



The High Desert Observer

The Bulletin of The Astronomical Society of Las Cruces

May, 2005

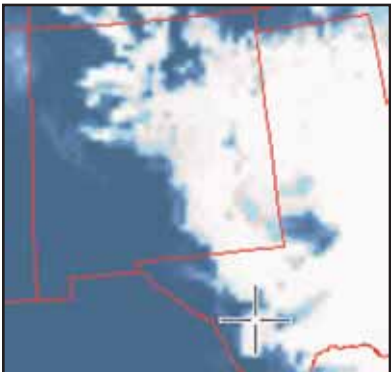
Schmutz, Stars, and Friends

The weak El Niño that provided this year's wet winter was supposed to have subsided by the end of March. However, water temperatures along the eastern Pacific rose substantially during April which caused more moisture than normal to be pumped into the Southwest US. This, coupled with a freakish late-season cold front made for one of the dampest TSPs in memory. Fully half of the observing time was lost to cloudy or stormy skies. Haze and dew compromised many of the 'good' viewing nights.

I hope I'm not making TSP 2005 sound like it was a bad experience. *Au contraire!* TSP 2005 was great! Perhaps the limited viewing time made us appreciate the good viewing time all the more. Perhaps being well-rested (a rarity at most TSPs) improved our moods. Perhaps a cloudy TSP still beats a week at work. Whatever the reason, the seven ASLC members, who attended this year's star party, made the most of it.



Dave emerges from his tent trailer on one of the cold, damp mornings at this year's TSP



Instead of star maps, much of the week was spent looking at weather maps. Monday night's map shows Fort Davis socked in while Las Cruces is clear and dry

Steve Smith got to spend a little time with Rachel and her 'Friends'. Dave got caught up on some image processing. Steve Barkes put our club on the map with his webcam autoguiding lecture. I actually got my first webcam autoguided image. And when the skies were cloudy, we got together to share a laugh, philosophize about world religions or share a story (Altar Boy and porcupine stories abounded).

As the week drew to a close, we packed up our memories and observing pins and our newly acquired dew guns. We'd been through TSP's worst and still had a great time. Can't wait for 2006!!

- Rich Richins

Upcoming ASLC Events

Please see the ASLC website <aslc-nm.org> for more information

- May 14 - MoonGaze (Int'l Delights)
- May 27 - ASLC Board Meeting (6:30 pm)
- May 27 - Monthly Meeting (7:30 pm)
- June 4 - DSO (Upham)
- June 11 - MoonGaze (Int'l Delights)

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ASLC Meeting Highlights

May Meeting: "TSP Recap". Presentation by TSP 2005 Attendees.



This year's ASLC/EPAC attendees - well, almost. Vince wasn't available for this photo opportunity, so I had to improvise just a bit. btw - don't let Jen's garb fool you - It was cold on Monday and Tuesday.

It was a dark and stormy night. Actually, we had several such nights at this year's TSP. Still, the participants made it through numerous observing lists, captured astrophotos and even made off with a few door prizes.

At this month's meeting, Nils, Rich, Ron, Dave, Vince, Dick and the Steves will recount their adventures of the week. There will be photos galore. You can also find out who the big winners were at the Great Texas



This year's TSP attendees were treated to spectacular (albeit somewhat unwelcome) views of the night sky

Giveaway.

We'll also discuss some upcoming event possibilities including: A tour of the observatories at Sunspot; and an archeoastronomy tour near the Three Rivers area

May's Beginner's Corner: Mount Up - A comparison of AltAz vs Equatorial Mounts. Besides good optics a telescope must have a good mounting to perform well overall. There are two basic mount types: Alt-Azimuth and Equatorial (and many variations of each). We will look at both types.

April Meeting: "A Situation of Gravity". Presentation by Bert Stevens.

From Galileo to Newton to Einstein, Bert discussed the history of Gravity as it relates to the various celestial objects. Bert took us momentarily to the moon to reenact a famous experiment confirming one of Galileo's principles - that all objects fall toward a body at the same rate. Bert showed a video clip of Apollo 15 astronaut David Scott dropping a feather and a hammer and both hit the ground at the same time. If you missed the presentation or simply wish to see that clip again, it can be downloaded from: <http://vesuvius.jsc.nasa.gov/er/seh/feather.html>



Bert described the conics of orbits and explained how the eccentricity, 'e', of an orbit defines whether that orbit is circular, elliptical, parabolic or hyperbolic. We learned that the planets and short-term comets and asteroids have elliptical orbits. Long-term comets/asteroids have orbits that are more parabolic. A hyperbolic path hasn't yet been observed, but could only come from an object that originated from outside our solar system. However, orbits aren't as simple as eccentricity. There's a plethora of additional parameters that help define an orbit around a given body (including Inclination, Ascending node, Argument of Pericenter, Mean anomaly, Mean Distance, etcetera...). Bert also pointed out the importance of multiple, reliable observations in determining the orbit of an object.

Unfortunately, technical difficulties prevented the recording of the presentation.

April's Beginner's Corner: GoTo vs non-GoTo...It's NOT a moral dilemma! Nils contrasted the arguments pro & con for choosing & using either of the most popular modern starter-scopes - the latest Go-To scopes versus the ubiquitous 6" Dob.

Educational Update

ASTRO 102

Astrophotography is the next (and final) module in our ASTRO 102 course. Dave Dockery has indicated that he will begin the module in early June. He is currently considering two classes - one on image acquisition (June 4); one on image processing (date tba). The image acquisition session will be held at Upham. Individuals are encouraged to bring their own imaging equipment (telescopes, cameras, etcetera) although some 'loaners' may be available. Guidance will be given to help individuals obtain quality raw images from their equipment. The module will likely run for more than the traditional two hours.

The second session will focus on image processing techniques. Individuals should bring a laptop computer and images they wish to process. Dave is currently evaluating which programs will best suit the image processing module. Individuals who have not already contacted Dave about participating in the class should do so immediately <dave.dockery@comcast.net>.

LEARNING THE NIGHT SKY (ASTRO 103?)

One of the comments we often get from our astronomy classes is that the participants want more 'organized' observing sessions. Well, here's your chance... Joseph Mancilla, one of our club's most knowledgeable observers, has agreed to lead a once-a-month 'clinic' to better familiarize our members with the night sky. The sessions will be at our regular monthly DSO (at Upham) and will run for about an hour each month (after the sky gets good and dark). Joseph will guide you through a star hop through various constellations, so bring your scope and learn the night sky.

Eye Candy

by Steve Barks



This month I was able to add 3 more observing pins to my hat courtesy of the Texas Star Party. The weather wasn't as good as the last two years, but that didn't discourage the diehard observers. There were several good nights for observing, and Saturday night cleared after 1:00AM and turned out to be some of the best observing conditions I have ever experienced. It was the only night my charts weren't dripping with dew.

New this year was a Bright Sky observing list. Using a GoTo scope, the objective was to observe 20 out of 25 planets and bright stars. This is actually a lot of fun, and it's quite different looking at Sirius or Polaris during the day. Give it a try sometime when the days are clear and the nights are cloudy.

I managed the Telescope list using my 8" Eye Candy dob. The first 23 objects were easy over the course of two evenings. I missed NGC 5286, a globular cluster in Centaurus, the first two evenings by letting it set before I started my hunt. The other object I struggled with was NGC 6572, a small planetary nebula in Ophiuchus. I searched for it to no avail on a couple of evenings before finally tracking it down. I should have noted the size before really looking. At 9" and mag 8.1 it's pretty small, and looked like a star until I cranked the power up on the scope to 209X.

And finally there was the Binocular list. Like an old friend, it was nice seeing Omega Centauri again. What an incredible globular cluster!! After coming home from TSP, I was in my back yard and noticed the constellation of Centaurus to the south. I grabbed the binocs, and quickly found Omega Centauri. I'd never tried to observe it before from my house, and probably wouldn't have if I had not spent so much time in that area of the sky at TSP. If you have a good southern horizon, you'll certainly want to give it a peek.

May Sky Map

Chart shows positions of objects at about 10 pm (MDT) for mid May, about 9 pm for late May and about 8 pm for mid June



May 8



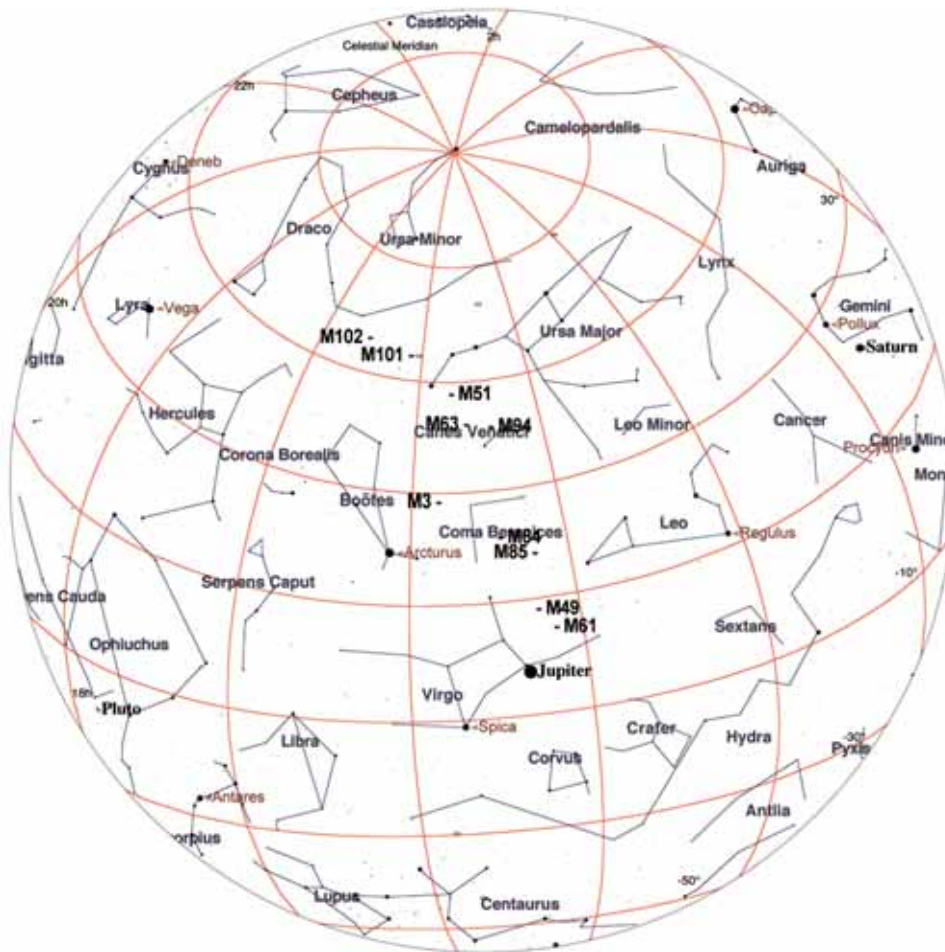
May 16



May 23



May 30



Mars



In Aquarius
Mag. 0.5
Rises about 2 am

Jupiter



In Virgo
Mag. -2.3
Rises about 3:30 pm

Saturn



In Gemini
Mag. 0.2
Rises about 9 am

Astronomy Calendar

Dates are MDT. Please see the ASLC website
<aslc-nm.org> for more information

May 26	DbI Shadow Transit (Jupiter)
May 31	Moon 1 degree from Mars
June 2	DbI Shadow Transit (Jupiter)
June 9	DbI Shadow Transit (Jupiter)
June 10	(554) Peraga Occultation
June 14	Pluto at Opposition

April's Challenge

NGC3161, was a fairly bright planetary nebula in Corvus. To find it you had to hop among some fairly dim stars. A moderate challenge according to Joseph.



May-June Tour

Binocular Objects

- 1) M49 (Galaxy)
- 2) M63 (Sunflower Galaxy)
- 3) M64 (Black Eye Galaxy)
- 4) M94 (Croc's Eye Galaxy)
- 5) M3 (Globular Cluster)

Telescope Objects

- 6) M51 (Whirlpool Galaxy)
- 7) M61 (Swelling Spiral Galaxy)
- 8) M85 (Galaxy)
- 9) M101 (Pinwheel Galaxy)
- 10) M102 (Galaxy)

Joseph's Challenge - NGC3003
Gal (Leo Minor) 11.9, 09H 49m, +33° 25'

The Mountainview Observatory: Part II - Construction Phase

Just a reminder that last month we highlighted Walt and Marion Siebyl's finished product: Mountainview Observatory. The descriptive article and a few photos can be found on the ASLC's web-site <http://aslc-nm.org/> (click on the HDO link in the right-hand menu on the home page).



Walt and Marion did a great deal of research, analysis and planning before committing to the observatory project. They interviewed ASLC members, observatory manufacturers, used the Internet as a resource and visited with others who were considering or had already built private observatories. Restrictions on what they could build had to be investigated in local building codes and neighborhood covenants. Walt told me "We wanted to keep the peace with our neighbors".

The observatory was built as a bare-bones functional unit because one of the main considerations was cost. Many nice "bells and whistles" were available, but the Siebyl's had to reconsider and leave provision for these features as possible add-ons sometime in the future. So they built with the future in mind, allowing for additions and improvements in their initial construction phase.

There were two types of observatories considered. The slide off roof and the dome type. Both are very popular and each has its advantages and disadvantages. For a variety of reasons the dome-type was chosen. The real work began after initial research and analysis were completed. The Siebyl's dusted off their old drawing equipment and drew plans for their backyard observatory. The dome for the unit was purchased from Technical Innovations in Maryland (<http://www.homedome.com/>). The dome is 6 feet in diameter and available to mount on either their base structure or a customer provided structure. In this case, Walt and Marion provided the structure and had it built so it would accommodate the dome.

The building was largely Marion's design. She drew it in a southwest style to keep the same motif as the area in which the Siebyl's live. This style was selected with the dome mounted on top, and the color of the observatory was decided to be the same color as their home. The dome is made of fiberglass-like material and colored the same during its manufacture as the color of the building.

With sketches and drawings in hand Walt and Marion started looking for people to put the various parts together. Walt said "since we are not exactly young and as skillful as in our younger days, most of the work was contracted to various small contractors and suppliers." This included a good cement worker to pour the 10 ft x 12ft cement pad 4in thick, and a 3ft x 3ft x 3ft cube of cement, 4ft below ground level to support a 12in diameter pier which rises 4ft above the surface of the pad. All concrete was reinforced with the pier and pad not touching each other, except through isolation material between the two. The isolation reduces any vibrations of the pier and consequently the image through the telescope, by activity on the pad(floor).



Also needed were a good carpenter for construction of the building and mounting of the dome on top of it as well as a machine shop for making 2 aluminum plates for the leveling and alignment interface between the concrete pier and the telescope wedge. The Siebyl's looked around at a variety of garden sheds but found nothing suitable that could be easily modified. They finally concluded that they would have to make the building from scratch. It was not easy locating someone who was willing to take on the construction project. Potential contractors said the job was either too small, or specifications too stringent and turned down the project.

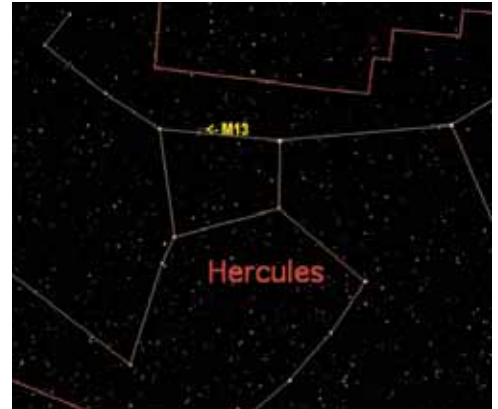
Next month the final installment of the construction of Mountainview Observatory.

As Far As Eye Can See

by Joseph Mancilla

This month we look at a classic globular cluster and two galaxies.

M13 in Hercules is considered the finest globular in the northern hemisphere. At mag. 5.9 its faint glow is visible with the naked eye. (Our Upham site has a limiting mag. between 6.2 and 6.7). It appears as a small dim fuzzy spot between Zeta and Eta Herculis. In my 8' Newtonian at 59x the cluster begins to resolve beautifully. At 114x the view becomes more complex. Stare straight into the core and you see lanes and imaginary structure that seem to draw you inward. Look away and you become aware of the large size of the clusters glow. At 143x to 178x it is an amazing sight. See for yourself !



NGC2903 is a large bright spiral galaxy in Leo. Located 1.5 degrees south of lambda leonis this galaxy is 20 million light years away. Size 12.6' x 6.6' , mag.9. It's amazing that Charles Messier missed this one. It's fairly large with a very bright core.

NGC3003 is a galaxy in nearby Leo Minor. I call this one "The Ghost". At mag.11.9 its size is 5.9' x 1.7' and is 62 million light years away. This is my challenge object to Rich and Steve and

anyone with a scope that is 10" or larger in aperture. I ran over this galaxy several times before I realized what I was seeing. I finally made a drawing and memorized the Telrad field. One look and you will see why I call it "The Ghost". That is, if you can find it !



Happy hunting,

- Joseph

Observatory Etiquette 101

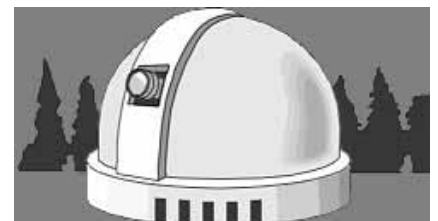
The following is adapted from the September-October, 1947 issue of what became the Journal of the Association of Lunar and Planetary Observers.

Etiquette for Visitors to Public Observatories

1. Do not call the astronomer an astrologer.
2. Do not call the telescope a microscope.
3. Do not exhibit too much delight over the red and blue edges of a bright star low in the sky while the speaker is learnedly explaining stellar temperatures.
4. Do not come to the Observatory to see the Moon before it has risen. Or if it is raining.

5. Do not imitate a certain WW2 Navy Officer who commented after seeing the Moon in a large telescope: "You know, there is a light in that telescope."(He probably became an admiral.)
6. If Venus is two degrees away from the Moon, do not ask "When will they bump into each other?".

- Walter Haas



The Astronomical Society of Las Cruces (ASLC)...

... is dedicated to expanding members and public awareness and understanding of the wonders of the universe. ASLC holds frequent observing sessions and star parties, and provides opportunities to work on club and public educational projects.

Members receive The *ASLC Bulletin*, our monthly newsletter, membership in The Astronomical League, including AL's quarterly *A.L. Reflector*. Club dues are \$35 per year. Those opting to receive the *ASLC Bulletin* electronically, receive a \$5 membership discount. Send dues, payable to A.S.L.C. with an application form or a note to: Treasurer ASLC, PO Box 921, Las Cruces, NM 88004

ASLC members are entitled to a \$10 discount on subscriptions to *Sky and Telescope* magazine. S&T subscribers MUST subscribe and renew through the Society Treasurer for the special club rate. To avoid a lapse in delivery, this must be done when S&T sends their reminder, 4 months in advance.

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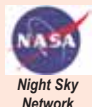
ASLC Bulletin

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Dave's Astrophotography Corner

This month: Panoramic Images - the easy way

This month I'd like to demonstrate some powerful freeware for building panoramic images out of individual overlapping shots. The software is called AutoStitch and has a free demo available at: <<http://www.cs.ubc.ca/~mbrown/autostitch/autostitch.html>>

This software is extremely powerful, yet simple to use. Just select a set of photos, and AutoStitch does the rest automatically with no user input required!



Images of the galactic hub take at TSP 2005 using a Pentax 6x7 medium format camera and Kodak E-200 slide film.

The panorama above was created in a matter of seconds by just selecting the input files and letting AutoStitch align, overlap, and blend the input images automatically.

Unfortunately, AutoStitch is currently only available for the Windows OS (sorry Mac users...) However, they do eventually plan to port it to other platforms.

I highly recommend that you give AutoStitch a try before they release the commercial version and start charging for this powerful software.

- Dave Dockery



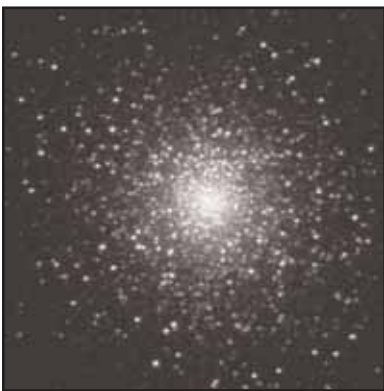
(Comic provided free of charge by www.astronerdz.com)

For Sale

Nothing was submitted for sale this month, so here's an image of Jupiter, Io and Europa that Rich took with his webcam last Thursday night (May 19).



ASLC IMAGE GALLERY



M15 by Bill Stein at New Mexico Skies. Bill used a Meade 16" LX200 and SBIG ST-2000X



The highly elongated crater, Schiller, imaged by Rich with a ToUCam and C11



The Leo Trio, M65, M66 and NGC3628 imaged by Dave Dockery with his TeleVue 85 and 300D.

**ASTRONOMICAL SOCIETY
of Las Cruces, New Mexico**
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*ASLC - Sharing the Universe
With Our Community for
Over 50 Years*