Snake River Skies

The Newsletter of the Magic Valley Astronomical Society
November 2014

Membership Meeting
Saturday, November. 8th 2014
7:00pm at the
Herrett Center for Arts & Science
College of Southern Idaho.
Public Star Party Follows at the Centennial Obs.

Club Officers:

Robert Mayer, President
mayerrbrt@gmail.com
208-312-1203

Jim Hoggatt, Vice President
jhog@cableone.net
208-420-7690

Gary Leavitt, Secretary
leavittg@cableone.net
208-731-7476

Jim Tubbs, Treasurer / ALCOR
jtubbs015@msn.com
208-404-2999

David Olsen, Newsletter Editor
editor@mvastro.org

Rick Widmer, Webmaster
rick@developersdesk.com

Magic Valley Astronomical Society
is a member of the
Astronomical League

Message from the President – Robert Mayer

Colleagues,

November promises to be a busy month. On Saturday, Nov. 8, 7 p.m., at the regular monthly meeting, we will have a special presentation on the work of the University of Arizona's Steward Observatory Mirror Lab, the site for mirror building for several observatories. According to the university's website, the lab has constructed 14 mirrors ranging from 1.2 to 8.4 meters in diameter. That includes the 3.5-meter mirror for Kitt Peak as well as work for Chilean observatories and the Mount Graham, Arizona, Large Binocular telescope that uses two 8.4-meter mirrors. Current work includes the Magellan projects – with the biggest project being the Great Magellan Telescope that will consist of seven 8.4-meter mirrors for one telescope. Retirees from the lab, Mike Orr and Ray Bertram, will be guiding us through the presentation. Orr's portion will be a first for MVAS – as he will be communicating to us through SKYPE.

In addition to the presentation, we need a bit of help. At the November meeting, the membership voted to retain the president (Rob Mayer), the secretary (Gary Leavitt), and the treasurer (Jim Tubbs). Vice President Jim Hoggatt, however, had to step down due to health reasons, and the body in November was unable to come up with a replacement. In addition, the Steward Observatory presentation, we will try again to vote for a vice-president at the start of the meeting. We look forward to getting your input.

Clear Views,
Rob Mayer

Celestial Trivia and Events

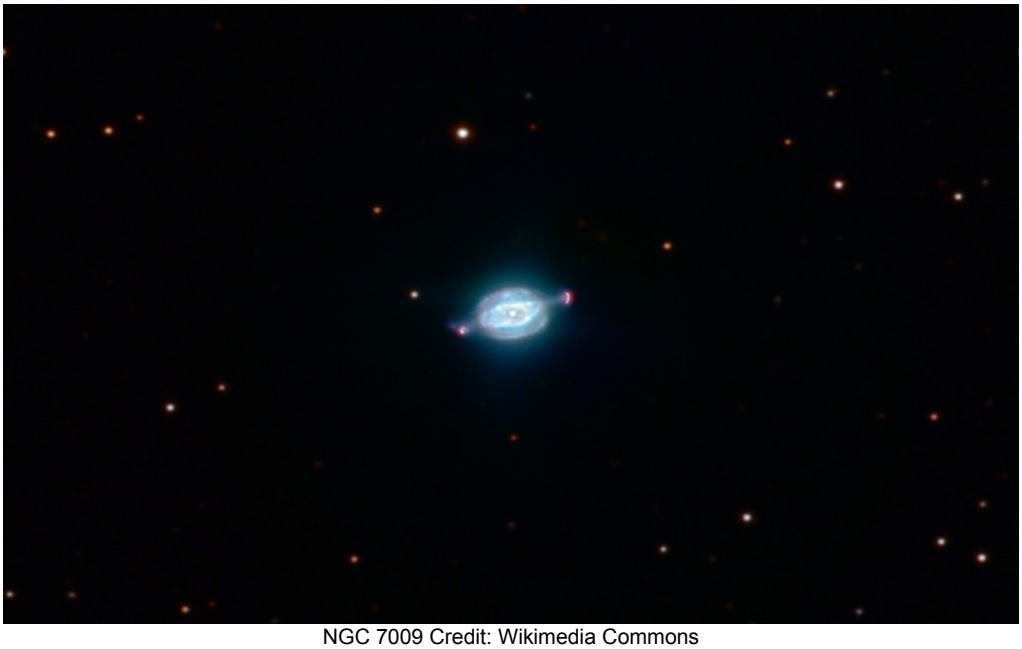
11/1 Mercury is at greatest western elongation (19 degrees)
11/2 Neptune is 5 degrees south of the Moon at 4:00; Daylight Saving Time (DST)
11/3 Mercury is 5 degrees north of the first-magnitude star Spica (Alpha Virginis)
11/4 Uranus is 1.3 degrees south of the Moon.
11/5 Mercury is at its greatest heliocentric latitude north today.
11/8 The Moon is 1.4 degrees north of the first-magnitude star Aldebaran (Alpha Tauri)
11/12 The peak of the Northern Taurid meteor shower (5 to 10 per hour)
11/14 Jupiter is 5 degrees north of the Moon
11/15 Asteroid 6 Hebe (magnitude +8.0) is at opposition. The Curtiss Cross, an X-shaped illumination effect located between the craters Parry and Gambart. The Moon is at Apogee, subtending 29° 33"
11/16 Mars is at its greatest heliocentric latitude south today; Neptune is stationary.
11/18 Saturn is in conjunction with the Sun.
11/22 Venus is at the descending node today.
11/26 Mars is 7 degrees south of the Moon.
11/28 Mercury is at the descending node today
11/29 Neptune is 4 degrees south of the Moon ; the Lunar X (Purbach or Werner Cross), an X-shaped illumination effect involving various rims and ridges between the craters La Caille, Blanchinus, and Purbach, is predicted to occur at 2:14;

Edmund Halley, William Herschel, Harlow Shapley, and Edwin Hubble were born this month.

The first photograph of a meteor was taken on November 26, 1885. The minor planet/comet 2060 Chiron or 95P/Chiron was discovered by Charles Kowal on November 1, 1977.

Brightness, apparent size, illumination, distance from the Earth in astronomical units, and location data for the planets and Pluto on November 1: Mercury (-0.6, 6.9", 55% illuminated, 0.97 a.u., Virgo), Venus (magnitude -4.0, 9.7", 100% illuminated, 1.72 a.u., Libra), Mars (magnitude +0.9, 5.5", 90% illuminated, 1.69 a.u., Sagittarius), Jupiter (magnitude -2.1, 36.4", 99% illuminated, 5.42 a.u., Leo), Saturn (magnitude +0.5, 15.3", 100% illuminated, 10.90 a.u., Libra), Uranus (magnitude +5.7, 3.7", 100% illuminated, 19.25 a.u. on November 16th, Pisces), Neptune (magnitude +7.9, 2.3", 100% illuminated, 29.76 a.u. on November 16th, Aquarius), and Pluto (magnitude +14.2, 0.1", 100% illuminated, 33.41 a.u. on November 16th, Sagittarius).

The **Saturn Nebula** or **NGC 7009** is a planetary nebula in the constellation Aquarius. It appears as a greenish-yellowish hue in a small amateur telescope. It was discovered by William Herschel on September 7, 1782, using a telescope of his own design in the garden at his home in Datchet, England, and was one of his earliest discoveries in his sky survey.

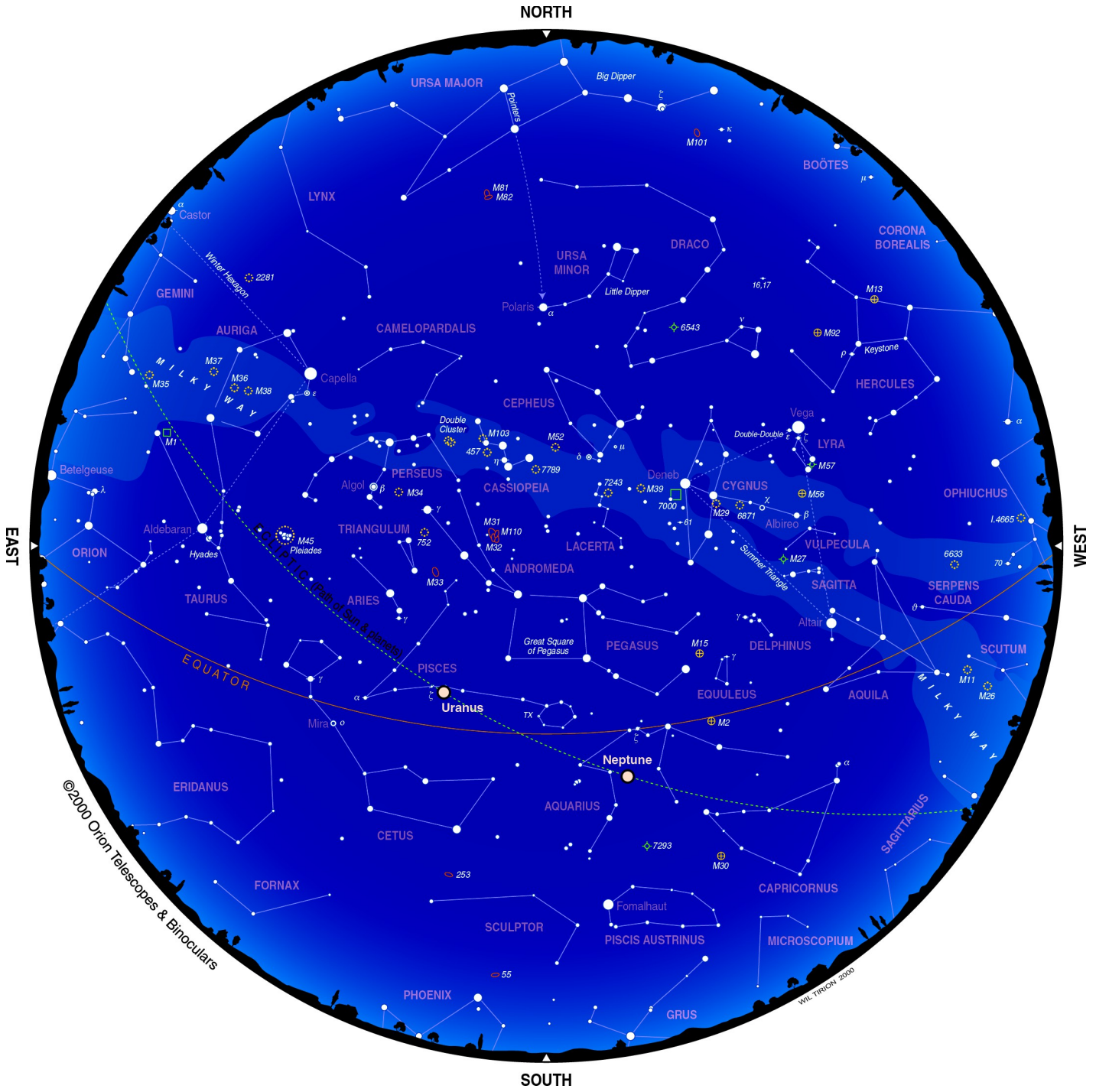


NGC 7009 Credit: Wikimedia Commons

Calendar - November 2014

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6  Full Moon 100% Visible (Beaver Moon)	7	8 General Membership Mtg at 19:00 at the Herrett Center
9	10	11 Veterans Day Remembrance Day 	12	13	14  Last Quarter Moon Visible: 52% ↓	15
16	17	18	19	20	21	22  New Moon Visible: 1% ↓
23	24	25	26	27 Thanksgiving 	28	29  First Quarter Moon Visible: 51% ↑
30						

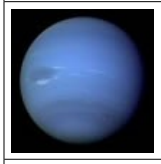
Planisphere



This Planisphere is available in a larger format online using this link:
http://www.telescope.com/assets/images/starcharts/2014-11-starchart_col.jpg

Be Safe – Get Out There – Explore Your Universe!

Solar System at a Glance

	**Mercury** undergoes its finest morning apparition of the year for northern hemisphere observers during the first half of the month. It reaches greatest western elongation on November 1st. The speedy planet is at its greatest heliocentric latitude north on November 5th and the descending node on November 28th. By month's end, Mercury dims to magnitude -0.9.
	**Venus** will not be readily visible again until early December.
	**Mars** is located low in the southwest during the early evening this month. It lies 0.6° north of the third-magnitude star Lambda Sagittarii (Kaus Borealis) on November 3rd Also Mars will be west-southwest of the bright globular cluster M22 and 5° east of M8, the Lagoon Nebula. It lies 7° south of the waxing crescent Moon on November 26th. Mars shrinks to 5.1 arc seconds in apparent size and dims to magnitude +1.0 by end of the month.
	**Jupiter** apparent diameter increases slightly to 39.7 arc seconds and its brightness to magnitude -2.2 over the course of the month. Jupiter is situated five degrees north of the Moon on November 14th. Click on http://www.skyandtel...watching-tools/ or consult page 51 of the November issue of *Sky & Telescope* to determine transit times of the central meridian by the Great Red Spot.
	**Saturn** sets less than one hour after sunset at the start of the month. The Ringed Planet is 1.5 degrees north of Venus on the evening of November 12th. Saturn is in conjunction with the Sun on November 18th and is not observable again until early December
	**Uranus** is in retrograde in Pisces. The seventh planet is located within one degree of the sixth-magnitude K-type star 96 Piscium throughout November and is closest to it at mid-month.
	**Neptune** resumes prograde or direct motion on November 16th. It can be found 0.9 degree west of the fifth-magnitude star Sigma Aquarii during November.
	**Pluto** is located 3.7 degrees north of Mars on November 10th. The dwarf planet heads eastward through Sagittarius during November, passing 22 arc minutes south of the fifth-magnitude star 29 Sagittarii on November 19th.
	**Asteroid** 6 Hebe travels westward through northern Eridanus this month. The large main-belt asteroid shines at magnitude +8.0 when it reaches opposition on November 15th and passes one degree to the north of the fourth-magnitude star Delta Eridani on November 21st and November 22nd.
	**Comets** C/2013 A1 (Siding Spring) travels northeastward through Ophiuchus and Serpens Cauda this month. This comet faded considerably last month prior to its historic close flyby of Mars on October 19th and may be very difficult to observe. Comet Siding Spring passes just east of the fourth-magnitude star Omicron Serpentis on November 15th.

Idaho Skies

November 2014 - Vol. 8 No. 11

Idaho Skies is a column for beginning amateur astronomers and those interested in astronomy. Suggestions about the column are gladly accepted by the columnist, at nearsys@gmail.com

This month look for the star Caph in the constellation Cassiopeia. Caph is called Beta Cassiopeia by astronomers. And as you would guess from its name, Caph is the second brightest star in the constellation.

Cassiopeia may have originated as the Greek goddess, Hecate, but was later transformed into the queen of Ethiopia. According to the Greek legend, Cassiopeia boasted she was more beautiful than the Nereid's. The unhappy Nereid's complained about this slight to their father, the god of the sea. As punishment, Poseidon sent the sea monster Cetus to destroy Cassiopeia's coast-lands. King Cepheus and queen Cassiopeia learned they could halt the destruction of their lands only if they offered their daughter, Andromeda to the sea monster. So unfortunate Andromeda was chained to the rocks to await the next arrival of Cetus. Fortunately, before the sea monster arrived, Perseus, who was traveling back home on his flying sandals, saw and rescued Andromeda.

The star Caph is 54 light years away. Therefore, if you were born in 1960, Caph is your birthday star this year. The surface of Caph is 1,600 degrees Fahrenheit hotter than our sun. It's also four times larger and 28 times brighter. Caph is old enough that the energy from hydrogen fusion can't preventing its core from contracting. The core is shrinking as a result and growing hotter. Eventually the contraction will warm the core up to the point that helium fusion will begin. Once its helium begins to "burn", Caph will expand in size and change into a cooler giant star.

November Overview

- Mercury makes its best appearance for the year
- The Taurid meteor shower appears this month
- The moon appears near nice star clusters on the nights of the 7th, 8th, and 13th
- The moon appears near Jupiter on the morning of the 14th.
- The Leonid meteor shower peaks on the night of the 17th and morning of the 18th
- There are chances to see thin crescent moons on the morning of the 20th and evening of the 24th.

November 1 – 7

Innermost planet Mercury reaches its greatest distance from the sun, from Earth's perspective, on the 1st. This is the best time to see the elusive planet this year since it rises more than an hour and a half before the sun. So look for Mercury as the brightest star close to the east-southeast horizon at 6:30 AM.

There's a relatively close-by star below the moon on the night of the 1st. It's Fomalhaut, the Solitary One. Fomalhaut is 25 light years away, or just a light year closer than brilliant Vega (which is shining overhead). If you were born in 1989, then Fomalhaut is your birthday star this year.

It's the end of Daylight Saving Time early on Sunday the 2nd. So turn your clocks back one hour before you go to bed on the Saturday night. Enjoy your Sunday; you'll get an extra hour of sleep.

The Taurid meteor shower peaks on the morning of the 3rd. Unfortunately the moon is a waxing gibbous, or nearly full. Since it doesn't set 3:30 AM, you'll need to wait until after 3:30 AM to observe this shower. Meteors from this shower will appear to originate from overhead. The Taurids don't sound like a very promising meteor shower when you consider that you might only see five meteors per hour from this shower. However, the Taurid meteor shower has a couple of tricks up its sleeve. First, the stream of meteoroids forming this shower is massive and spread out. Therefore, you can observe Taurid meteors for several weeks. Second, the meteoroids in the shower tend to be larger than usual. Taurid meteoroids can be pebble sized compared to the sand-grain sized material making up the other meteor showers. This means that Taurid meteoroids can create very bright meteors as they reenter Earth's atmosphere. That makes them worth watching.

The moon appears between two galactic star clusters on the evening of the 7th. After it gets dark, use your binoculars to sweep the region above and below the moon to see the Pleiades and the Hyades star clusters. The Pleiades are known as the Seven Sisters and through your binoculars they will have dipper-like arrangement.

November 8 – 14

If you missed it on the 7th, the moon is still near the Hyades star cluster on the 8th. This evening however, the star cluster is just above the moon. The Hyades forms the face of Taurus the Bull. Its glowing red-orange eye is the star Aldebaran, which appears near one end of the triangle of stars forming the Hyades star cluster. However, Aldebaran is not a part of the Hyades star cluster; it's actually much closer to our solar system.

The moon will help you locate Orion the Hunter on the 9th. The majority of the constellation is the tall rectangle of stars below and right of the moon. However, above Orion's body is his raised arm and club. The moon is located on top of his club and Orion is about to bat the moon with his club. Be sure to look for the horizontal row of three stars located in the middle of the rectangle of Orion's body; this is Orion's Belt. If you have a pair of binoculars handy, then scan downward from the middle star in Orion's Belt. These stars represent his sword and the second star in the sword should look a little fuzzy. That fuzzy spot is located 1,300 light years away and it's not a star. It's a seething cauldron of star formation. Astronomers count at least 700 stars in various stages of formation within the nebula.

It's easy to identify Gemini the Twins if you wait until the night of the 10th. You'll need to go outside after 10 PM to locate the constellation, however. Look right above the moon for two parallel lines of stars. These are the twins. The lines are horizontal and their brightest stars are called Castor and Pollux. These represent the heads of the twins and are located to the left side of the moon. Pollux is the brighter of the two stars and closer to the horizon.

There's a bright star to the moon's lower right on he 11th. Its name is Procyon and it's the brightest star of Canis Minor, or the Little Dog. The word Procyon means before the dog. It has this name because it rises shortly before the Dog Star or Sirius. Procyon appears bright in our sky not because it is a truly bright star, but because it's so close to our solar system. The star is a little less than 12 light years away. So if you know someone born in 2002, Procyon is their birthday star this year. Did you know that Procyon has a companion star? It's a white dwarf, or a star that no longer creates energy through fusion in its core. As a result, it has collapsed to a dense star. It didn't turn into a black hole because it wasn't massive enough to overpower the repulsion between electrons. Since atoms are mostly empty space, white dwarfs can pack the weight of a car into something the size of a sugar cube.

Get your binoculars out on the morning of the 13th. That's because you'll be able to find the Beehive star cluster with a little help from the moon. After 3:00 AM, aim your binoculars at the moon and follow its terminator, the boundary between day and night, straight north. If you put the moon at the bottom edge of your binocular's field of view, the Beehive star cluster will appear near the center of your binoculars. In your binoculars and in dark skies, you should observe dozens of stars in the star cluster.

The moon makes a nice set with Jupiter and Regulus on the morning of the 14th. Look for the moon low in the east after 2:00 AM. Jupiter will be the brightest star to the left of the moon and fainter Regulus will be twice as far away to the moon's lower left.

Use you binoculars to observe the third quarter moon and Jupiter. You'll see lots of craters on the southern hemisphere of the moon and two satellites around Jupiter. The satellites are Ganymede just below Jupiter and Callisto twice as far away.

November 15 – 21

Leo the Lion is located above the moon on the morning of the 15th. Go outside after 3:00 AM and look for the moon in the east. The bright star to the upper left of the moon is the heart of Leo, Regulus. Don't confuse it for the even brighter Jupiter further above the moon.

We get to see a decent meteor shower on the night of the 17th and morning of the 18th. It's the Leonid meteor shower and in dark skies, you can expect to see 20 meteors per hour from this shower. That's three times as many meteors as you normally see on a quiet night. Better still, tonight the moon is a thin crescent whose feeble light will hardly interfere with the shower.

As you drive to work on the 19th, look for the star beneath the moon. It's Spica, the brightest star in the constellation of Virgo. Spica is close to the moon, only twice the moon's apparent diameter away. Looks can be deceiving however. While the moon is only 1.5 seconds away at light speed, Spica is 262 years away at light speed.

Here's your chance to see a very thin crescent moon. On the 20th at 6:30 AM, the moon is only two days away from being new. It's very thin crescent is visible low in the east-southeast. A pair of binoculars will help you locate the moon if you don't see it with your eyes. Not many people have observed a moon this close to being new.

November 22 – 31

On the evening of the 24th, you have a second chance to see a very thin moon, but in the evening. This time the moon is three days old, so it will be a bit thicker crescent than it was on the 20th. Look for it low in the southeast. Next, try using a pair of binoculars to see Earthshine. Earthshine is a faint illumination of the dark portion of the moon by sunlight reflected off of Earth. Even though its night time on this portion of the moon, we can faintly see it because Earth is large and bright in the lunar sky.

The moon passes next to Mars on the evening of the 25th. Look in the low southwest after dark for the brightest star to the moon's left. Mars will have a decidedly yellowish tint.

The Solitary One gets some company a second time this month on the 29th. Fomalhaut is the brightest star beneath the moon that night. At 25 light years away, Fomalhaut is close to our solar system. It's much younger than the sun however; Fomalhaut is still in the process of forming planets. In fact, it is one of the closest known solar systems. We call Fomalhaut the Solitary One because of its location in the sky contains only faint stars.

Dark Skies and Bright Stars,
Your Interstellar Guide

This Month's Sources

Astronomical Events for 2014, http://www.universetoday.com/107259/101-astronomical-events-for-2014/
Night Sky Explorer
Orion Nebula, http://en.wikipedia.org/wiki/Orion_Nebula
Procyon, http://en.wikipedia.org/wiki/Procyon
Sky Watch 2014, Sky Publishing Media
Space Calendar, http://www.jpl.nasa.gov/calendar/
Spica, en.m.wikipedia.com/Spica

Centennial Observatory & Faulkner Planetarium Schedule

Event	Place	Date	Time	Admission
Monthly Free Star Party	Centennial Observatory	Saturday, November 8th, 2014	6:30 PM to midnight	FREE
Telescope Tuesday	Centennial Observatory	Tuesday, November 11th, 2014	CANCELLED (Veterans' Day holiday)	
Bimonthly Astronomy Talk: "Supernovae: When Stars Go Out With a Bang"	Faulkner Planetarium	Thursday, November 20th, 2014	6:30 to 7:30 PM	Adults: $2.50 adults Students (incl. CSI): $1.50 (Children 6 & under free)
Astronomy Talk Night Telescope Viewing	Centennial Observatory	Thursday, November 20th, 2014	7:30 to 9:30 PM	$1.50 (Children 6 & under free) Free to all with paid astronomy talk admission
Telescope Tuesday	Centennial Observatory	Tuesday, November 25th, 2014	6:15 to 9:00 PM	$1.50 (Children 6 & under free) Free to all with paid planetarium admission

Faulkner Planetarium Show Schedule November 3rd – November 25th					
SHOWS					
	Dynamic Earth: Exploring Earth's Climate Engine (Dyn Earth)ĩ				
	Flight of the Butterflies (Butterflies)				
	One World, One Sky: Big Bird's Adventure (Sesame Street)				
	Pink Floyd: Dark Side of the Moon (PF Dark Side)				
	Sea Monsters: A Prehistoric Adventure (S Monsters)				
	Two Small Pieces of Glass: The Amazing Telescope (TSPOG)ĩ				
Tuesday					
				7:00	8:00
				(Dyn Earth)ĩ	(Butterflies)
Friday					
				7:00	8:00
				(Butterflies)	(PF Dark Side)
Saturday					
1:30	2:30	3:30	4:30	7:00	8:00
(TSPOG)ĩ	(Dyn Earth)ĩ	(Sesame Street)	(Butterflies)	(Dyn Earth)ĩ	(S Monsters)

Faulkner Planetarium Show Schedule Thanksgiving Weekend 2014					
SHOWS					
	Let It Snow! (SNOW)				
	The Longest Night: A Winter's Tale (NIGHT)«				
	The Star of Bethlehem (STAR)«				
Friday, Nov. 28th					
1:30	2:30	3:30	4:30	7:00	8:00
(NIGHT)«	(STAR)«	(SNOW)	(NIGHT)«	(STAR)«	(SNOW)
Saturday, Nov. 29th					
1:30	2:30	3:30	4:30	7:00	8:00
(NIGHT)«	(STAR)«	(SNOW)	(NIGHT)«	(STAR)«	(SNOW)

"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 circa 1980.

Looking Through the Eyepiece

Two stars with exoplanetary systems, Upsilon Andromedae (magnitude 4.1) and 51 Andromedae (magnitude 5.5), can be seen this month without optical aid.

The famous eclipsing variable star Algol (Beta Persei) is at a minimum, decreasing in magnitude from 2.1 to 3.4, on November 3rd, 5th, 8th, 11th, 14th, 17th, 20th, 23rd, 26th, and 28th. Consult http://www.skyandtel...watching-tools/ and page 51 of the November issue of *Sky & Telescope* for the eclipse times. For more on Algol, see http://stars.astro.i.../sow/Algol.html and http://www.solstatio...ars2/algol3.htm

Seventy binary and multiple stars for November: Otto Struve 514, Alpha Andromedae (Alpheratz), Struve 3, h1947, Struve 19, Struve 24, 26 Andromedae, Struve 40, Pi Andromedae, Delta Andromedae, Struve 47, Eta Andromedae, Struve 79, Beta Andromedae (Mirach), Struve 108, Struve 179, South 404 (Andromeda); 1 Arietis, Struve 178, Gamma Arietis, Lambda Arietis (Mesarthim) (Aries); Struve 3053, Struve 3057, Struve 16, Struve 30, Otto Struve 16, Alpha Cassiopeiae (Schedar), Struve 59, Eta Cassiopeiae, Burnham 1, Struve 70, Otto Struve 23, h1088, Struve 163, Struve 170, Struve 182 (Cassiopeia); 34 Piscium, Struve 8, 35 Piscium, Struve 15, 38 Piscium, 42 Piscium, 49 Piscium, 51 Piscium, 55 Piscium, 65 Piscium, Psi Piscium, Otto Struve 22, Struve 98, Otto Struve 26, Phi Piscium, Zeta Piscium, h636, Otto Struve 30, Struve 122, Struve 132, Otto Struve 31, 100 Piscium, Struve 145, 107 Piscium, h644 (Pisces); h5440, Kappa-1 Sculptoris, h1949, h3442, h3379, Tau Sculptoris, Epsilon Sculptoris (Sculptor); Struve 143, Struve 183 (Triangulum)

Notable carbon star for November: Z Piscium

Seventy deep-sky objects for November: M31, M32, M110, NGC 252, NGC 404, NGC 752 (Andromeda); NGC 680, NGC 691, NGC 697, NGC 772 (Aries); Cr 463, IC 1747, K14, M103, NGC 129, NGC 133, NGC 146, NGC 185, NGC 225, NGC 281, NGC 278, NGC 381, NGC 436, NGC 457, NGC 559, NGC 637, NGC 654, NGC 659, NGC 663, Tr 1 (Cassiopeia); NGC 40, NGC 188 (Cepheus); NGC 151, NGC 175, NGC 178, NGC 210, NGC 227, NGC 245, NGC 246, NGC 247, NGC 274, NGC 337, NGC 578, NGC 584, NGC 596, NGC 615, NGC 636, NGC 681, NGC 720, NGC 779 (Cetus); NGC 7814 (Pegasus); M76, St 4 (Perseus); M74, NGC 128, NGC 194, NGC 488, NGC 524 (Pisces); NGC 24, NGC 55, NGC 134, NGC 150, NGC 253, NGC 254, NGC 288, NGC 289, NGC 439, NGC 613 (Sculptor); M33, NGC 672 (Triangulum)

Top ten binocular deep-sky objects for November: M31, M33, M103, NGC 225, NGC 288, NGC 253, NGC 457, NGC 654, NGC 663, NGC 752

Top ten deep-sky objects for November: M31, M32, M33, M76, M103, M110, NGC 40, NGC 253, NGC 457, NGC 752

Challenge deep-sky object for November: IC 59 and 63 (Ghost of Cassiopeia)

The objects listed above are located between 0:00 and 2:00 hours of right ascension.

IC 59 and 63 (Ghost of Cassiopeia Image Credit **Ken Crawford** (Rancho Del Sol Obs.).

As night falls on winter evenings, the unmistakable W of Cassiopeia suspends itself high in the north, marking a section of the sky rich in open star clusters.

One of these clusters is **NGC 457**, the Owl Cluster, or Caldwell 13 a bright object located in the rich star fields of the Cassiopeia Milky Way, about four degrees southwest of Gamma Cassiopeia.

In the eyepiece NGC 457 appears as a scattered group of stellar points some 10' in diameter, consisting of about 100 stars brighter than 13th magnitude. One bright foreground star, Phi Cassiopeia, is in the middle of NGC 457 but is not a member of the cluster. A 2.4-inch telescope resolves about two dozen stars, while a 6-inch reveals almost all the stars of the cluster.

Besides its official name, NGC 457 has another one: "The ET Cluster". To find out why, you will have to use your imagination a little. Take a close look at the NGC 457, can you see ET? Two bright stars form ET's eyes, scattered rows of faint stars make up the arms, and the rest of the cluster forms a body.

Open cluster NGC 457. Image Credit: Ken and Emilie Siarkiewicz/Adam Block/ NOAO/AURA/NSF

About the Magic Valley Astronomical Society

Magic Valley Astronomical Society
P.O. Box 445
Kimberly, ID, USA 83341
www.mvastro.org

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 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; public star parties and events open to anyone interested in astronomy, and 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. Donations enable us to continue and 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.
Speakers, public star parties, classes and support for astronomy in schoolrooms, and outreach programs just to name a few of the programs that your membership dues support.
Annual Membership dues will be:
$20.00 for individuals, families,
$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.
M-51 (On this page) was imaged with the Shotwell Camera and the Herrett Telescope at the Centennial Observatory by club members Rick Widmer & Ken Thomason. Unless otherwise stated all photos appear in the public domain and are courtesy of NASA.

Membership Benefits:

Sky and Telescope group rates. Subscriptions to this excellent periodical are available at a reduced price of $32.95.
Astronomy Magazine group rates. Subscriptions to this excellent periodical are available at a reduced price of $34.00
Receive 10% discounts on other selected Astronomy Publications.
For periodical info. and subscriptions Contact Jim Tubbs, Treasurer
Lending Telescopes: The society currently has three telescopes for loan and would gladly accept others. Contact President Robert Mayer, for more information.