

Snake River Skies

The Newsletter of the Magic Valley Astronomical Society

February 2022

Membership Meeting

Saturday, February 12th, 7:00 pm

Centennial Observatory

Due to the need to maintain social distance during the Covid-19 pandemic, access to the observatory dome is one small group at a time.

Faulkner Planetarium

See inside for Details

www.mvastro.org

Club Officers

Robert Mayer, President
mayerbrt@gmail.com

Gary Leavitt, Vice President
leavittg@cableone.net

Dr. Jay Hartwell, Secretary

Jim Tubbs, Treasurer, AL-Cor
jtubbs015@msn.com
208-404-2999

David Olsen, Newsletter Editor

Rick Widmer, Webmaster
rick@developersdesk.com

President's Message

Colleagues,

February offers the first opportunity to meet as a group at the Herrett Ctr for our monthly meeting on the 12th. Looking forward to seeing as many of you as possible then. Scheduled programs in the ensuing months promise to be interesting and educational.

Starting this month (Saturday, the 12th) Tim Frazier will give us a presentation on building telescopes. Should be a lot of fun. We're also asking any of you who have recently acquired a scope or would like more information on how to operate one, please bring it. Or have a friend who needs some help. You're welcome. Will begin at 7pm. Hope to see you then.

Dr. Candace Wright will speak to us in March. I will visit with you in April regarding the James Webb Telescope and possibly have some updates on the Artemis Lunar missions. Our own Rick Hull and Rob Mayer are scheduled following those presentations.

There are several other matters of importance we need to consider, which I will address openly during our February meeting. I know the weather has been particularly bad as to photographing and observing due to seemingly endless cloudy nights and below freezing temps. I normally place my tripod and/or telescope on my observation deck behind my house, but due to that large snow dump in December, haven't been able to clear it until now. I have some lens warming straps to prevent icing that I hope to try out so hopefully I'll be able to view and image Orion, and other great targets. Don't believe in all the years I've lived here (40+) that I can remember so many bad viewing nights over the period of two months. And then when we have a clear night.....it's 10 degrees.

On another matter, the new COVID Omicron (whatever it's now called) has made a lot of people in Magic Valley and elsewhere sick. Hope you all stay safe. Best to you and see you soon,

Best and clear skies (we really need them)

Gary Leavitt, President
MVAS





Magic Valley Astronomical Society is a
member of the Astronomical League



M-51 imaged by
Rick Widmer & Ken Thomason
Herrett Telescope - Shotwell Camera

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February 2022 Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2 Groundhog Day 	3	4	5
6	7	8 First Quarter Moon 	9	10	11 Lincoln's Birthday is on the 12 th 	12 MVAS General Meeting Herrett Center 7:00 pm Centennial Obs. Monthly Star Party 7:00p – 9:00p
13 	14 Valentine's Day 	15 Flag of Canada Day 	16 Full Snow Moon  Lunation 1226	17	18	19
20	21 President's Day 	22 Washington's Birthday Centennial Observatory Telescope Tuesday 7:30p - 9:00p	23 Last Quarter Moon 	24	25	26
27	28					



February Skies

By Dick Cookman

Highlights: Comet Journal, Martian Landers, Meteor Showers, Planet Plotting, February Moon

Focus Constellations: Ursa Minor, Ursa Major, Draco, Cepheus, Cassiopeia, Camelopardalis, Perseus, Auriga, Taurus, Gemini, Cancer, Leo, Lynx, Leo Minor

Comet Journals

Comet 67P/Churyumov-Gerasimenko (2021) is in Cancer at 10th magnitude in February. It was at perihelion on November 3 and was closest to Earth on November 12. C/2017 K2 (PanSTARRS) is a large Oort Belt comet on an hyperbolic orbit with one pass through the inner Solar System. It will be closest to Earth on July 14, 2022, and will reach perihelion on December 19, 2022. It is currently at 10th magnitude in Hercules and may reach naked eye visibility near perihelion.

C/2019 L3 (ATLAS) is in Gemini at 9th magnitude in February. Atlas reached perihelion on January 9 and was closest to Earth on January 6. Comet 19P/Borrelly (2022) is an 8th magnitude evening comet which moves from Pisces to Aries in February. It was closest to Earth on December 11 and will reach perihelion on February 1.

Mars Landers

In late December on the floor of Jezero Crater, Perseverance drilled into and cored Issle which is one of the oldest igneous rock outcrops it will sample. Unfortunately, the core was dumped in mid-January because it could not be sealed in the storage tube for future return to Earth due to fragments clogging the rover's sample handling system. The rover recently shook out the pebbles which blocked the system and retrieved another sample by again drilling into Issle and obtaining another rock core for analysis and storage.

The Insight lander has survived the latest Martian dust storm and is now coming out of "safe mode". Mission scientists are evaluating when to return to science activities based upon power availability and the effects of the dust storm. Researchers at Penn State and NASA in a paper titled "Depleted carbon isotope compositions observed at Gale crater, Mars" propose that organic molecules found by Curiosity Rover may have originated from atmospheric methane derived from either biological matter, volcanic gases altered by complex atmospheric reactions, or interstellar dust and organic molecules from prior passage of the Solar System through a GMC (giant molecular cloud). Further sampling may provide clues to distinguish between these options.

Meteor Showers

Alpha Centaurid Meteor Shower in early February is deep in the southern hemisphere and the Delta Leonid Shower is a minor shower northern hemisphere in late-February.

February 8: Alpha Centaurids. Active January 28 - February 21. Radiant 14h00m -59°. ZHR up to 25+. 41 km/sec. Waxing Crescent Moon. Progenitor: Unknown.

February 25: Delta Leonids. Active February 15 - March 10. Radiant 11h12m +16°. ZHR 2. 23 km/sec. Waning Crescent Moon. Progenitor: Asteroid 1987SY.

Planet Plotting

Predawn skies in February are ablaze with six 1st magnitude stars and four 1st magnitude planets. The planets include Mars (1.4 to 1.3), Venus (-4.5 to -4.4), and Mercury (1.3 to 0.0) in Sagittarius along with Saturn (0.7 to 0.8) in Capricornus. Mars is the dimmest, appearing below and slightly south of brilliant crescent Venus which reaches its brightest apparition of the year On Feb. 12 and climbs higher in the eastern predawn sky throughout February as it approaches greatest western elongation on Mar. 20. Mercury is best seen when it reaches its greatest western elongation on the 16th after which it drops into the glow of sunrise by month's end. After its conjunction with the Sun on the 4th, Saturn climbs up through the glow of sunrise in February. On the 27th, it joins the cluster of Mercury, Venus, Mars, and a waning crescent Moon between the summer triangle of Altair, Vega, and Deneb above and the red supergiant Antares to the South. Jupiter (-1.9) and Neptune (+7.9) in Aquarius and Uranus (5.8) in Aries are evening planets. Jupiter is visible during the first part of the month before descending into the glow of sunset when near conjunction with the Sun in early March.

Planet	Constellation(s)	Magnitude	Planet Passages	Time	Date
Sun	Capricornus – Aquarius	-26.5	New Moon	12:46AM EST	2/1
Mercury	Sagittarius	+1.3 to +0.0	Maximum West Elongation	4:00PM EST	2/16
Venus	Sagittarius	-4.5 to -4.4	Mars, 7.0°S	8:00PM EST	2/12
Mars	Sagittarius	+1.4 to +1.3	Venus, 7.0°N	8:00PM EST	2/12
Jupiter	Aquarius	-1.9			
Saturn	Capricornus	+0.7 to +0.8	Solar Conjunction	2:00PM EST	2/4
Uranus	Aries	5.8			
Neptune	Aquarius	+7.9 to +8.0			

February Moon

Lunation 1226 starts with the New Moon of February on the 1st at 12:46AM EST and ends 29.49 days later with the New Moon of March 1 at 12:56AM EST. To the west of the Eastern Time zone, this New Moon occurs in the late evening on January 31, making it the second New Moon in January, a “Black Moon”.

February’s Full Moon on the 16th at 11:56AM EST is in Leo. It is called “Wolf, Snow, or Hunger Moon”. In the 1760s, Captain Jonathan Carver, who had visited with the Naudowessie (Dakota), wrote that the name used was the Snow Moon, “because more snow commonly falls during this month than any other in the winter.” In colonial America it was the “Trapper’s Moon”. It was named the “Storm Moon” in Medieval England, Celts called it “Moon of Ice”, and the Chinese call it “Budding Moon”. Of the 13 Grandmother Moons during each year, the Anishnaabe (Odawa and Ojibwe) of Northern Michigan recognize it as “Mkwa-giizis” (Bear Moon). The cultural teaching that explains the cycle of life and nature for the Bear Moon of Creation is to “honor the vision quest that began in the fall. During this time, we discover how to see beyond reality and to communicate through energy rather than sound.” Lunar Perigee distance (minimum lunar distance) is 228,533 mi. (57.66 Earth radii) on the 26th at 5:25PM EST. Lunar Apogee (maximum lunar distance) is on February 10 at 4:26AM EST, when the Moon will be at a distance of 252,591 mi. (63.48 Earth radii). The waxing crescent Moon appears to pass the evening planets: Saturn on the 1st, Jupiter on the 2nd, Neptune on the 3rd, and Uranus on the 7th. The waning crescent Moon passes Venus and Mars on the 27th and Mercury and Saturn on the 28th.

Planet	Constellation	Magnitude	Moon Passages	Moon Phase	Moon Age
Sun	Sagittarius	-26.8	12:46AM EST, 2/1	New	0 Days
Mercury	Capricornus	0.0	4.0°S, 3:00PM EST, 2/28	Waning Crescent	27.59 Days
Venus	Sagittarius	-4.5	9.0°S, 1:00AM EST, 2/27	Waning Crescent	26.01 Days
Mars	Sagittarius	1.3	4.0°S, 4:00AM EST, 2/27	Waning Crescent	26.14 Days
Jupiter	Aquarius	-1.9	4.0°S, 4:00PM EST, 2/2	Waxing Crescent	1.63 Days
Saturn	Capricornus	0.7	4.1°S, 7:00AM EST, 2/1	Waxing Crescent	0.26 Days
Saturn	Capricornus	0.8	4.0°S, 7:00PM EST, 2/28	Waning Crescent	27.76 Days
Uranus	Aries	5.8	1.2°S, 3:00PM EST, 2/7	Waxing Crescent	6.59 Days
Neptune	Aquarius	7.9	4.0° S, 4:00PM EST, 2/3	Waxing Crescent	2.63 Days

A wealth of information on solar system celestial bodies is posted at <http://nineplanets.org/> and <https://www.curtrenz.com/astronomy.html>

The major meteor showers that will occur this year are discussed at <https://skyandtelescope.org/astronomy-news/best-meteor-showers-of-2022/>

Information on the celestial events transpiring each week can be found at <http://astronomy.com/skythisweek> and <http://www.skyandtelescope.com/observing/sky-at-a-glance/>

A monthly podcast on various astronomical topics is available at <https://www.skyandtelescope.com/observing/astronomy-podcasts/>

A video on the February night sky can be seen at <https://hubblesite.org/resource-gallery/learning-resources/tonights-sky>

Free star charts for the month can be downloaded at <http://www.skymaps.com/downloads.html> and <http://whatsouttonight.com/>

A star-hop through this year's mid-February sky can be seen at <https://www.facebook.com/Astronomical.League/photos/pcb.4812264572196330/4812260802196707>

The famous eclipsing variable star Algol (Beta Persei) is at a minimum, decreasing in magnitude from 2.1 to 3.4, on February 3rd, 6th, 9th, 12th, 15th, 17th, 20th, 23rd, and 26th. Consult page 50 of the February 2022 issue of Sky & Telescope for the times of the minima. The Demon Star is at minimum brightness for approximately two hours centered at 1:42 a.m. EST on February 9th, at 10:31 p.m. EST on February 11th, and at 7:21 p.m. EST on February 14th. For more on Algol, see <http://stars.astro.illinois.edu/sow/Algol.html> and <http://www.solstation.com/stars2/algol3.htm>

Data on current supernovae can be found at <http://www.rochesterastronomy.org/snimages/>

Information on observing some of the more prominent Messier galaxies is available at <http://www.cloudynights.com/topic/358295-how-to-locate-some-of-the-major-messier-galaxies-and-helpful-advice-for-novice-amateur-astronomers/>

Finder charts for the Messier objects and other deep-sky objects are posted at <https://freestarcharts.com/messier> and <https://freestarcharts.com/ngc-ic> and https://www.cambridge.org/turnleft/seasonal_skies_january-march

Telrad finder charts for the Messier Catalog and the SAC's 110 Best of the NGC are posted at <http://www.custerobservatory.org/docs/messier2.pdf> and <http://www.star-shine.ch/astro/messiercharts/messierTelrad.htm> and <http://sao64.free.fr/observations/catalogues/cataloguesac.pdf>

Author Phil Harrington offers an excellent freeware planetarium program for binocular observers known as TUBA (Touring the Universe through Binoculars Atlas) at <http://www.philharrington.net/tuba.htm>

Stellarium and Cartes du Ciel are useful freeware planetarium programs that are available at <http://stellarium.org/> and <https://www.ap-i.net/skychart/en/start>

Deep-sky object list generators can be found at <http://www.virtualcolony.com/sac/> and <https://telescopius.com/> and <http://tonightssky.com/MainPage.php>

Freeware sky atlases can be downloaded at <http://www.deepskywatch.com/files/deepsky-atlas/Deep-Sky-Hunter-atlas-full.pdf> and <https://www.cloudynights.com/articles/cat/articles/observing-skills/free-mag-7-star-charts-r1021> and <https://allans-stuff.com/triatlas/>

Forty binary and multiple stars for February: 41 Aurigae, Struve 872, Otto Struve 147, Struve 929, 56 Aurigae (Auriga); Nu-1 Canis Majoris, 17 Canis Majoris, Pi Canis Majoris, Mu Canis Majoris, h3945, Tau Canis Majoris (Canis Major); Struve 1095, Struve 1103, Struve 1149, 14 Canis Minoris (Canis Minor); 20 Geminorum, 38 Geminorum, Alpha Geminorum (Castor), 15 Geminorum, Lambda Geminorum, Delta Geminorum, Struve 1108, Kappa Geminorum (Gemini); 5 Lyncis, 12 Lyncis, 19 Lyncis, Struve 968, Struve 1025 (Lynx); Epsilon Monocerotis, Beta Monocerotis, 15 (S) Monocerotis (Monoceros); Struve 855 (Orion); Struve 1104, k Puppis, 5 Puppis (Puppis)

Notable carbon star for February: BL Orionis (Orion)

Fifty deep-sky objects for February: NGC 2146, NGC 2403 (Camelopardalis); M41, NGC 2345, NGC 2359, NGC 2360, NGC 2362, NGC 2367, NGC 2383 (Canis Major); M35, NGC 2129, NGC 2158, NGC 2266, NGC 2355, NGC 2371-72, NGC 2392, NGC 2420 (Gemini); NGC 2419 (Lynx); M50, NGC 2232, NGC 2237, NGC 2238, NGC 2244, NGC 2245, NGC 2251, NGC 2261, NGC 2264, NGC 2286, NGC 2301, NGC 2311, NGC 2324, NGC 2335, NGC 2345, NGC 2346, NGC 2353 (Monoceros); NGC 2169, NGC 2174, NGC 2194 (Orion); M46, M47, M93, Mel 71, NGC 2421, NGC 2423, NGC 2438, NGC 2439, NGC 2440, NGC 2467, NGC 2506, NGC 2509 (Puppis)

Top ten binocular deep-sky objects for February: M35, M41, M46, M47, M50, M93, NGC 2244, NGC 2264, NGC 2301, NGC 2360

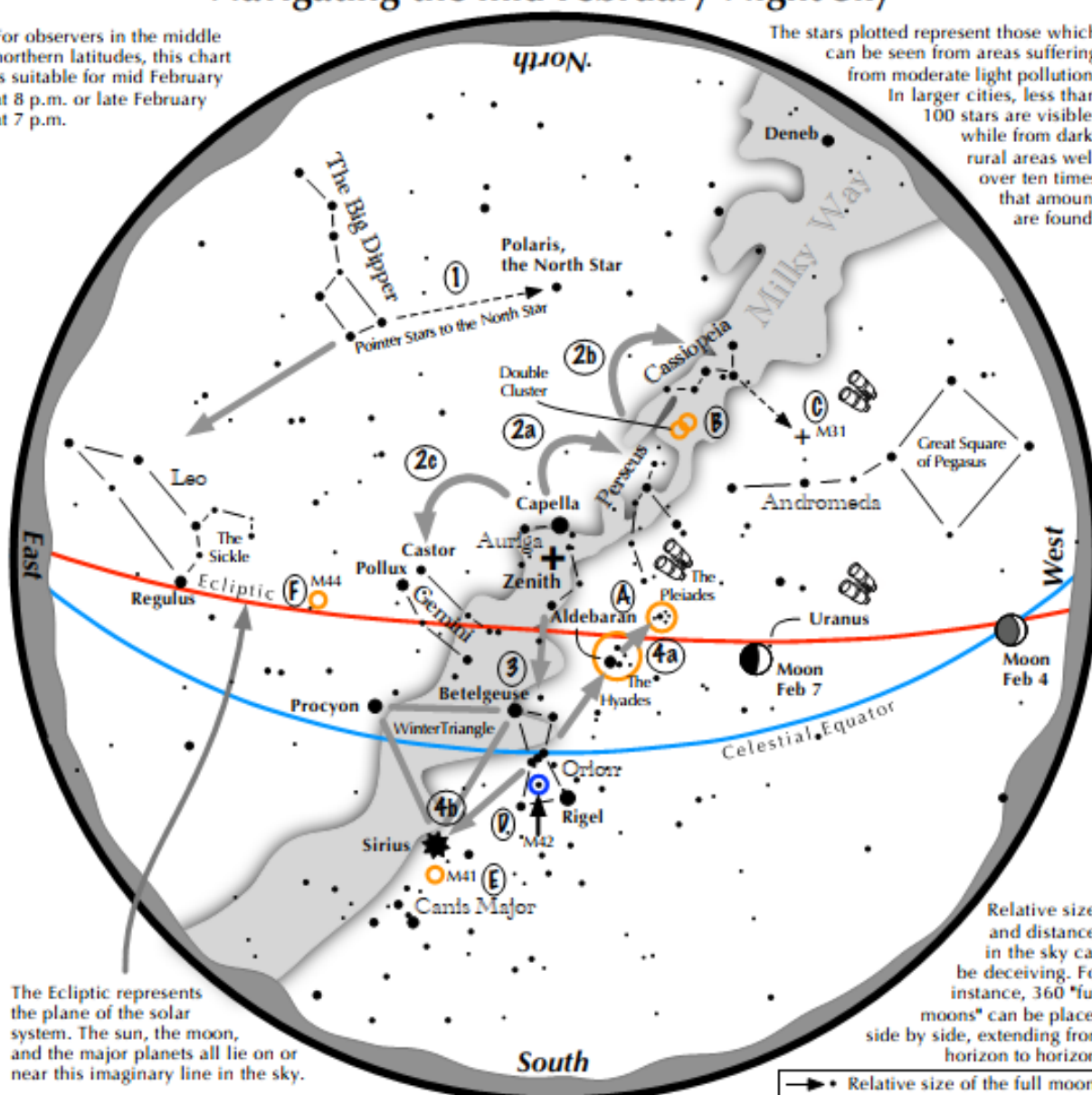
Top ten deep-sky objects for February: M35, M41, M46, M47, M50, M93, NGC 2261, NGC 2362, NGC 2392, NGC 2403

Challenge deep-sky object for February: IC 443 (Gemini)

Navigating the mid February Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid February at 8 p.m. or late February at 7 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.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

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

- 1 Above the northeast horizon rises the Big Dipper. Draw a line from its two end bowl stars upwards to the North Star.
- 2 Face south. Overhead twinkles the bright star Capella in Auriga. Jump northwestward along the Milky Way first to Perseus, then to the "W" of Cassiopeia. Next jump southeastward from Capella to the twin stars of Castor and Pollux in Gemini.
- 3 Directly south of Capella stands the constellation of Orion with its three Belt stars, its bright red star Betelgeuse, and its bright blue-white star Rigel.
- 4 Use Orion's three Belt stars to point northwest to the red star Aldebaran and the Hyades star cluster, then to the Pleiades star cluster. Travel southeast from the Belt stars to the brightest star in the night sky, Sirius, a member of the Winter Triangle.

Binocular Highlights

- A: Examine the stars of two naked eye star clusters, the Pleiades and the Hyades.
 B: Between the "W" of Cassiopeia and Perseus lies the Double Cluster.
 C: The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval.
 D: M42 in Orion is a star forming nebula. E: Look south of Sirius for the star cluster M41. F: M44, a star cluster barely visible to the naked eye, lies southeast of Pollux.

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Hang Out with the Twins of Gemini

David Prosper

The night skies of February are filled with beautiful star patterns, and so this month we take a closer look at another famous constellation, now rising high in the east after sunset: Gemini, the Twins!

If you're observing Orion, as discussed in last month's article, then Gemini is easy to find: just look above Orion's "head" to find Gemini's "feet." Or, make a line from brilliant blue-white Rigel in the foot of Orion, through its distinct "Belt," and then on through orange Betelgeuse. Keep going and you will end up in between the bright stars Castor and Pollux, the "heads" of the Gemini Twins. While not actually related – these stars aren't bound to each other, and are almost a magnitude apart in brightness – they do pair up nicely when compared to their surrounding stars. Take note: more than one stargazer has confused Gemini with its next-door neighbor constellation, Auriga. The stars of Auriga rise before Gemini's, and its brightest star, Capella, doesn't pair up as strikingly with its second most brilliant star as Castor and Pollux do. Star-hop to Gemini from Orion using the trick above if you aren't sure which constellation you're looking at. Pollux is the brighter of Gemini's two "head" stars - imagine it has the head of the "left twin" - and located about 34 light-years away from our Solar System. Pollux even possesses a planet, Pollux b, over twice the mass of Jupiter. Castor - the head of the "right twin" - by contrast, lies about 51 light-years distant and is slightly dimmer. While no planets have been detected, there is still plenty of company as Castor is actually a six-star system! There are several great deep-sky objects to observe as well. You may be able to spot one with your unaided eyes, if you have dark skies and sharp eyes: M35, a large open cluster near the "right foot" of Gemini, about 3,870 light-years away. It's almost the size of a full Moon in our skies! Optical aid like binoculars or a telescope reveals the cluster's brilliant member stars. Once you spot M35, look around to see if you can spot another open cluster, NGC 2158, much smaller and more distant than M35 at 9,000 light-years away. Another notable object is NGC 2392, a planetary nebula created from the remains of a dying star, located about 6,500 light-years distant. You'll want to use a telescope to find this intriguing faint fuzzy, located near the "left hip" star Wasat.

Gemini's stars are referenced quite often in cultures around the world, and even in the history of space exploration. NASA's famed Gemini program took its name from these stars, as do the appropriately named twin Gemini North and South Observatories in Hawaii and Chile. You can discover more about Gemini's namesakes along with the latest observations of its stars and related celestial objects at nasa.gov.





Castor and Pollux are Gemini's most prominent stars, and often referred to as the "heads" of the eponymous twins from Greek myth. In Chinese astronomy, these stars make up two separate patterns: the Vermillion Bird of the South and the White Tiger of the North. What do you see? The Night Sky Network's "Legends in the Sky" activity includes downloadable "Create Your Own Constellation" handouts so you can draw your own star stories: bit.ly/legendsinthesky Image created with assistance from Stellarium.

Phil Harrington's Cosmic Challenge

Sirius and the Pup



This month's suggested aperture range:
6- to 9.25-inch (15- to 24-cm) Telescopes

Target	Type	RA	DEC	Const.	Mag.	Separation
Sirius and the Pup	Binary star	06h 45.1m	-16° 42.8'	Canis Major	-1.46, 8.30	varies; see below

Last month, I offered what many believe is one of the sky's greatest challenges, the [Horsehead Nebula](#). This month, I am back with another classic test.

Ask an amateur astronomer to name binary stars that are difficult to resolve and one of the most common responses will probably be **Sirius**, in Canis Major. While there are more difficult targets, Sirius is always a perennial favorite. The challenge comes not from the close separation of the two stars in the system, however. Rather, the challenge here is from the extreme difference in the two stars' magnitude. Sirius A, a type-A1V star, is about twice the mass of our Sun, while Sirius B is a white dwarf, the last stage of a star that was once approximately five to six times our Sun's mass. Sirius B, also known as "The Pup," is believed to contain about 0.5 solar mass at present, the rest having exhausted into space over 100 million years ago. Today, all we see left from that once mighty star is the incredibly hot remnant core, a white dwarf.

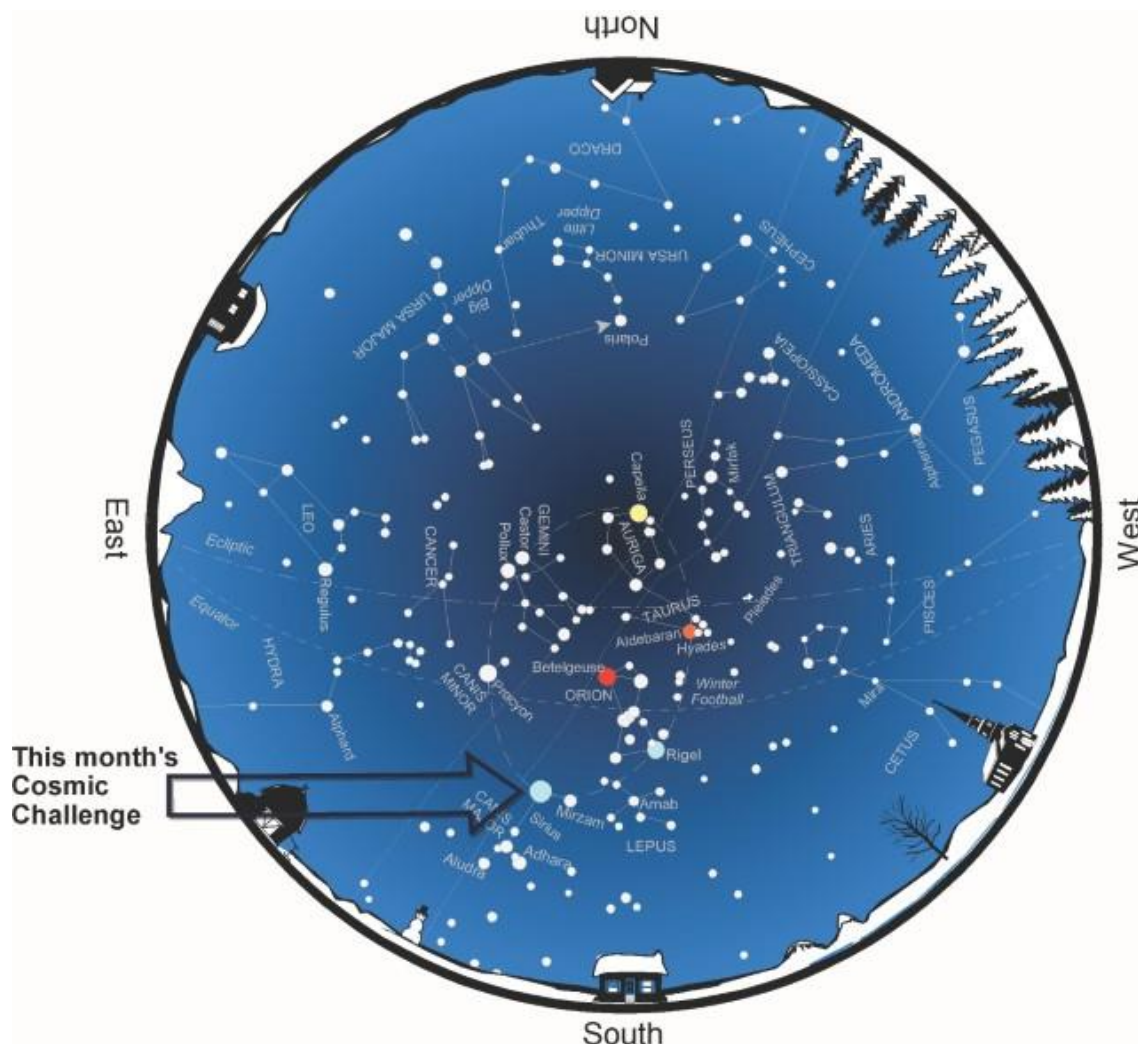
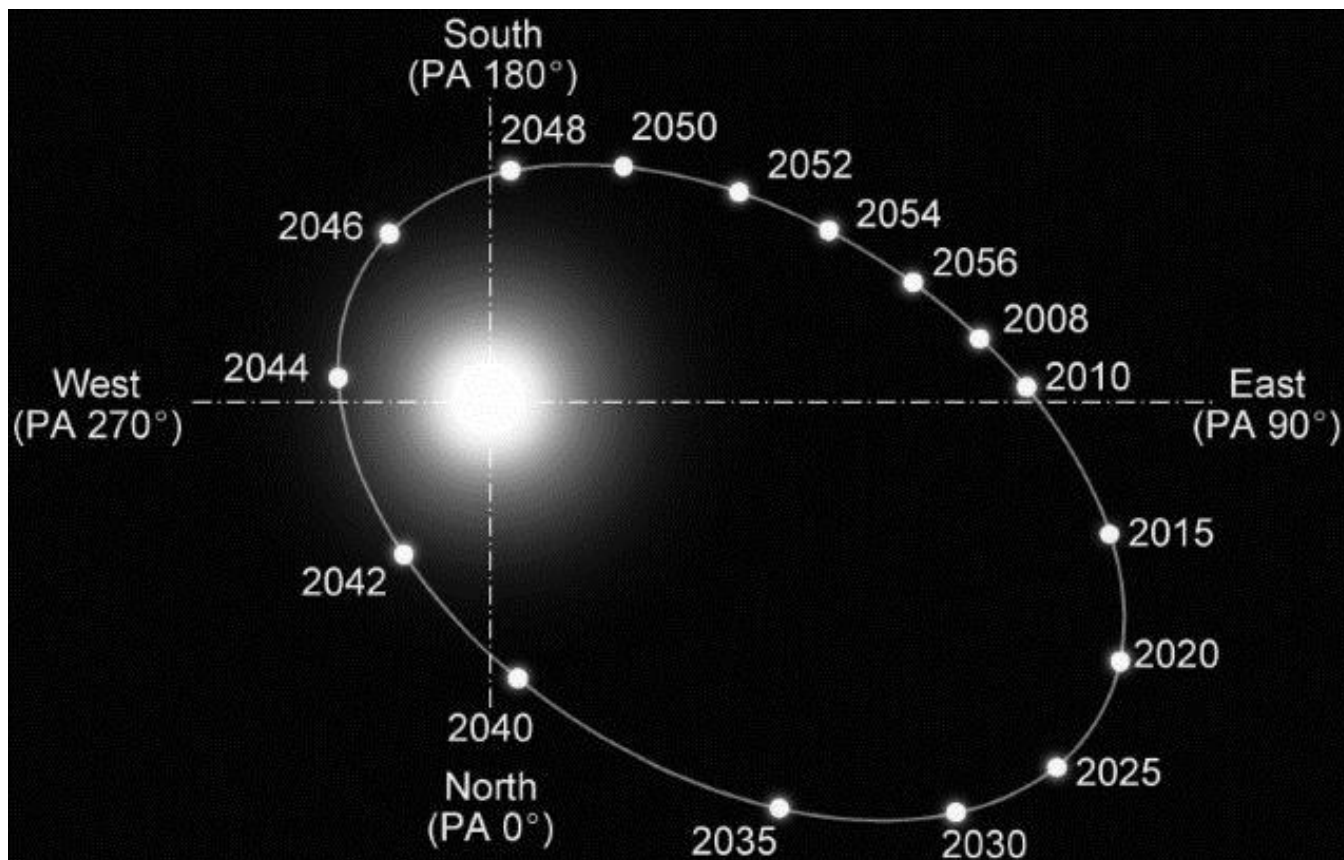


Image above: Evening star map showing the location of this month's Cosmic Challenge.



Sirius and the Pup's positions 2008-2056. Note that south is up and east is to the right, matching the view through an inverting telescope.

The Pup's existence was first detected in 1844 when German astronomer [Friedrich Bessel](#) noticed that Sirius wobbled ever so slightly against the background sky. From this, he reasoned that the gravity from an unseen companion must be causing the star's odd behavior. Nearly two decades later, Bessel was proven correct. American telescope-maker and astronomer [Alvan G. Clark](#) spotted the little companion on January 18, 1862, while testing an 18½-inch refractor, then the world's largest, that he had made for the University of Mississippi. Clark had selected Sirius for testing the level of chromatic aberration in the telescope; it is unlikely that he was specifically looking for the companion or that he even knew of Bessel's conclusions.

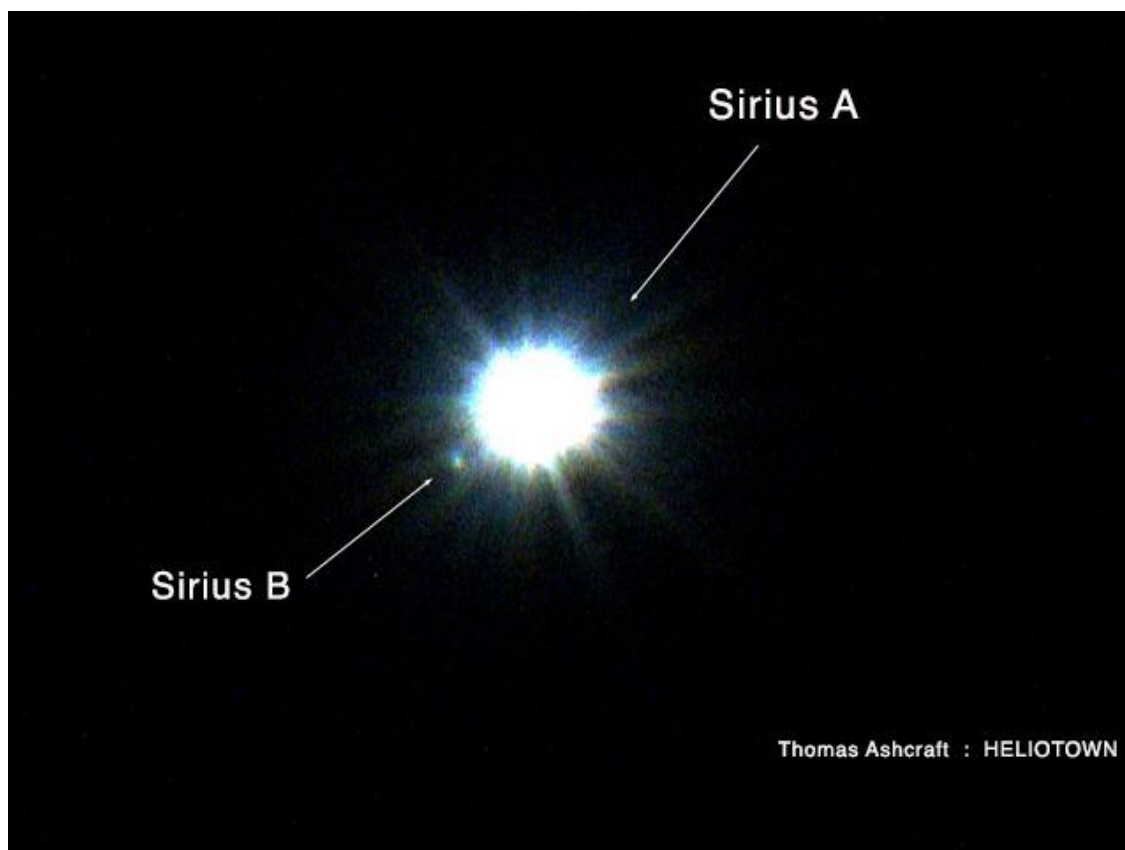
Sirius B measures no more than twice the Earth in diameter, yet its mass is nearly equal to the Sun's. Were we able to scoop up a teaspoon of Sirius B, transport it back to Earth and place it on a scale, we would find that it weighs several tons. Such is the stuff of white dwarfs. Eventually, Sirius B's energy emissions will ebb and cool, leaving just a cinder of super-dense carbon. What do you get when you compress carbon under extreme conditions for eons of time? You get a diamond. Yes, eventually, Sirius B will become a diamond roughly the diameter of Earth!

Spotting Sirius B takes the just the right combination of excellent optics, both in the telescope as well as in the sky. If the sky's optical behavior -- that is, seeing -- is uncooperative, then even the finest telescope optics will fail to resolve the Pup. Fortunately, things are getting easier. That's because Sirius B is heading toward the apastron point in its 50-year orbit around Sirius A. Over the course of half a century, the separation of these two stars varies from 3 arc-seconds to 11.5 arc-seconds. The pair appeared closest in 2000 and have been widening ever since. Both will continue to grow apart until next year, after which, they will close on each other. The table below lists the separation and position angle of Sirius B over the next several years.

Year	Position Angle (°)	Separation (")
2020.0	68.3	11.15
2021.0	66.5	11.22
2022.0	64.6	11.27
2023.0	62.7	11.28
2029.0	51.1	10.57

Even when the separation is widest, seeing the Pup takes strategy. Beyond steady skies and high magnification, determine where the companion should be in the view relative to Sirius itself, and then move Sirius just out of the field. Keep in mind that, however, that depending on your eyepiece, edge distortions could distort the Pup out of existence. Therefore, many use an occulting bar across the center of the field to hide the glare of Sirius. Rotate the eyepiece around until it matches the Pup's position angle, which is currently toward the east-northeast. Incidentally, if you are using a Newtonian or Cassegrain reflector that has a spider mount holding the secondary mirror in place, double check that a diffraction spike from the spider does not inadvertently cover the star.

Here is a great capture of Sirius and the Pup by CN'er [Thomas Ashcraft](#), which he shared in the Deep Sky Observing forum last January. He imaged the pair back on January 24, 2012, using a Celestron C14, ZWO 224 MC camera, and a Luminance filter. He also created a wonderful short video showing the visual appearance. You can view that on his YouTube channel [here](#).



Above: Sirius and the Pup. Photo copyright by [Thomas Ashcraft](#). Used with permission.

Give the Pup a try when Sirius is highest in the southern sky, but again, wait for those nights when exceptional seeing. Be sure to begin your hunt before the sky fully darkens, since a twilight sky will help absorb some of Sirius's glare. Sirius B is magnitude 8.5, so the sky does not have to be darkened fully to see it. Set your telescope up before the Sun goes below the horizon, let the optics cool to ambient temperature, and then as you are waiting for twilight to wane, focus on Sirius and see what you discover. Have a favorite challenge object of your own? I'd love to hear about it, as well as how you did with this month's challenge. Contact me through my [website](#) or post to this month's discussion forum.



About the Author: Phil Harrington writes the monthly [Binocular Universe](#) column in [Astronomy](#) magazine and is the author of 9 books on astronomy, including [Cosmic Challenge: The Ultimate Observing List for Amateurs](#).

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Observatory and Planetarium Events



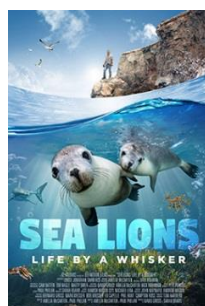
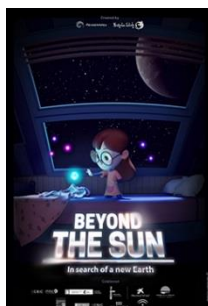
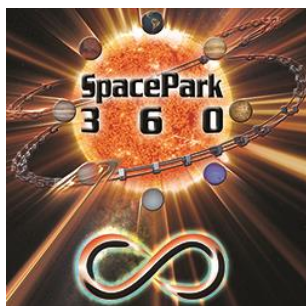
The Herrett Center has re-opened, with [COVID-19 safety protocols](#) for your protection. Check out our [reopening video message](#) and we hope to see you soon!

Centennial Observatory Upcoming Events

Event	Place	Date	Time	Admission
Monthly Free Star Party	Centennial Observatory	Saturday, February 12 th , 2022	7:00 to 9:00 PM	FREE
Telescope Tuesday	Centennial Observatory	Tuesday, February 22 nd , 2022	7:30 to 9:00 PM	\$1.50 or free with Faulkner Planetarium admission

Due to the need to maintain social distance during the Covid-19 pandemic, access to the observatory dome is one small group at a time. Contact the Herrett Center 208-732-6655 for more info.

Faulkner Planetarium



[Now Showing!](#)

Visit the Herrett Center Video [Vault](#)



About the Magic Valley Astronomical Society

Magic Valley Astronomical Society
550 Sparks St.
Twin Falls, ID

The Magic Valley Astronomical Society (MVAS) was founded in 1976. The Society is a non-profit, 501(c)(3) educational and scientific organization dedicated to bringing together people with an interest in astronomy.

In partnership with the Centennial Observatory, Herrett Center, College of Southern Idaho - Twin Falls, we hold regularly scheduled monthly meetings and observation sessions, at which we share information on current astronomical events, tools and techniques for observation, astrophotography, astronomical computer software, and other topics concerning general astronomy. Members enthusiastically share their telescopes and knowledge of the night sky with all who are interested. In addition to our monthly public star parties we hold members-only star parties at various locations throughout the Magic Valley.

MVAS promotes both the education of astronomy and the exploration of the night sky along with safe solar observing through our public outreach programs. We provide two types of outreach: (a) public star parties and events open to anyone interested in astronomy; (b) outreach programs for individual groups and organizations (e.g., schools, churches, scout troops, company events, etc.), setting up at your location. All of our outreach programs are provided by MVAS volunteers at no cost. However, MVAS will gladly accept donations, which enable us to improve our public outreach programs.

Membership is not just about personal benefits. Your membership dues support the work that the Magic Valley Astronomical Society does in the community to promote the enjoyment and science of astronomy. Among the programs that your membership dues support are speakers, public star parties, classes and support for astronomy in schoolrooms, and outreach programs, just to name a few.

Annual Membership dues are \$20.00 for individuals, families, and \$10.00 for students.
Contact Treasurer Jim Tubbs for dues information via e-mail: jtubbs015@msn.com

Donations to our club are always welcome and are even tax deductible. Please contact a board member for details.

Lending Telescopes: The society currently has three telescopes for loan and would gladly accept others. Please contact President Robert Mayer for more information on these and other benefits.



Telescopes are an individual thing and not practical for public use. However, everyone should have the experience of a good look at the moon for at least 5 minutes in their life time. It is a dimension and feeling that is unexplainable. Pictures or TV can't give this feeling, awareness, or experience of true dimension. A person will not forget seeing our closest neighbor, the moon.

Norman Herrett in a letter to Dr. J. L. Taylor, president of the College of Southern Idaho, Twin Falls, ID, USA.