nightwatch
Newsletter of the Pomona Valley Amateur Astronomers

Astronomy, as nothing else can do, teaches men humility.
Arthur C. Clarke

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Volume 46 Number 02 ***nightwatch*** **February 2026**

President's Message - February 2026

The big event this month is the launch of the Artemis II mission, the first manned mission to the vicinity of the Moon since the Apollo 17 mission which was launched more than 53 years ago on December 7, 1972. The first launch window for Artemis II opens on February 6. Onboard the Orion spacecraft will be three NASA astronauts – commander Reid Wiseman, pilot Victor Glover, and mission specialist Christina Koch – and one Canadian Space Agency astronaut, mission specialist Jeremy Hansen. They will be launched from Launch Complex 39B at the Kennedy Space Center by the Space Launch System vehicle which uses modified Solid Rocket Boosters and RS-25 engines from the Space Shuttle along with a new Core Stage. This mission consists of a high Earth orbit followed by a Translunar Injection to put the Orion spacecraft on a lunar free return trajectory so that it flies by the Moon, loops around it and returns to Earth about 10 days later. This mission marks not only the return of people to the Moon's vicinity but also the preparation for the start of a permanent presence of humanity on the Moon – a new era for mankind.

February 7 marks the 57th anniversary of the first meeting of a group of friends from El Roble Junior High School who met in their homes because they had an interest in astronomy. This eventually led to the creation of the Pomona Valley Amateur Astronomers. The founding members consisted of Brad Basler, David Coleman, Tony Cook, Ed Hartuni, Mark Moran, Peter Orland and Jeff Schroeder. Today, Jeff Schroeder is still a PVAA member and has the position of PVAA outreach coordinator.

This year we have many opportunities for the PVAA members to actively help the PVAA. First, we still have a need for an assistant for our treasurer, Gary Thompson. We need a volunteer who is computer-savvy to assist Gary in setting up the computer at the start of the meetings to enable members to attend virtually via the Zoom application. Gary has created a detailed step-by-step set of instructions for the set-up so that anyone familiar with computers will be able to do this. If you are interested in this, please contact Gary at (909) 935-5509. In addition, we will have nominations for board member candidates at the PVAA board meeting next month on March 25. Currently, there is a vacancy for one of the Board-member-at-large positions and the terms of two others, Claire Stover and Jim Bridgewater, end this year. In addition, the position of PVAA secretary is currently vacant. If you are interested in any of these positions, you can contact me at (626) 541-8679 or our vice president, Ron Hoekwater at (909) 445-9282.

Ken Elchert

PVAA Officers and Board

Officers

President ….....	Ken Elchert	thespaceshuttle@aol,com
Vice President ..	Open position	
Secretary(acting)	Ken Elchert	626-541-8679
Treasurer	Gary Thompson	909-935-5509

Board

Jim Bridgewater (2026).....	909-599-7123
Claire Stover(2026)	pvaanightwatch@gmail.com
Ron Hoekwater (2027).....	909-445-9282
Howard Maculsay (2027)……	909-913-1195

Club Events Calendar

Jan 30	General Meeting Claire Stover & David Thomas - "Aurora Borealis and How to See Them "7:30 PM
Feb 1	Full Moon
Feb 17	New Moon
Feb 18	Board Meeting IHOP 6:00 PM
Feb 21	Star Party – GMARS
Feb 27	General Meeting 7:30 PM
Mar 3	Full Moon
Mar 18	New Moon
Mar 21	Star Party – GMARS
Mar 25	Board Meeting IHOP 6:00 PM
April 1	Full Moon
April 3	General Meeting 7:30 PM
April 17	New Moon
April 18	Star Party – GMARS
April 22	Board Meeting IHOP 6:00 PM
May 1	General Meeting 7:30 PM
May 16	Star Party – GMARS
May 16	New Moon
May 20	Board Meeting IHOP 6:00 PM
May 29	General Meeting 7:30 PM
May 31	Full Moon
June 13	Star Party – GMARS
June 14	New Moon
June 17	Board Meeting IHOP 6:00 PM
June 26	General Meeting 7:30 PM
June 29	Full Moon

Upcoming Celestial Events
February 2026

events visible in southern California highlighted in yellow

In the U.S., Daylight Savings Time is in effect from the first Sunday in April to the last Sunday in October.

PST = UTC – 8 hrs
PST = PDT – 1 hr
PDT = UTC – 7 hrs
PDT = PST + 1 hr

Date	Day	LA Time	Event	Direction	Altitude (deg)	Moon Phase/ Illumination
Feb 1	Sun	12:11 pm Visible all night	Full Moon "Snow Moon"	------	------	Full Moon 100%
Feb 2	Mon	6:45 pm – 7:30 pm	Moon-Regulus appulse	ENE – E	5 - 10	Waning Gibbous 98%
Feb 6-7	Fri-Sat	11:00 pm – 5:30 am	Moon-Spica conjuntion sep = 1.75°	ESE - SSW	4 - 40	Waning Gibbous 71%
Feb 10	Tue	6:00 pm – 8:00 pm	Saturn-Neptune conjunction	WSW - W	30 - 5	Waning Gibbous 36%
Feb 11	Wed	3:15 am – 3:45 am	Moon-Antares conjunction sep = 3.75°	SE	10 - 14	Waning Crescent 31.5%
Feb 18	Wed	6:00 pm – 6:38 pm	Moon-Mercury appulse sep = 0.25°	WSW	12.5 - 5	Waxing Crescent 2.3%
Feb 19	Thu	6:00 pm – 6:38 pm	Mercury at greatest eastern elongation elong = 18.1°	W	13 - 5	Waxing Crescent 7.5%
Feb 23	Mon	6:15 pm – 10:00 am	Moon-Pleiades conjunction	SW - W	75 – 30	Waxing Crescent 46%
Feb 26-27	Thu-Fri	6:30 pm – 3:00 am	Moon-Jupiter-Castor-Pollux grouping*	ESE - WNW	65 - 7	Waxing Gibbous 80%

Lunation No. 1276

Lunation No. 1277

*bracketed by Procyon and Capella

Back in the Saddle with the Unicorn

As I write this, my wrist is mostly healed although there is still some discomfort depending on what I am doing. Thank you to all that wished me a speedy recovery. We planned to be away during new moon in December, but I managed a night to collect a little data on the first image between the storms on December 28, about one week after new moon and a week before full moon. Unfortunately, I only got one night of data before the weather turned. But, I did manage to go to the dark site from January 15th to the 18th. The forecast early on was for good weather all weekend, but once the date got closer, Friday and Saturday nights were not looking very good. Thursday night was really clear, so I would have at least one good night. It turned out that the forecast clouds were high, thin, and somewhat sparse, so I was able to include quite a few good shots between the clouds.

TARGETS

The December 28 image, taken from home, is of the emission nebula SH2-242, located in Taurus. While there are several estimates of the distance, it appears that the nebula lies about 8,800 light years away and is lit by the B-type star seen within the emission zone. In spite of the brightness in the image, the nebula has a very low surface brightness, making it a difficult target, especially from light-polluted skies. To compensate, I used the H-alpha frames as the red channel.

For the dark site, I had a list of about 6-7 targets from which to choose. Based on testing at home, I settled on the dusty region around IC 447 in the constellation Monoceros, the Unicorn. Even though it sets early this time of year, around 4:00 it would be behind some trees and hills, I thought the contrast between the blue and red nebulae was worth sacrificing a couple of hours of imaging time.

IC 447 is the large, blue reflection nebula just below the center of the photo and is also known as Dreyer's Nebula. It is lit by reflected light from several bright blue, B-type stars. The dust becomes darker moving up from IC 447 and is relit by stars in the smaller reflection nebula IC 446. Both reflection nebulae are about 2,500 light years away from Earth. The dust cloud then seems to continue looping downward and left (east) from IC 446 where it appears to be lit again by bright, B-type stars. The upper of the two nebulae is NGC 2247 and the lower is NGC 2245. Further north from them, the dust cloud becomes the very dense, dark nebula Barnard 38 that blocks most of the stars behind it, while the entire dust cloud appears to be named Barnard 37. Finally, the large red nebula is part of a very large emission nebula that includes the Cone Nebula out of frame to the east.

IMAGING AND PROCESSING

SH2-242 was imaged through the 8" RC scope operating at f/8.06 with the ZWO ASI294MM Pro camera binned 2x2 riding on the Paramount MYT mount. Astrodon filters were used and the set-up was guided using a StarlightXpress Super-slim off-axis guider and ZWO ASI174MM guide camera.

PixInsight's *WBPP* was used to stack 30 5-minute H-alpha, 15 3-minute green, and 15 3-minute blue frames with 15 dark, flat, and dark-flat calibration frames. The total integration time was only 4 hours and while I had hoped to get more, the season has now passed. I may try for more data next year. Initial stacking with RGB yielded a weak red channel, so I substituted the H-alpha stack for the red stack to produce an HaGB image. Prior to combining the gray images into a color frame, *BlurXterminator* was used in "correct only" mode to ensure the stars were round. The color image was then processed with *SpectrophotometricFluxCalibration* and *MultiscaleGradientCorrection* to remove the light pollution gradient that I always get from home. Next the image was color corrected using *SPCC* and the stars were separated from the background with *StarXterminator*. The stars had a simple screen stretch applied while the starless image was stretched with the *GeneralizedHyperbolicStetch* process after noise reduction with *NoiseXterminator*. Stretching of the starless image was done carefully to enhance the fainter red emissions without blowing out the main nebula. *Curves* and *Histogram* processes were then used to enhance the contrast. The stars were added back using the *ImageBlend* script.

The IC 447 image represents first light through my new StellarVue SVX90T that was delivered just after my wrist incident in October. Don't confuse this scope with my older StellarVue SVR90T, that I gave to a friend. The image is technically second light, since I did test the same target from home over three nights prior to going to the dark site. The scope was mounted on a Paramount MYT mount and guided with an Orion miniguider with a ZWO ASI 174MM mini guide camera. The main imaging camera was a ZWO ASI294MM Pro and Astrodon LRGB filters were used to create the color image. A StellarVue SFFX1 field flattener was used to flatten the field which was shot at native focal length. Plate solving shows the focal length to be 560mm compared to the nominal 540mm specification, resulting in the scope operating at f/6.22.

A total of 22 hours, 4 minutes of images were stacked consisting of 128 3-minute luminance, 64 5-minute red, 61 5-minute green, and 63 5-minute blue frames. The frames were calibrated with 15 dark, 15 flat, and 15 flat-dark frames. Stacking was done in PixInsight using the *WBPP* script and drizzled 2x to help bring out small details. The raw stacked frames first had the *BlurX* process

applied in "correct only" mode. No gradient was seen so gradient removal was not used. The luminance stack had the stars removed using *StarX* and the stars frame was discarded. *NoiseX* was used to reduce the noise before using *GHS* to stretch the starless luminance stack. Then the *DarkStructureEnhance* script was used to increase contrast of the dark regions and the starless luminance stack was set aside for later.

The red, green, and blue stacks were combined into the RGB image which also did not seem to have any gradients. The stars and nebulosity were modestly sharpened using *BlurX* before being color corrected with *SPCC*. The stars and background were separated using *StarX* and the stars image had a simple screen stretch applied. The starless background was treated with *NoiseX* and then repeatedly stretched with *GHS*, being careful not to blow out the centers of the reflection nebulae. *Curves* adjustments were used to remove a slight green cast in the image, to enhance the blue in the reflection nebulae, and to rebalance the background. The starless luminance and RGB stacks were combined with *ImageBlend* at this point to produce the starless LRGB image. Some noise reduction using *NoiseX* was done, followed again by *Curves* adjustments to enhance the blue regions. *ImageBlend* was used to screen the RGB stars into the starless LRGB image followed by final *Curves* adjustments for contrast. Finally, the 2x drizzled result was downsampled to the original pixel scale.

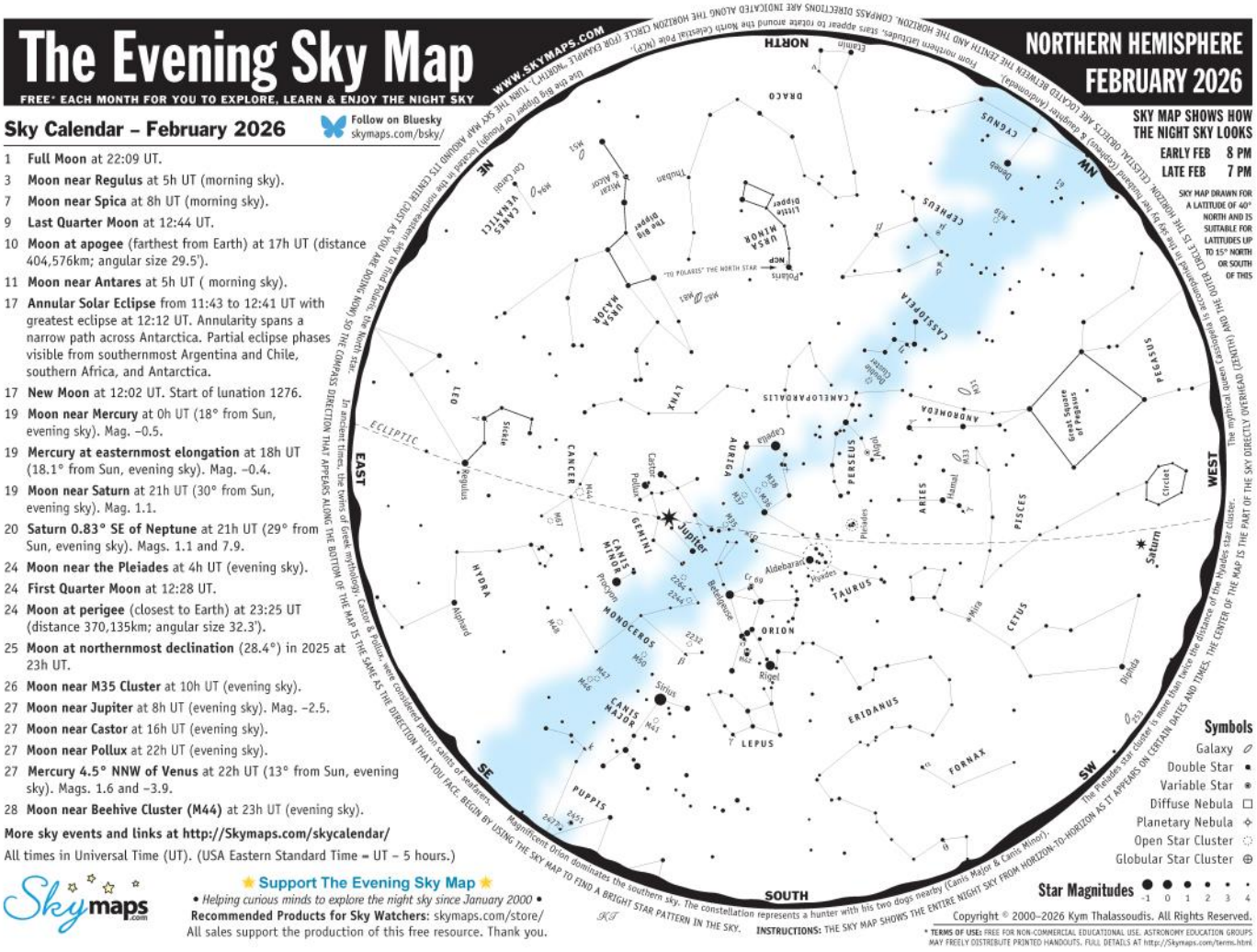
Hopefully you enjoy these images.

We're heading into rainy season here but I'm hopeful that February will be clear and we can get out under the dark skies again.

Wishing you all clear and dark skies,

Ron Ugolick

https://www.astrobin.com/users/ruccdu/



ISS Crew Return 01/15/26
Marissa Elchert.

About the Celestial Objects

Listed on this page are several of the brighter, more interesting celestial objects visible in the evening sky this month (refer to the monthly sky map). The objects are grouped into three categories. Those that can be easily seen with the naked eye (that is, without optical aid), those easily seen with binoculars, and those requiring a telescope to be appreciated. **Note, all of the objects (except single stars) will appear more impressive when viewed through a telescope or very large binoculars.** They are grouped in this way to highlight objects that can be seen using the optical equipment that may be available to the star gazer.

Tips for Observing the Night Sky

When observing the night sky, and in particular deep-sky objects such as star clusters, nebulae, and galaxies, it's always best to observe from a dark location. Avoid direct light from street lights and other sources. If possible observe from a dark location away from the light pollution that surrounds many of today's large cities.

You will see more stars after your eyes adapt to the darkness—usually about 10 to 20 minutes after you go outside. Also, if you need to use a torch to view the sky map, cover the light bulb with red cellophane. This will preserve your dark vision.

Finally, even though the Moon is one of the most stunning objects to view through a telescope, its light is so bright that it brightens the sky and makes many of the fainter objects very difficult to see. So try to observe the evening sky on moonless nights around either New Moon or Last Quarter.

Astronomical Glossary

Conjunction – An alignment of two celestial bodies such that they present the least angular separation as viewed from Earth.

Constellation – A defined area of the sky containing a star pattern.

Diffuse Nebula – A cloud of gas illuminated by nearby stars.

Double Star – Two stars that appear close to each other in the sky; either linked by gravity so that they orbit each other (binary star) or lying at different distances from Earth (optical double). Apparent separation of stars is given in seconds of arc (").

Ecliptic – The path of the Sun's center on the celestial sphere as seen from Earth.

Elongation – The angular separation of two celestial bodies. For Mercury and Venus the greatest elongation occurs when they are at their most angular distance from the Sun as viewed from Earth.

Galaxy – A mass of up to several billion stars held together by gravity.

Globular Star Cluster – A ball-shaped group of several thousand old stars.

Light Year (ly) – The distance a beam of light travels at 300,000 km/sec in one year.

Magnitude – The brightness of a celestial object as it appears in the sky.

Open Star Cluster – A group of tens or hundreds of relatively young stars.

Opposition – When a celestial body is opposite the Sun in the sky.

Planetary Nebula – The remnants of a shell of gas blown off by a star.

Universal Time (UT) – A time system used by astronomers. Also known as Greenwich Mean Time. USA Eastern Standard Time (for example, New York) is 5 hours behind UT.

Variable Star – A star that changes brightness over a period of time.

CELESTIAL OBJECTS NORTHERN HEMISPHERE FEBRUARY 2026

Skymaps.com

Easily Seen with the Naked Eye

Capella	Aur	●	The 6th brightest star. Appears yellowish in color. Spectroscopic binary. Dist=42 ly.
Sirius	CMa	●	The brightest star in the sky. Also known as the "Dog Star". Dist=8.6 ly.
Procyon	CMi	●	Greek name meaning "before the dog" - rises before Sirius (northern latitudes). Dist=11.4 ly.
δ Cephei	Cep	◈	Cepheid prototype. Mag varies between 3.5 & 4.4 over 5.366 days. Mag 6 companion.
Deneb	Cyg	●	Brightest star in Cygnus. One of the greatest known supergiants. Dist=3,000 ly.
Castor	Gem	●	Multiple star system with 6 components. 3 stars visible in telescope. Dist=52 ly.
Pollux	Gem	●	With Castor, the twin sons of Leda in classical mythology. Dist=34 ly.
Regulus	Leo	●	Brightest star in Leo. A blue-white star with at least 1 companion. Dist=77 ly.
Rigel	Ori	●	The brightest star in Orion. Blue supergiant star with mag 7 companion. Dist=770 ly.
Betelgeuse	Ori	●	One of the largest red supergiant stars known. Diameter=300 times that of Sun. Dist=430 ly.
Algol	Per	◈	Famous eclipsing binary star. Magnitude varies between 2.1 & 3.4 over 2.867 days.
Pleiades	Tau	☆	The Seven Sisters. Spectacular cluster. Many more stars visible in binoculars. Dist=380 ly.
Hyades	Tau	☆	Large V-shaped star cluster. Binoculars reveal many more stars. Dist=152 ly.
Aldebaran	Tau	●	Brightest star in Taurus. It is not associated with the Hyades star cluster. Dist=65 ly.
Polaris	UMi	●	The North Pole Star. A telescope reveals an unrelated mag 8 companion star. Dist=433 ly.

Easily Seen with Binoculars

M31	And	⌀	The Andromeda Galaxy. Most distant object visible to naked eye. Dist=2.5 million ly.
M38	Aur	☆	Stars appear arranged in "pi" or cross shape. Dist=4,300 ly.
M36	Aur	☆	About half size of M38. Located in rich Milky Way star field. Dist=4,100 ly.
M37	Aur	☆	Very fine star cluster. Discovered by Messier in 1764. Dist=4,400 ly.
M44	Cnc	☆	Praesepe or Beehive Cluster. Visible to the naked eye. Dist=590±20 ly.
M41	CMa	☆	First recorded observation by Aristotle in 325 BC as "cloudy spot". Dist=2,300 ly.
μ Cephei	Cep	◈	Herschel's Garnet Star. One of the reddest stars. Mag 3.4 to 5.1 over 730 days.
Mira	Cet	◈	Famous long period variable star. Mag varies between 3.0 & 10.1 over 332 days.
M39	Cyg	○	May be visible to the naked eye under good conditions. Dist=900 ly.
M35	Gem	☆	Fine open cluster located near foot of the twin Castor. Dist=2,800 ly.
M48	Hya	☆	12+ stars in 7x binoculars. Triangular asterism near centre. Dist=1,990 ly.
γ Leporis	Lep	●	Visible with binoculars. Gold & white stars. Mags 3.6 & 6.2. Dist=30 ly. Sep=96.3".
2232	Mon	☆	A large scattered star cluster of 20 stars. Dist=1,300 ly.
2244	Mon	☆	Surrounded by the rather faint Rosette Nebula. Dist=5,540 ly.
M50	Mon	☆	Visible with binoculars. Telescope reveals individual stars. Dist=3,000 ly.
Cr 69	Ori	☆	Lambda Orionis Cluster. Dist=1,630 ly.
M42	Ori	□	The Great Orion Nebula. Spectacular bright nebula. Best in telescope. Dist=1,300 light years.
Double Cluster	Per	☆	Double Cluster in Perseus. NGC 869 & 884. Excellent in binoculars. Dist=7,300 ly.
M47	Pup	☆	Bright star cluster. 15+ stars in 7x binoculars. Dist=1,500 ly.
M46	Pup	☆	Dist=5,400 ly. Contains planetary NGC 2438 (Mag 11, d=65") - not associated.
Mizar & Alcor	UMa	●	Good eyesight or binoculars reveals 2 stars. Not a binary. Mizar has a mag 4 companion.

Telescopic Objects

γ Andromedae	And	●	Attractive double star. Bright orange star with mag 5 blue companion. Sep=9.8".
γ Arietis	Ari	●	Impressive looking double blue-white star. Visible in a small telescope. Sep=7.8".
M67	Cnc	☆	Contains 500+ stars mag 10 & fainter. One of the oldest clusters. Dist=2,350 ly.
M94	CVn	⌀	Compact nearly face-on spiral galaxy. Dist=15 million ly.
M51	CVn	⌀	Whirlpool Galaxy. First recognised to have spiral structure. Dist=25 million ly.
η Cassiopeiae	Cas	●	Yellow star mag 3.4 & orange star mag 7.5. Dist=19 ly. Orbit=480 years. Sep=12".
61 Cygni	Cyg	●	Attractive double star. Mags 5.2 & 6.1 orange dwarfs. Dist=11.4 ly. Sep=28.4".
θ Eridani	Eri	●	Striking blue-white double star. Mags 3.2 & 4.3. Visible in a small telescope. Sep=8.2".
γ Leonis	Leo	●	Superb pair of golden-yellow giant stars. Mags 2.2 & 3.5. Orbit=600 years. Sep=4.4".
β Monocerotis	Mon	●	Triple star. Mags 4.6, 5.0 & 5.4. Requires telescope to view arc-shape. Sep=7.3".
2264	Mon	☆	Christmas Tree Cluster. Associated with the Cone Nebula. Dist=2,450 ly.
σ Orionis	Ori	●	Superb multiple star. 2 mag 7 stars one side, mag 9 star on other. Struve 761 triple in field.
k Puppis	Pup	●	Telescope easily shows two blue-white stars of almost equal brightness. Sep=9.9".
M1	Tau	□	Crab Nebula. Remnant from supernova which was visible in 1054. Dist=6,500 ly.
M33	Tri	⌀	Fine face-on spiral galaxy. Requires a large aperture telescope. Dist=2.3 million ly.
M81	UMa	⌀	Beautiful spiral galaxy visible with binoculars. Easy to see in a telescope.
M82	UMa	⌀	Close to M81 but much fainter and smaller.