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nightwatch

Newsletter of the Pomona Valley Amateur Astronomers

Amateur astronomers just get better looking . . .

March meeting will be at Millikan

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President's Message

Over the next few weeks we will be having several exciting PVAA activities. First on the 14th our March general meeting will be held in Pomona College's Millikan Planetarium, located in the Millikan Laboratory at the intersection of 6th and College avenues. Former PVAA president Alper Ates will be showing off the college's new planetarium projector for us with a program on the Messier Objects. This will be the second time that Alper has treated us with a planetarium program.

On Saturday, March 29th member's that have signed up and paid the fee will be going to Mount Wilson to spend a night observing with the historic 60-inch telescope. When this, the second of four great telescopes built by Ellery Hale, saw first light in December of 1908, it was the largest telescope in the world. Upon entering service, the 60-inch immediately shed light on the debate over the nature of "spiral nebulae." (Their true nature as galaxies was still not definitely known.) It was put to work observing Halley's Comet and studying its spectra in 1910. And it was employed by the great E. E. Barnard to make careful observations of the planets Mars and Saturn.

If you are not going to Mount Wilson you may want to take advantage of what you learned in the planetarium and attend a Messier Marathon on that weekend. PVAA will be holding a Messier Marathon on Saturday, March 29th at Cottonwood Springs in Joshua Tree National Park. This is your chance to attempt to see all 110 Messier objects in one night.

On April 12th (also a Saturday) Barnes and Noble Booksellers in Rancho Cucamonga and PVAA will be conducting a joint public star party out in front of the store, which is located at 11090 Foothill Blvd. Please invite your friends to attend and bring a telescope or binoculars and be a participant. This is a great opportunity to promote our hobby and our club to the public.

I hope to be seeing many of you at these upcoming events.

Ron Hoekwater

February General Meeting

We had four visitors at our last meeting and hope they join us again soon.

We are still collecting money for the Saturday, March 29th trip to Mt. Wilson, our Club's 4th trip. Member price is $60, non-member $75. The first 20 people to pay will have spots for the trip.

Please reserve April 12th on your calendars to assist with a public star party at Barnes and Noble, on Foothill Blvd. in Rancho Cucamonga. Bring your telescope or binoculars or just your eyes and your knowledge to share the skies with the public. While we will just see

PVAA Events Calendar

Month	Star Party	General Meeting	Board Meeting
March	**1**	**14**	**6**
April	**26**	**18**	**10**
May	**31**	**16**	**8**
June	**28**	**13**	**5**

the brightest stars and planets from under the city lights, you could point out bright constellations and the North Star to folks who may not be familiar with the skies. We look forward to seeing many of you there.

We are also working with the Ontario Library on a star party date at the Library. We'll keep you posted as we arrange the details.

What's Up

Lee Collins featured the sky around the constellation Hydra, a rather plain area of the sky itself but surrounded by many interesting sights including Canopus. Canopus at -0.72 is the second brightest star in the northern skies, second only to –1.46 magnitude Sirius. The reason we aren't more familiar with it is because it's found so close to the southern horizon, visible only near sunset. When Sirius is on the meridian, look directly down toward a clear southern horizon to see Canopus.

Book Report

Ron Hoekwater spoke to us about **The Case for Mars** by Robert Zubrin, president of the Mars Society. The Society is privately funded and its mission is promoting the manned exploration of Mars. While NASA plans for Mars trips have a price tag of $450 billion dollars, the Society is doing actual experiments on Earth to prove that a viable mission can be launched in 10 years at a fraction on this cost. They have set up two research stations that have some Mars-like features – their Mars Desert Research Station in southern Utah and Flashline Mars Arctic Research Station on Devon Island, Canada. They simulate Martian explorations right down to wearing space suits when going outside to study what kinds of clothing and tools are most effective. As the voyage to Mars takes one year, you can't just order more supplies from home. Even though their plan is to send a series of missions to the planet always starting with an unmanned return vehicle first, followed by the explorers, delivery times will be even slower than the worst we hear of our postal service!

The book made a very plausible case for economical exploration of Mars in the not so distant future. Solutions were found to problems like fuel for the return voyage – bring your own hydrogen and use the oxygen and carbon found on the planet to manufacture methane. It details a fascinating counterpoint to the massive government plans for reaching the same goal. Their real life experiments, done mostly by enthusiastic volunteer Mars Society members, add to their credibility. It will be interesting to which approach ultimately gets us to our neighboring Red Planet – a goal some of us will hopefully be around to see.

Featured Speaker

Our speaker for the evening was our own Roy Schmidt. Roy gave a talk on collimating your telescope. The many tips and hints were invaluable for those with a scope in need of correct alignment as even with a good instrument astigmatism, coma, and spherical aberration can result if all the mirrors aren't correctly in line.

Astronomy on the Web

It is astounding, the wealth of information readily available (literally at one's fingertips) on the World Wide Web. (I was born 40 years too soon.) And when the electronic information revolution began astronomy was not left out. The Internet allows one access to up to date information, which at one time would have been difficult to impossible to obtain.

..PVAA 24 HR. Hotline.
Get the latest news on the star party, club meetings, special events and astronomy happenings.call **909/596-7274**

Visit or website at
http://www.cyberg8t.com/patrick/PVAA.htm

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Just one example of the plethora of astronomy related web pages out there is the U. S. Naval Observatory Astronomical Applications Department, http://aa.usno.navy.mil. I discovered this site after a friend asked about sunrise / sunset times. A quick search on the computer for sunrise info returned the "Data Services" section of the USNOAA Department. This site will yield sun and moon rising and setting times for any date and any location on Earth. It also gives beginning and ending of twilight times.

But there's more! Lunar illumination, Sun and moon positional data, major solar system bodies and bright stars data, occultations of stars by asteroids, research papers, definitions and explanations of terms, frequently asked questions, information on calendars (including the Islamic calendar), navigational information (including tides), general and historical information, and this is not a complete list. There is extensive information on the upcoming transits of Mercury and Venus if you are planning on traveling to see them. There are tables of eclipses and occultations of the Galilean satellites.

The U. S. Naval Observatory Astronomical Applications Department traces its history back to 1849 when Congress created the Nautical Almanac Office. It was originally independent of the Naval Observatory, but moved into the Naval Observatory's offices in 1866. In 1990 the Nautical Almanac Office was reorganized into the Astronomical Applications Department. There is an interesting page at the web site detailing the people and history of this very useful division of our Federal government.

Ron Hoekwater

March Star Party

In this month of vernal transition, we would brook no delay, as we convened our cosmic convocation with alacrity, and straightaway! In other words the March star party happened to fall on the very first day of the month this year. The site was Cottonwood Springs, Joshua Tree National Park.

On the drive out there were clouds and a few sprinkles. Not promising. One forecast had it partly cloudy with a 20% chance of showers. But unless it appears hopeless I always go ahead and take my chances. Many times this strategy has paid off.

After an early start, for once I arrived at the campground with time to spare. A drive around the campground identified what appeared to be astronomy alley and so I settled on a campsite along this section at the back of Loop B. The spaces adjacent to mine were occupied by amateur astronomer wielding refractors in the 80 - 100 mm class. One of my neighbors was a farmer from North Dakota, wintering down here and the other was from southern California. They made contact on the Internet and had arranged to meet out at Joshua Tree.

As evening approached it continued to be partly cloudy with an occasional raindrop. I decided to set up anyway. My compatriots assured me that it had been much the same Friday night but cleared after dark. Sure enough, soon after sunset the sky started to clear. In the evening twilight we started off with a look at majestic Jupiter. Later as darkness set in, we looked at M81 and M82, comparing the views in the various scopes. The sky was beautiful. Next, a quick look at the Owl Nebula on the edge of the bowl of the Big Dipper. In Monoceros, I showed my new friends the Rosette Nebula and NGC 2244, the star cluster at its center. Then I turned to NGC 2261 (Hubble's Variable Nebula).

NGC 2261 was Edwin Hubble's first claim to fame. The nebula is triangular in shape with a star at one corner of the triangle. This gives it the appearance of a small comet. Bob Branch provided me with several fascinating tidbits of information on this object. The nebula itself was discovered by William Herschel in 1793. In 1861 at Athens Observatory, Schmidt discovered that the embedded star is a variable. In 1916 Hubble discovered that the nebula is also variable. NGC 2261 was the first object to be photographed by the new 200-inch telescope on Mount Palomar, January 26, 1949.

The above mentioned star, known as R Monocerotis, is a new star still embedded in the cloud of gas and dust from which it was created. The nebula is brighter in infrared than in visible light. C. O. Lampland at Lowell Observatory conducted an extensive 30-year photographic study of NGC 2261. After assembling a record of over 900 photographs, no regular periodicity was found and no period relationship with the star was noted. The observed changes in NGC 2261 require velocities greater than can be accounted for by any actual movement of material. They would have to be at the speed of light. The variability of the nebula seems to be caused by the shadows cast by dark clouds orbiting around the nearby R Monocerotis.

Unfortunately the excellent conditions didn't

last. At 9:30 PM a few clouds started drifting across the sky and some of them were sprouting small leaks. I decided to pack up rather than wait and see what developed. My fear was of the possibility of having to pack up in the middle of a downpour. At 10:15 PM I set out for home. On the drive back I encountered a few sprinkles but no real rain. I don't know if it cleared again after I left or if the clouds persisted for the rest of the night.

We will be having a second star party this month at Cottonwood Springs on March 29th. Maybe some will wish to attempt a Messier Marathon at that time. Next month's star Party will also be at Cottonwood Springs on April 26th. See you there!

Ron Hoekwater

INTERNET SITES OF INTEREST

Besides the well known magazine sites such as **http://www.skypub.com/** and **http://www.astronomy.com/** and the popular **http://hubblesite.org/** , there are many more exotic sites. A site that talks to you in a soothing female voice is **http://www.stardate.org/.** This is the McDonald Observatory (not hamburgers but the University of Texas). Switch to the radio/ program section and the endless astro-spots from National Public Radio will be read to you along with graphic images.

An X Ray Observatory site is **http://constellation.gsfc.nasa.gov/**. "Constellation X" offers data, graphics and video on black holes, dark matter, and neutron stars. Asking questions like, are we all made of dead stars? I know I am.

From the University of Oregon comes **http://zebu.uoregon.edu/galaxy.html** offering a colorful collection of CCD deep space images, including all Messier Objects. This is also linked to **http://seds.lpl.arizona.edu/** something called the nebulae web. Also on the Oregon site are reports from western Oregon's Pine Mountain Observatory, which is where recent member, Robert Marvos was headed last time I heard from him.

Of course, Mount Wilson has a site, **http://www.mtwilson.edu/** if you can get anyone to answer the phone. Likewise the Caltech Space Society site **http://www.seds.org/seds/chapters/css/CSS.html/**.

Lee Collins

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STAR PARTIES

The star parties will be held at Joshua Tree National Park, Cottonwood Springs Campground. About 25 miles past Indio on the Interstate 10. Turn north at the sign for Joshua Tree Natl. Park, go 7 miles to the ranger station, then right for about a mile, to the campground access road. The club usually gathers around halfway around the loop.

A second March star party will be held at Cottonwood Springs Campground, loop B, on March 29.

The regular April 26th and May 31st star parties will also be at Cottonwood Springs Campground, loop B.