



Events:

General Meeting : Monday, June 1, 2015 at the Temecula Library, 30600 Pauba Rd, Rm. B at 7 pm.

Tim Deardorff with his What's Up in the night sky and Professor Robert Gill presents "To Observe and Monitor the Peculiarities of Be Stars". Prof Gill is an adjunct professor in the Physics Department at CSU San Marcos and teaches astronomy.

For the latest on Star Parties, check the [web page](#).



[NASA APOD 2004 Jun 17](#) : Comet NEAT and the Beehive Cluster. Credit & Copyright: [Jimmy Westlake](#) ([Colorado Mountain College](#))

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Send newsletter submissions to Mark DiVecchio (markd@silogic.com) by the 20th of the month for the next month's issue.

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General information:

Subscription to the TVA is included in the annual \$25 membership (regular members) donation (\$9 student; \$35 family).

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Cosmic Comments – June/2015

by President Mark Baker

I know it's a bit early, but I thought we should prepare ourselves for the onslaught of inquiry involving the Full Moons of July 2015. On July 31st, we will experience a second Full Moon and, as most of you are aware, such events have become erroneously known as a "Blue Moon".

Now it is true that the Moon can take on a bluish hue at times due to certain atmospheric conditions, but this has nothing to do with the origins of the term. And yes, in my younger days I was quick to disdainfully correct any who misused the phrase... now I just smile and politely try to interject the background behind the phrase. I say try because there are always those that scoff at facts, just because...

I'm sure we all know the word Month is based on the word Moon and its lunar cycle... so much so that there was only supposed to be one Full Moon per month. In prior cultures, if a Full Moon appeared again in a month, it was deemed too soon and was therefore a betrayer of the cycle, or a "BELEWE" moon...and that is the true derivation of the phrase. Of course, "belewe" sounds almost exactly like "blue" and therein is the rationale behind the common usage today... but wrong is wrong, isn't it??

So the next time you run across someone espousing the thrill of a Blue Moon, just smile and politely attempt to steer them straight... who knows, you might just get to teach someone something!!!!

Clear, Dark Skies my Friends...





Looking Up – June 2015

by Curtis Croulet

Full Moon is June 2 at 9:19 am; **Last Quarter Moon** is June 9 at 8:42 am; **New Moon** is June 16 at 7:05 am; and **First Quarter Moon** is June 24 at 3:04 am.

Mercury reaches inferior conjunction (between Earth and the Sun) on May 30. It'll be low in the morning sky late in June.

Venus reaches greatest elongation (angular distance from the Sun) on June 6. **Venus** and **Jupiter** draw very close together by the end of June.

Mars reaches conjunction with the Sun on June 14. It's not visible in June.

Saturn reached opposition on May 23. On June 1 it rises shortly before 7 pm. By June 30 the ringed planet rises as early as 5 pm.

Uranus and **Neptune** are still predawn objects. They are in Pisces and Aquarius respectively. **Pluto** rises late in the evening. The dwarf planet reaches opposition on June 6. It's in Sagittarius. You'll need a good sky chart and a big scope to see this 15th magnitude dot. As I point out every month, seeing Pluto is only half the battle. You have to identify it amongst a multitude of similar stars.

If you want a real meteor-observing challenge, then there are a couple of rarely-seen showers that may appear in June: the **June Lyrids** (June 16-21) and the **June Boötids** (June 22-July 2). The first was last seen in 1996, and the second was last seen in 2004.

Let's look up.

I'm going to make things easy for myself this month by sharing three recent images, all of them shot from Anza Gap Observatory with my TEC 140 refractor (140mm aperture, f/7) and QSI 683 CCD camera.



The first shot is of the galaxy M81. M81 is already past the meridian when darkness falls in June. When I think of taking images of it, I usually go to work in January. The frames I used for this image were shot in February and March 2015. M81 is in northern Ursa Major. It's about 12 million light years away. M81 is possibly the most beautiful of all of the bright galaxies. The graceful curve of its two main arms makes it a favorite for viewing by amateur astronomers. You can easily see it in binoculars *in a dark sky*. At about 7th magnitude, a few people have claimed to see it with the naked eye. That would require a supremely dark sky. I've seen the spiral arms in 10-inch and 12.5-inch telescopes, but they are faint.



M81



M82

Galaxy M82 is only $\frac{1}{2}$ degree straight north of M81. You might be able to see both in the same low-power view. M82 is sometimes called the “Cigar Galaxy.” M82 is a nearly edge-on spiral galaxy. Its spiral nature was only discovered in 2005. From our perspective, the arms are invisible. M82 is also striking for the “starburst” occurring in its core. Old astronomy books describe M82 as “exploding.” Stars in even the densest galaxies are many light years apart, and the dust and hydrogen gas are extremely tenuous. Galaxies don’t “explode,” but they can certainly develop intense star-forming regions, as shown in M82. M82 is a favorite of visual observers, because it’s one of the few galaxies with visible detail. The dust lane just left of the nucleus (as shown in the image) appears as a dark zigzag when viewed in an 8-inch or larger telescope.



M101

Finally, I'm including M101, which is a prime evening object as June begins. M101 is a nearly face-on "grand design" spiral galaxy. M101 is straight east of Mizar, the stars at the bend in the Big Dipper's handle, and north-northeast of Alkaid, the star at the tip of the handle. An imaginary right-angle triangle would have M101 at the 90-degree point and Alkaid and Mizar marking the other points of the triangle. At magnitude 7.5, M101 is one of the brightest galaxies, but its surface brightness is quite low. It can be surprisingly difficult to find in any but the darkest skies. Although it's visible in binoculars, it's easy to miss in even a large telescope. M101 is about 21 million light years away.

Clear skies.





Art's Night Out Reloaded

Article 30 June 2004

June is upon us already.

It has been great to see pictures of the comet NEAT. With all of the possible potential of this comet, it seems as though the hopes are coming true. I was able to observe the comet from my front yard before I left for vacation. I could see it well with my binoculars, and better with the 4" refractor. During the week of May 9th thru the 16th, I was in Maui, Hawaii. From that latitude, the comet was a few degrees higher in the sky. The view I had was great. All I had was a pair of small field binoculars with me, but the view was nice. I could see a slight tail extending from the fuzzy ball of light. It sounds like the views of the comet were spectacular from Lake Skinner.

Once I returned home, I tried my luck again. Once again, the view of NEAT was awesome with my 4" refractor at about 35x.

While I was in Maui, being at a lower latitude than So. California, I wanted to see if I could find the globular cluster NGC5139 Omega Centaurus. While at Terry's in Anza last year, Gordon Dayton pointed out Omega Centaurus to us. It was only about 10 degrees above the horizon, but was visible through small powered scopes. It wasn't up long, but was huge and quite a sight.

I remembered that in lower latitudes it should be easier to locate. Fortunately, I brought my June issue of Sky & Telescope magazine which showed me the location of Omega Centaurus in the Southern Hemisphere map. After a few star identifications in the constellation Centaurus and a little bit of star hopping, bingo! I found this monster cluster. From my hotel balcony, I had a great exposure of the sky that this cluster was in. However, there was a lot of light pollution that lessened the intensity. I was surprised how well I could see it. It appeared as a large fuzzy ball from this location. I traveled outside of the hotel area to achieve a little darker sky. In this area with my binoculars I could actually start to see stars. This was so inspiring. If you have a chance this summer, try to locate this cluster yourself. Centaurus is located below the constellation Corvus. Corvus is in the S/W portion of the sky, up about 45 degrees in June. Centaurus lies about 20 to 25 degrees below Corvus and to the right of the constellation Lupus.

Consult a star map to locate the necessary stars to hop on over to the Omega Centaurus cluster.

I'll leave that to you.

While the constellation Corvus is still up in the S/W sky, let's find a couple of Messier objects near by. Corvus looks like an unequal sided square. The bottom left star is "Beta-Corvus".



If you look down from Beta about 3 degrees you should be able to find a nice small globular cluster, M68. This is visible from my driveway using my 4" refractor at 35x. Stars are resolved nicely at 95x. The greater the power, the more stars can be seen. Now, find star "Delta-Corvus."

This will be located in the upper left corner of the weird square. If you look east about 12 degrees, you'll see a bright star in the constellation Virgo, Spica. Spica is the brightest star in the southern sky. Find the mid-point between Spica and star Delta-Corvus. Once there, look up or North about 3 degrees. Here you should see a nice spiral galaxy M104, or commonly called the Sombrero Galaxy. I've mentioned this one before. Right now, the view is pretty good. You should be able to see a nice dust lane around the core of the galaxy when viewing in dark skies.

Dark skies with 150 + power can give you a real nice view of the lane and a bright core. If you pan around that area of M104, you'll see one of the asterisms I mentioned last year. It is called the "Stargate" asterism and looks like a galactic space ship. See if you can spot it.

Next, look down from Spica about 15 degrees to locate a bright star in the constellation Hydra. This star is "Gamma-Hydrae". If you look left of Gamma about 12 degrees you'll see the next bright star, Phi. If you look at the mid-point between Gamma and Phi, and down again about 6 degrees, you should see another small fuzzy galaxy disc, M83. This one is not real bright, but visible in fairly dark skies. Lake Skinner would be a prime area for this one. I could see it with my 4" refractor, nicely at about 95 power.

Until next time, Art



The TVA is a member club of [The Astronomical League](#).

