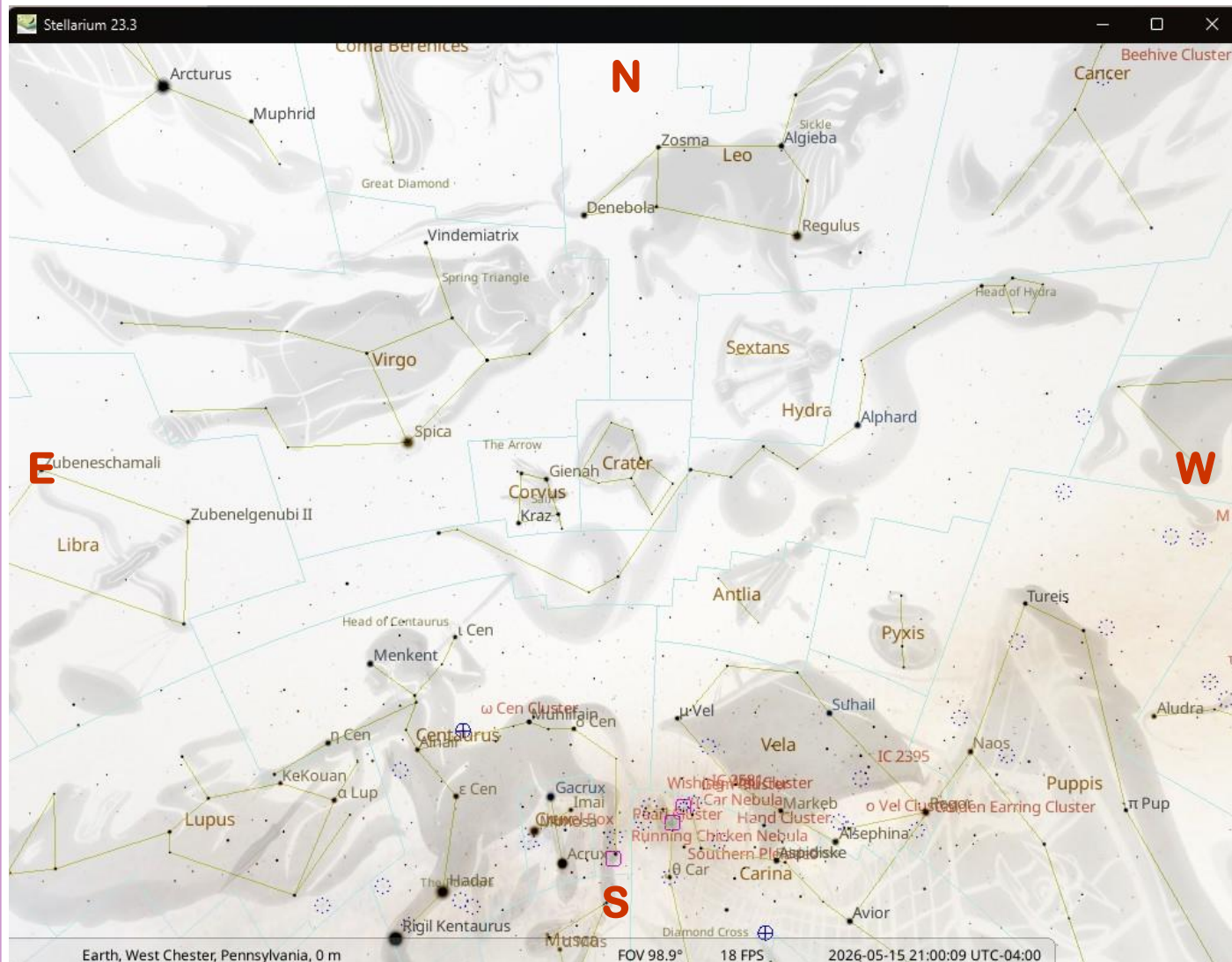
the Solar System, where a few of them were able to function long enough to send back data and even images, giving humanity the [first ever images](#) taken on the surfaces of another planet.

(Continued on page 10)

The Sky Over Chester County

May 15, 2026 at 9:00 p.m. ET

Note: This screen capture is taken from Stellarium, the free planetarium software available for download at www.stellarium.org.



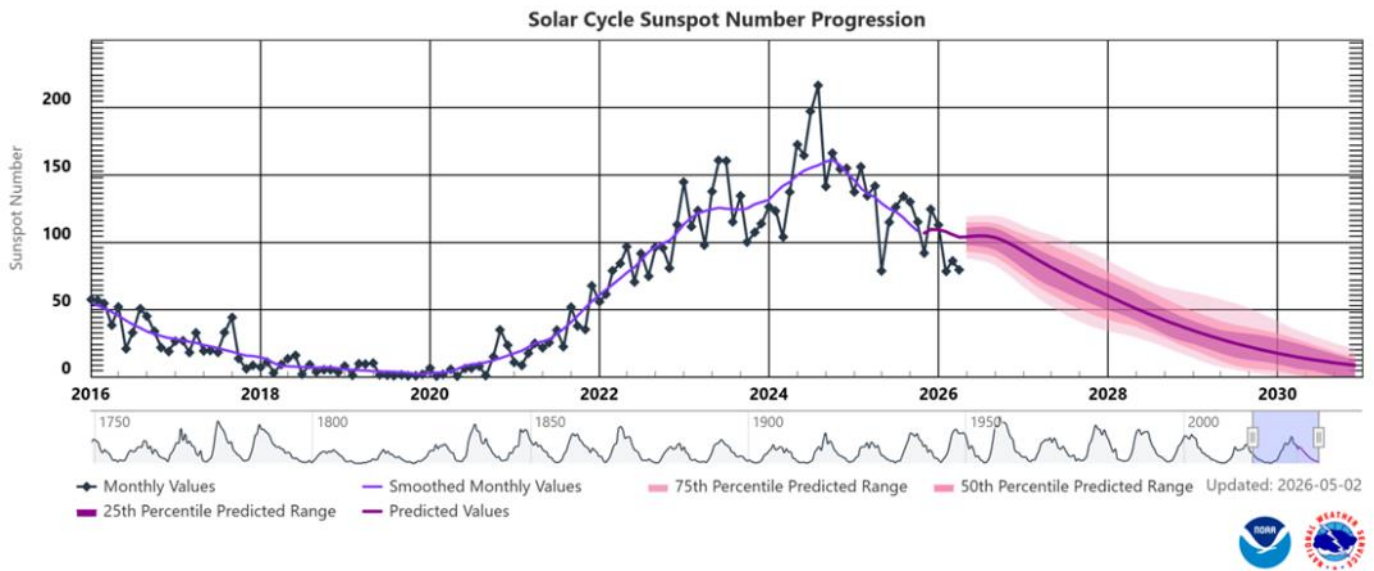
Date	Civil Twilight Begins	Sunrise	Sunset	Civil Twilight Ends	Length of Day
06/01/2026	5:03 a.m. EDT	5:35 a.m. EDT	8:25 p.m. EDT	8:57 p.m. EDT	14h 49m 21s
06/15/2026	5:00 a.m. EDT	5:33 a.m. EDT	8:32 p.m. EDT	9:05 p.m. EDT	14h 59m 42s
06/30/2026	5:04 a.m. EDT	5:37 a.m. EDT	8:35 p.m. EDT	9:07 p.m. EDT	14h 58m 02s

Moon Phases

Last Quarter	06/08/2026	6:00 a.m. EDT	New Moon	06/14/2026	10:54 p.m. EDT
First Quarter	06/21/2026	5:55 p.m. EDT	Full Moon	06/29/2026	7:56 p.m. EDT

June 2026 Observing Highlights

by Don Miller, CCAS Observation Chair



Key Events this month:

- Venus and Jupiter will have a conjunction on the 8th/9th when they will be only one degree apart (your pinky finger at arms length).
- The moon will occult Venus on June 17th but from our location this will happen around 4:30 p.m. EDT.
- June 30th is International Asteroid Day, recognized by the United Nations. The objective for this day is to raise awareness for planetary defense.

Discussion:

The weather has turned hot and the sunsets are getting later and later throughout this month. The summer solstice will be on the 21st when we have equal hours of day and night (also, the moon will be at 1st Quarter). Interestingly, the latest sunset will be several days later due to the elliptical orbit of the Earth around the sun (for West Chester, the latest sunset will be on June 27th at 8:35 p.m. EDT).

Sun:

The sun's activity is continuing on downward side of the solar maximum for this cycle, but it is still showing a lot of activity. As the writing of this highlight, the sunspot number is 77. M-class flares are predicted for the near future. Go to this URL for the latest solar activity report: <https://earthsky.org/sun/sun-news-activity-solar-flare-cme-aurora-updates/>

Moon:

The full moon this month is known as the Strawberry Moon by early native American tribes because it signaled the time to harvest the fruit.

- Last Quarter: 8th
- New Moon: 15th
- First Quarter: 21st
- Full Moon: 29th

Planets: (description below is for the 15th of the month at 8 p.m. EDT)

- Mercury: On June 15th, greatest eastern elongation at 24.5 degrees from the sun (sets after the sun in the western sky)
- Venus: Visible low in the west after sunset
- Mars: visible low in the south before sunrise
- Jupiter: sets soon after sunset
- Saturn: Rises before sunrise, around 2 a.m.
- Uranus: Rises 4:14 a.m.
- Neptune: Rises 1:30 a.m.

Select Night Sky Objects and Event

June is a month with so many old friends in our night sky. I recall the first time that I was searching for M57, the famous ring nebula, and the hours of frustration until I finally found it by star-hopping. What a wonder! So, in honor of that experience, here are some nebulae for your own hunting.

(Continued on page 7)

Through the Eyepiece: Algieba – Double Star in the Constellation Leo the Lion

by Don Knabb, CCAS Treasurer & ALCOR

Although we spend most of our time under the stars using our binoculars and telescopes to look at planets, clusters and nebula, double stars are also a source of enjoyment. Some of the more famous double stars are Albireo in Cygnus, the “double-double” in Lyra and Mizar in the handle of the Big Dipper.

Another often overlooked but fine double star is 2nd magnitude Algieba, in the constellation Leo the Lion. Algieba is easy to find in Leo, which will be low in the western sky just as darkness falls during June. Algieba is the second brightest star (after Regulus) in Leo. Here is a sky map of Leo the Lion.

Algieba is one of the finest double stars in the spring and summer sky. Its name comes from the Arabic, meaning “the forehead”. Despite this meaning, the star actually appears in the mane of Leo. Both stars are yellow-orange giants about twice the mass of our Sun, which have run out of hydrogen and are now burning helium in their cores.

William Herschel discovered Algieba in 1782. They are a slowly widening binary system (that is, they are gravitationally bound, not a chance alignment of stars) with an orbital period between 5 and 6 centuries. In the television series *Cosmos: A Spacetime Odyssey*, it is stated that Herschel’s careful observation of Algieba led him to the conclusion that gravity binds not only us to the planet Earth, but distant stars to each other. He was the first scientist to make this assertion. (Note for all science fiction geeks: the voice of

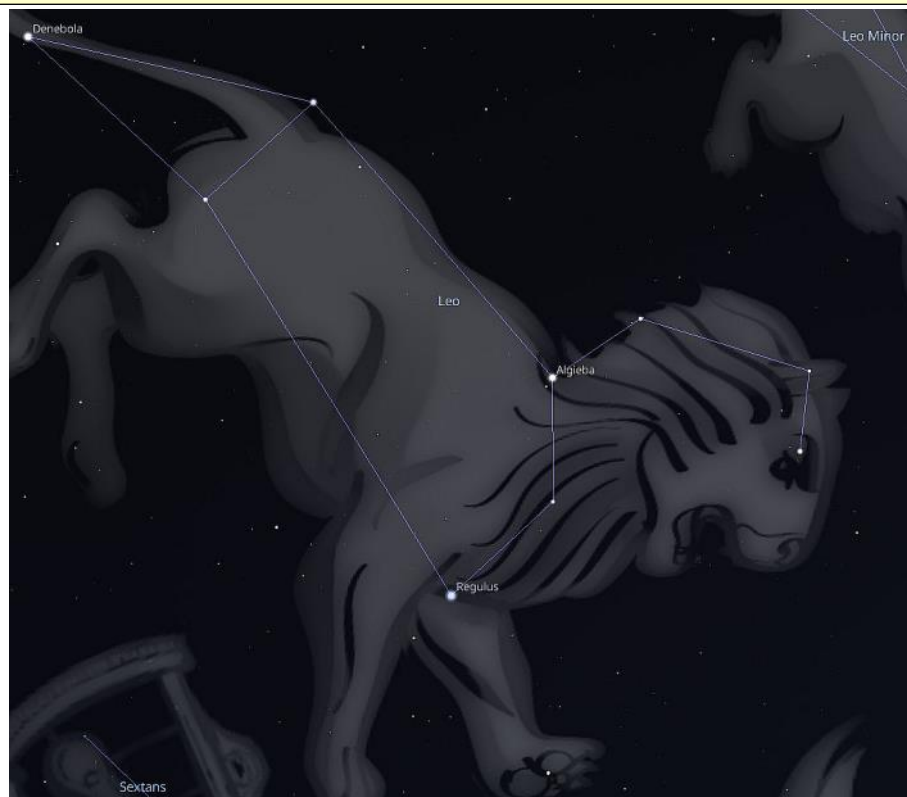


Image credit: Sky map created with Stellarium planetarium software

William Herschel is provided by Patrick Stewart, otherwise known as Captain Jean Luc Picard in the series *Star Trek the Next Generation*).

The stars of Algieba, at 4 arc-seconds separation, are too close to split with binoculars, but almost any telescope will show you the two stars. At 60 power the pair is barely seen as a double, but at 100X I was able to easily split the stars. The stars are a nice golden/yellow color to my eyes, although some observers note a pale red or a slight greenish color in the smaller of the two stars.

Astronomers have detected a large planet revolving around the brighter of the two stars. The planet is at least 9 times as massive as Jupiter.

The radiant of the Leonid meteor shower is only 2 degrees northwest of Algieba. This shower peaks in mid-November. This shower gave us a great show in 1998, but it paled in comparison to the shower in 1833 when over 100,000 meteors per hour were observed.

Information credits:

- Dickinson, Terence 2006. *Nightwatch: a practical guide to viewing the universe*. Buffalo, NY. Firefly Books
- www.theskyscrapers.org/algieba
- www.oneminuteastronomer.com/9819/algieba
- Sky Safari Pro iPad app

Observing (Cont'd)



The Veil Nebula in Cygnus; Above: The Eastern Veil Nebula (also known as Caldwell 33 (Image credit: Carsten Frenzl, Deutschland



Above: Eagle Nebula in Serpens (Detail on the Pillars of Creation); Right: Ring Nebula (M57) in Lyra

(Continued from page 5)

Veil Nebula in Cygnus – use a wide field of view eyepiece with an O-III filter, low at sunset but rising as the night progresses.

Eagle Nebula in Serpens – The location for the famous “pillars

of creation.” Use of a UHC filter for visual observing will help greatly. This is a fantastic photography target for those with either a photo rig or a Seestar-like scope.

Ring Nebula (M57) in Lyra – One of the finest planetary nebulae in the heavens. Take the time when observing this one to enjoy all the fine detail. A large scope will be required to show the white dwarf stellar remnant in the center of the nebula.

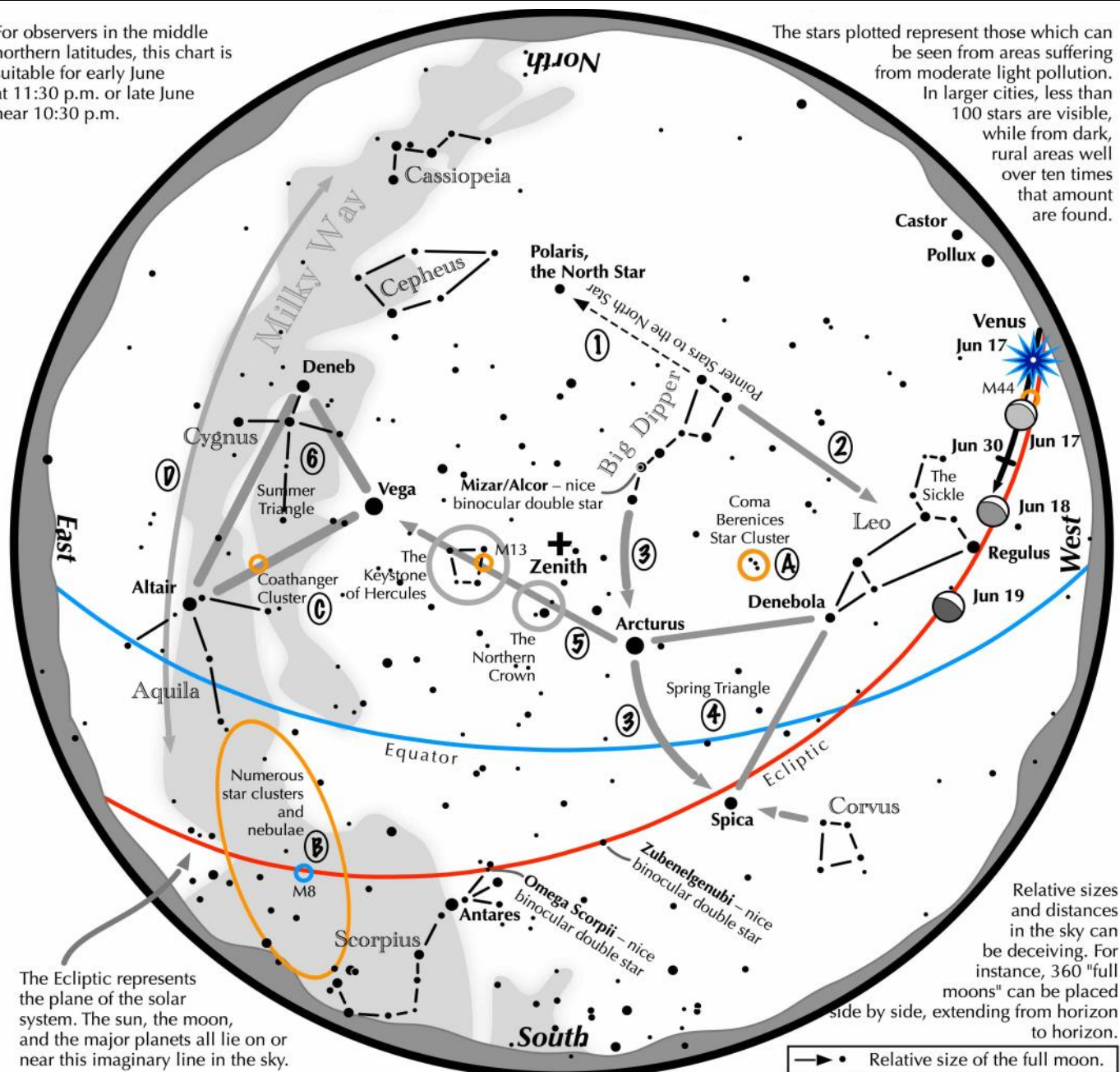


Navigating the mid-June Night Sky

courtesy of the Astronomical League

For observers in the middle northern latitudes, this chart is suitable for early June at 11:30 p.m. or late June near 10:30 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 June night sky: Simply start with what you know or with what you can easily find.

- 1 Extend a line north from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
- 2 Draw another line in the opposite direction. It strikes the constellation Leo high in the west.
- 3 Follow the arc of the Dipper's handle. It first intersects Arcturus, the brightest star in the June evening sky, then Spica.
- 4 Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.
- 5 To the northeast of Arcturus shines another star of the same brightness, Vega. Draw a line from Arcturus to Vega. It first meets "The Northern Crown," then the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.
- 6 High in the east are the three bright stars of the Summer Triangle: Vega, Altair, and Deneb.

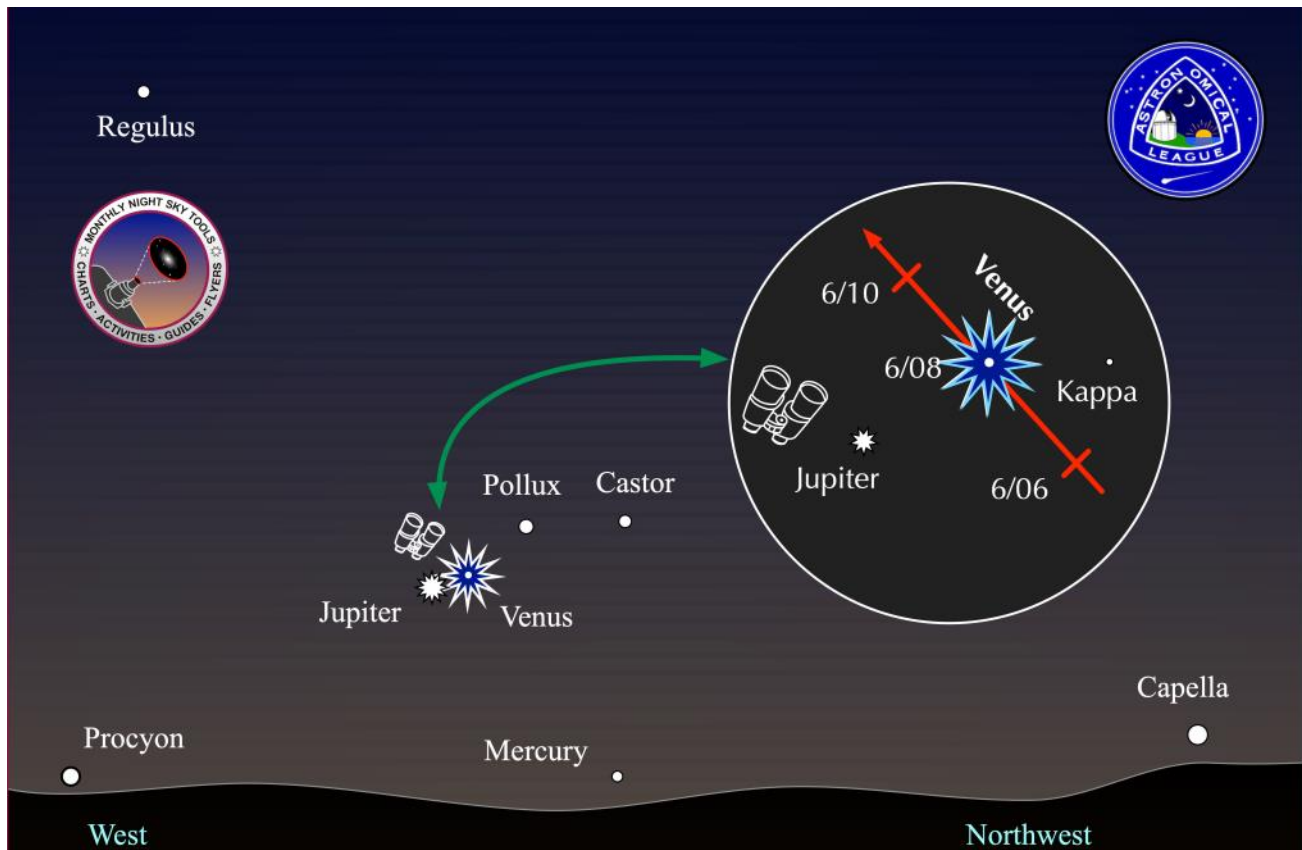
Binocular Highlights

- A: Between Denebola and the tip of the Big Dipper's handle, lie the stars of the Coma Berenices Star Cluster.
- B: Between the bright stars of Antares and Altair, hides an area containing many star clusters and nebulae.
- C: 40% of the way between Altair and Vega, twinkles the "Coathanger," a group of stars outlining a coathanger.
- D: Sweep along the Milky Way for an astounding number of faint glows and dark bays.

Astronomical League www.astroleague.org/outreach; duplication is allowed and encouraged for all free distribution.



Binocular Challenge for June 2026
courtesy of the Astronomical League



**If you can see only one celestial event this June,
see this one.**

Brilliant Venus passes bright Jupiter

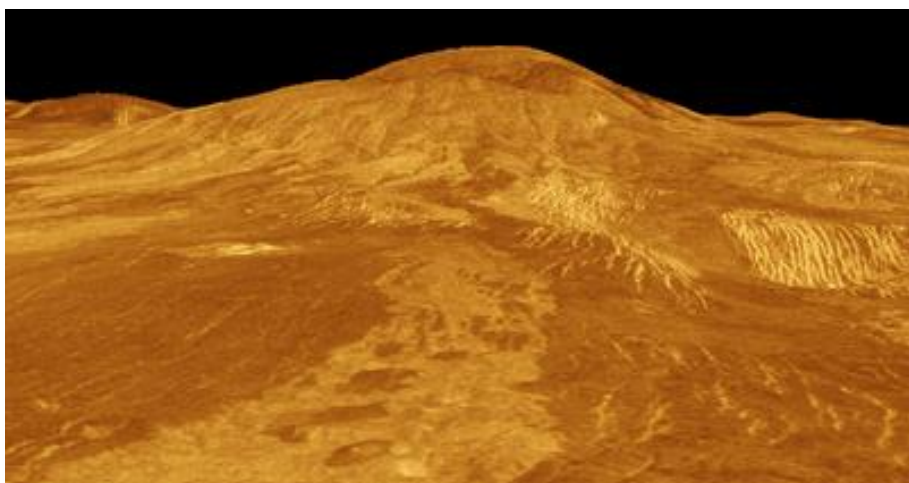
Look to the west-northwest 60 minutes after sunset in early June as the Venus/Jupiter gap narrows.

- On June 8, brilliant, unmistakable Venus lies slightly below and right of the lesser Jupiter.
- The next evening finds Venus having moved slightly above Jupiter.
- Then on succeeding evenings, Venus pulls above Jupiter, while the mighty planet drops toward the horizon.
- Enhance the view by using binoculars.
- All the while, the much dimmer Mercury lies close to the horizon in the bright twilight.

End your day with this enchanting meet-up!

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Venus (Cont'd)



*A computer-generated model of Sif Mons, a volcano on Venus that appears to have acquired a new lava flow between 1990 and 1992.
Image Credit: NASA/JPL*

(Continued from page 3)

Temperatures, thanks to Venus's thick atmosphere, are hotter even than on Mercury. At the surface, temperatures are thought to reach around 467 °C (872 °F), which is hot enough to melt lead. Though a few probes were able to function long enough to send back data, the one that functioned the longest lasted around two hours before giving up the ghost, and it was presumed that their physical presence would soon be erased from the planet not too long after their functionality was fried, with the help of a crushing atmosphere full of chemically-reactive gases.

"Additionally, the Venusian environment includes active surface processes such as volcanic, seismic, and mass movement events," the authors of a new paper explain. "For these reasons, it is commonly assumed that Venus's surface environment would rapidly erase anthropogenic material remains."

But, according to that new paper looking at the geological and atmospheric conditions met by

the probes on their arrival, we might have called time of death decades earlier than necessary. Some of the probes may even have survived until today. As well as providing an archaeological record of humanity's first journeys to other planets, if the Venus probes remain unobliterated, they could be useful objects for studying weathering on other worlds.

The first of the Soviet probes launched to the planet were at a significant disadvantage, survival-wise. Venera 3, 4, 5, 6, 7, and 8 were launched when the scientific consensus was that Venus was not too unlike Earth, possibly even having oceans of water on its surface. Venera 3 was even designed in order to make a potential splashdown. As the first four of these probes revealed – particularly Venera 4, which sent back information on the planet's atmosphere – it is far more hellish than that.

At the surface, pressures reach around 92 times the pressure at Earth sea-level, meaning that

any object that parachuted down onto it will have around 612 kilograms (1,350 pounds) of pressure pushing on every square inch of it. These early probes were sent to the planet with bodies designed to degrade as they fell through Venus's atmosphere and were not reinforced enough to withstand it.

"Consequently, none of these early landers survived to the surface in working condition as all were depressurized, deformed, and effectively 'cooked' by the extreme temperature and pressure," the team explains. "Nonetheless, because of the strong aerodynamic braking provided by Venus's dense atmosphere, which prevents high velocity impacts, the deformed metallic remains of both the landers and their heat shield shells are still likely present on the surface, even in cases where parachute failure resulted in a freefall descent."

Looking at later probes – which were better equipped to handle the extreme conditions on Venus, now that we knew what they were – as well as the geology of the areas that they are thought to have landed, the team believes that seven probes from the Soviet Union and the USA's NASA have a higher chance of having survived to this day. As well as this, they should still be visible at the surface, even if they may be a little deformed by their journey, and the weight of the carbon dioxide-rich atmosphere pressing down on them all this time.

One major source of potential

(Continued on page 11)

CCAS Member Original Astrophotography

by Tom Kovic



*M 44, the Beehive Cluster. Taken at 9:08 p.m. EDT on May 7, 2026 in Chadds Ford, Pennsylvania
Image Capture Details: Dwarf 3 Smart Telescope; Stacked 20; Exp 15; Gain 60*

Venus (Cont'd)

(Continued from page 10)

damage to the spacecraft, including NASA's Pioneer Venus Day and Night probes, is the supercritical carbon dioxide that begins around 12 kilometers (7.5 miles) above the planet's surface. In this phase, it has "liquid-like" behavior, allowing it to make its way into tiny holes in the probes, where it would act like a solvent.

As well as this, there is the possibility of the probes being buried by geological processes, and we do not have enough data to rule out this occurring to the probes. Nevertheless, the team believes that there is a good

chance that the Venera 5, 6, 7, and 10, VeGa 1 and 2, and the Pioneer Venus Night Probes have been preserved on the planet.

"Contrary to the widespread assumption that Venus's extreme surface environment would rapidly erase anthropogenic material traces, the results of this qualitative analysis lead us to demonstrate that Venusian space heritage may exhibit a high potential for long-term preservation," the team concludes, adding, "In sites where such geological activity is absent, more likely for archaeological contexts located within

Venus's extensive lowland plains, Venusian landers are expected to remain largely preserved and clearly identifiable on the surface by future missions, thanks to the extremely slow and weak sedimentation processes operating on the planet."

Further missions to the planet would be necessary to confirm this, but it's an exciting possibility that these first missions of humanity to a whole new world may be preserved on its surface.

The study is published in Geoarchaeology.

When the Universe Blinked

by CCAS Member Ikshu Varada

[Editor's Note: Ikshu Varda won 1st place in the 2026 Horkheimer/O'Meara Journalism Award from the Astronomical League.]

No one was watching when it happened.

It was August 15, 1977. Deep in a quiet field in Ohio, the Big Ear radio telescope was doing its daily (or I suppose nightly) job: scanning the sky, collecting data, printing numbers onto a paper scroll that nobody would read for days. It was routine, maybe even boring. Just another night of cosmic silence. And then, the universe blinked.

At 10:16 PM, Big Ear's antenna swept across a patch of sky near Sagittarius when something hit it like a speeding train. A signal, blazing at exactly 1420 megahertz, roared out of the darkness thirty times stronger than anything in deep space had ever been recorded before. It surged, peaked, and faded in exactly 72 seconds, which was the precise window Big Ear could track any fixed point in space. It was designed. It was focused. It was loud.

And 1420 megahertz was not just some random frequency. Scientists had predicted for decades that any intelligent civilization trying to identify the rest of the universe would broadcast at exactly this wavelength, because it is the emission frequency of hydrogen, the most common element in existence. It is the one channel every civilization, anywhere, would know to check. Physicists called it the universal hailing frequency. And something had used it.

Three days later, astronomer



Ikshu Varada & CCAS President Dave Hockenberry

Jerry Ehman sat down to review the printout. Column after column of low, sleepy numbers; the usual nothing. Then his eyes halted on something. A cluster of characters exploding off the page. They seemed impossibly high, impossibly clean. He grabbed a red pen. His hand was probably shaking. He circled it, stared at it, and scribbled down the only thing that made sense to him in the margin:

“Wow!”

One word. In red ink. Next to what may be the most important data ever recorded by humans.

Scientists went into overdrive. They reanalyzed the signal from every angle. They ruled out satellites, aircraft, ground-based transmitters, and known cosmic occurrences. The signal had come from somewhere outside our solar system. It matched every theoretical signature of an engi-

neered, intentional broadcast. It had followed our rules, the ones we invented to describe what contact might look like. And then it was gone, before anyone even knew to look up.

Telescopes have been aimed at that spot in Sagittarius thousands of times since 1977. Nothing. Not a signal. Not a repeat. Not even a hint.

The Wow! signal is still officially unexplained in science today.

Whatever it was fired a single time across a billion miles of darkness, hit a cornfield in Ohio, and disappeared forever, leaving behind a single circled printout and a question that has perplexed scientists for nearly 50 years.

Was someone really out there? We have no idea. And that might be the most thrilling sentence in all of science.

Light Pollution (Cont'd)

(Continued from page 3)

2.35x greater death risk. Bedroom light pollution above 50 lux worsened hepatic encephalopathy in cancer patients. And, continuous artificial light during pregnancy caused lasting gut bacteria damage in offspring.

Are you sick of headlight glare? Well, you're not alone! So were your grandparents! Headlight glare isn't new! In the 1930s, British complaints about bright headlights sparked a cottage industry of shielding and reflectors. France mandated yellow headlights in 1933, and the UK passed anti-glare requirements in 1937.

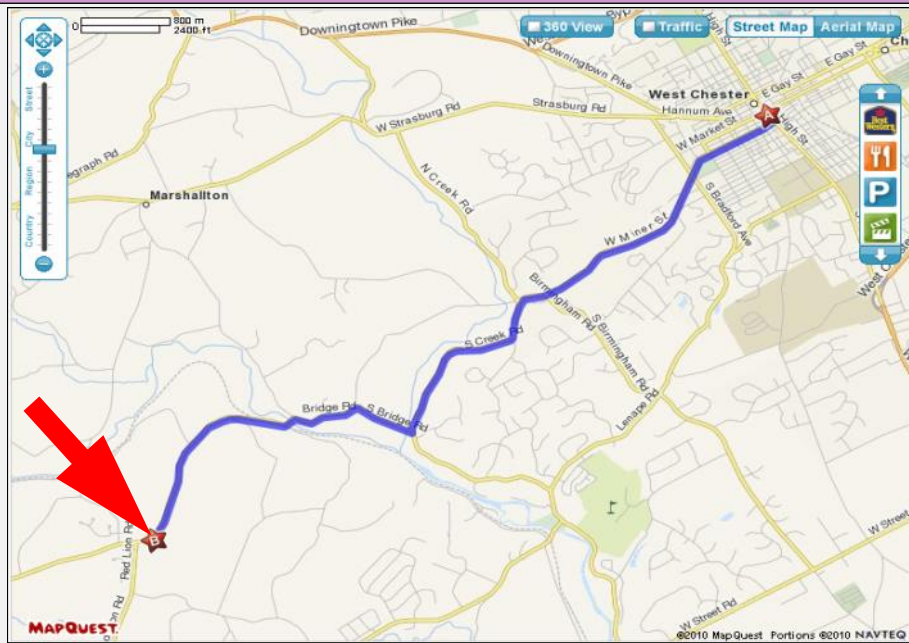
Culturally, the group, L.Y.R. released a new album in April featuring the moody track "Dark Sky Reservation." The term

(Continued on page 14)

Classic La Para by Nicholas La Para



CCAS Directions



Brandywine Red Clay Alliance

The monthly observing sessions (held February through November) are held at the Myrick Conservation Center of the Brandywine Red Clay Alliance.

To get to the Myrick Conservation Center from West Chester, go south on High Street in West Chester past the Courthouse. At the next traffic light, turn right on Miner Street, which is also PA Rt. 842. Follow Rt. 842 for about 6 miles. To get to the observing site at the BRC property, turn left off Route 842 into the parking lot by the office: look for the signs to the office along Route 842. From that parking lot, go left through the gate and drive up the farm lane about 800 feet to the top of the hill. The observing area is on the right.

If you arrive after dark, *please turn off your headlights and just use parking lights* as you come up the hill (so you don't ruin other observers' night vision).

Brandywine Red Clay Alliance

1760 Unionville Wawaset Rd
West Chester, PA 19382
(610) 793-1090
<http://brandywinewatershed.org/>

BRC was founded in 1945 and is committed to promoting and protecting the natural resources of the Brandywine Valley through educational programs and demonstrations for all ages.

Join the Fight for Dark Skies!



You can help fight light pollution, conserve energy, and save the night sky for everyone to use and enjoy. Join the nonprofit International Dark-Sky Association (IDA) today. Individual memberships start at \$35.00 for one year. Send to:

International Dark-Sky Association
5049 E Broadway Blvd, #105
Tucson, AZ 85711

Phone: 520-293-3198

Fax: 520-293-3192

E-mail: ida@darksky.org

For more information, including links to helpful information sheets, visit the IDA web site at:

<http://www.darksky.org>

Dark-Sky Website for PA



The Pennsylvania Outdoor Lighting Council has lots of good information on safe, efficient outdoor security lights at their web site:

<http://www.POLCouncil.org>

Find out about Lyme Disease!

Anyone who spends much time outdoors, whether you're stargazing, or gardening, or whatever, needs to know about Lyme Disease and how to prevent it. You can learn about it at:

<http://www.lymebasics.org>

Take the time to learn about this health threat and how to protect yourself and your family. It is truly "time well spent"!

Good Outdoor Lighting Websites

One of the biggest problems we face in trying to reduce light pollution from poorly designed light fixtures is easy access to good ones. When you convince someone, a neighbor or even yourself, to replace bad fixtures, where do you go for good lighting fixtures? Check out these sites and pass this information on to others. Help reclaim the stars! And save energy at the same time!



Light pollution from poor quality outdoor lighting wastes billions of dollars and vast quantities of valuable natural resources annually. It also robs us of our heritage of star-filled skies. Starry Night Lights is committed to fighting light pollution. The company offers the widest selection of ordinance compliant, night sky friendly and neighbor friendly outdoor lighting for your home or business. Starry Night Lights is located in Phoenix, Arizona.

Phone: 520-280-3846

<http://www.starrynightlights.com>



LIGHTHOUSE
OUTDOOR LIGHTING

Lighthouse Outdoor Lighting is a dedicated lifetime corporate member of the [International Dark-Sky Association](http://www.darksky.org). Lighthouse's products are designed to reduce or eliminate the negative effects outdoor lighting can have while still providing the light you need at night.

211 North Walnut St.
1st Floor
West Chester, PA 19380

Phone: 484-291-1084 or 800-737-4068

<https://www.lighthouse-lights.com/landscape-lighting-design/pa-west-chester/>

Local Astronomy-Related Stores

Listing retail sites in this newsletter does not imply endorsement of any kind by our organization. This information is provided only as a service to our members and the general public.



High Point Scientific is a retailer of telescopes, binoculars, eyepieces and telescope accessories from Meade, Celestron, Televue, Orion, StellarMate, Takahashi, and many more. They also have an extensive blog of advice and education for amateur astronomers.

High Point Scientific

442 Route 206

Montague NJ, 07827

Phone: 800-266-9590

<https://www.highpointscientific.com/>



Located in Manayunk, Spectrum Scientifics educates and entertains customers with an array of telescopes, microscopes, binoculars, science toys, magnets, labware, scales, science instruments, chemistry sets, and much more.

4403 Main Street
Philadelphia, PA 19127

Phone: 267-297-0423

Fax: 215-965-1524

Hours:

Monday thru Friday: 9AM to 5PM

<http://www.spectrum-scientifics.com>

CCAS Information Directory

CCAS Lending Telescopes

Contact Don Knabb to make arrangements to borrow one of the Society's lending telescopes. CCAS members can borrow a lending telescope for a month at a time; longer if no one else wants to borrow it after you. Don's phone number is 610-436-5702.

Contributing to Observations

Contributions of articles and images relating to astronomy and space exploration are always welcome. If you have a computer, and an Internet connection, you can attach the file to an e-mail message and send it to: newsletter@ccas.us to:

Dr. John C. Hepler
21 Medinah Drive
Reading, PA 19607

The deadline for submissions to the monthly newsletter is the 26th of each month. Articles and images should be original or the author/artist must be given credit. Articles should be in MS Word format with 12 point Times New Roman Font with single row spacing and one-inch margins on all four sides. Images should be in JPG or PNG file format. The submission window opens on the 20th of each month.

CCAS Newsletters via E-mail

You can receive the monthly newsletter (in full color!) via e-mail. All you need is a PC or Mac with an Internet e-mail connection. To get more information about how this works, send an e-mail request to Dr. John Hepler, the newsletter editor, at: newsletter@ccas.us.

CCAS Website

Dr. John Hepler is the Society's Webmaster. You can check out our Website at:

<http://www.ccas.us>

Dr. Hepler welcomes any additions to the site by Society members. The contributions can be of any astronomy subject or object, or can be related to space exploration. The only requirement is that it is your own work—no copyrighted material! Give your contributions to Dr. Hepler at (484) 883-5033 or e-mail to webmaster@ccas.us

CCAS Purpose

The Chester County Astronomical Society was formed in September 1993, with the cooperation of West Chester University, as a non-profit organization dedicated to the education and enjoyment of astronomy for the general public. The Society holds meetings (with speakers) and observing sessions once a month. Anyone who is interested in astronomy or would like to learn about astronomy is welcome to attend meetings and become a member of the Society. The Society also provides telescopes and expertise for "nights out" for school, scout, and other civic groups.

CCAS Executive Committee

For further information on membership or society activities you may call:

President: Dave Hockenberry
610-558-4248

Vice President: Pete Kellerman
610-873-0162

ALCor & Treasurer: Don Knabb
610-436-5702

Observing: Don Miller
610-247-8712

Secretary: Beatrice Mazziotta
610-933-2128

Program: Bruce Ruggeri
610-256-4929

Education: Don Knabb
610-436-5702
Dennis O'Leary
610-701-8042

Webmaster & Newsletter: John Hepler
484-883-0533

CCAS Membership Information

The 2023 membership rates are as follows:

REGULAR MEMBER.....\$30/year
SENIOR MEMBER.....\$15/year
STUDENT MEMBER.....\$ 5/year
JUNIOR MEMBER.....\$ 5/year
FAMILY MEMBER.....\$40/year

Membership Renewals

Check the Membership Renewals on the front of each issue of *Observations* to see if it is time to renew. If you need to renew, you can mail your check, made out to "Chester County Astronomical Society," to:

Don Knabb
988 Meadowview Lane
West Chester PA 19382-2178

Phone: 610-436-5702
e-mail: treasurer@ccas.us

Sky & Telescope Magazine

The club membership subscription cost for *Sky and Telescope* magazine has increased to **\$45.75**. This is still a good saving from the regular rate of **\$57.75**.

There is no need to go through the CCAS treasurer for subscriptions or renewals. Just go to the Sky and Telescope website and select "Magazine", then under the FAQs you can subscribe at the club rate.

<https://skyandtelescope.org/subscribe/>

If you have **any** questions call Don Knabb at 610-436-5702.

Astronomy Magazine Group Rates

Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **\$34.00** which is much less than the individual subscription price of **\$42.95** (or \$60.00 for two years).

There is no need to go through the CCAS treasurer for subscriptions or renewals. Just call customer service at 877-246-4835 and request the club rate for your new subscription or renewal.

