

P.O. Box 162
Upland, CA 91785
Address correction requested
Return postage guaranteed



nightwatch

Newsletter of the Pomona Valley Amateur Astronomers

Amateur
astronomers
just get better
looking . . .

**The general meeting will begin at
7:30 P.M. in Galileo Hall**

Volume 24 Number9

nightwatch

September 2004

President's ADDRESS

Elections were held during the August general meeting and all the previous board members were, once again returned to office. I am pleased to begin my third term as your president and will do my best to live up to the confidence you have shown in me. All of our board members are eager to make Pomona Valley Amateur Astronomers an even better organization for its members.

In addition to elected officers we have several important positions being filled by volunteers. Most recently Justine Singer has agreed to maintain our hotline. John Stover has been creating and will be the webmaster of our soon to open new website. Walter Brown is our speaker director. With decades of observational experience, Bob Branch is our Chief Observer. As program director Roy Schmidt arranges special events for the membership, such as our upcoming tour of the Mount Palomar Observatory. And Doreen Hopkins has ably handled our publicity for many years.

But, even with all these good people giving their time to make PVAA run smoothly, things could still be better. The more members that we have actively involved, the fewer the burdens that will be placed on any one individual, and the more successful our club will be for every member. I would like to suggest the creation of two new positions (and perhaps you can think of others).

First, I would like to see PVAA have Star Party Director. The person in this position would keep the membership informed about upcoming star parties, check out and suggest new star party sites, write articles, etc.

Secondly, I believe that PVAA would benefit from having a dedicated Director of Public Events. It would be the responsibility of this office to oversee our public outreach activities. Public star parties are how many of our new members first discover us. They are also the means by which we impress the public with the importance of

preserving the night sky and stopping light pollution. The value of space exploration and of basic research are other topics on which the public needs to be adequately informed.

If anyone wants to accept one of these positions or has some other idea for job in PVAA that they would like to fill, let me know. PVAA will benefit from your input and we can use your help.

Ron Hoekwater

Star Party Sites

(MBC) Mecca Beach Campground (see page 4)
(CS) Cottonwood Springs campgrnd, Josua Tree Ntl. Pk
(CC) Cow Canyon Saddle, Mount Baldy Village
(MS) Mequite Springs campgrnd, Death Valley National Pk
(CWP) Claremont Wilderness Park parking lot
(KD) Kelso Dunes
(WM) White Mountains
(CGT) Calico Ghost Town Campground

PVAA Events Calendar

Month	Star Party	Star Party	General Meeting	Board Meeting
Sept	CGT	11	24	16
Oct	CS	9	29	21
Nov	MBC	13	19	11
Dec	CWP	11	3	16

August General Meeting

We were reminded that yearly membership renewals are due. Individual membership is \$30, \$12 for a person under 18, and \$40 for our new family membership category.

Signup sheets were available for two events. The first is a tour of Mt. Palomar on October 16th at 2pm arranged for us by Roy Schmidt. Nametags were recommended for those attending – sign up ahead and I will print up tags for all planning to come. We were also advised to dress warmly as it is cold inside the dome. The second signup was for interest in a tour of an exhibit on the life and science of Albert Einstein at the Skirball Cultural Center in Los Angeles. If enough members are interested in attending, the Club will arrange for us to get group rates and for us to meet and carpool to the Center. The exhibit is being held during the 100th anniversary of the year – 1905 – when Einstein made many significant discoveries. He proved the existence and sizes of molecules, explained that light has both particle and wave properties, and created the Special Theory of Relativity (which includes his famous equation $E=mc^2$). Please let Ron know if you haven't signed up yet and are interested in these events.

Lee Collins' What's Up covered the area around the constellation of Sagittarius and the nearby center of our Milky Way galaxy where numerous star clusters are found.

Featured Speaker

Our speaker for the evening was Alex McConahay, educator and member of the Riverside Astronomical Society. Last June, Alex traveled to Greece with a "Transit Tour Group" to observe a rare transit of the sun by Venus. His own observing experience and photos were prefaced by an interesting

illustrated history lesson on Venus transits observed since the 1600s. The first of these rare events was seen in 1631 by Gassendi while the second was seen by Jeremiah Horrocks who did his own recalculating from the results of others to come up with the correct observing time and date.

Unfortunately, the transit began at 3:30pm, close to the 3:40pm sunset during December in England so he was only able to record about 10 minutes of data.

Astronomers and explorers throughout the world observed the transits in 1761 and 1769 including people famous to us today for other reasons: Cassini, Mason and Dixon (of line fame), and Captain Cook. By this time, Halley had done the math and realized that it would be possible to use the transit to figure out the

PVAA 24 HR. Hotline.

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

Visit our website at

<http://pages.pomona.edu/~aka04747/pvaa/>

PVAA Officers and Board

Officers

- President.....Ron Hoekwater.909/391-1943
- Vice President...Joe Hillberg.....909/985-5617
- Secretary.....Claire Stover....909/988-9747
- Treasurer.....Ludd Trozpek...909/624-3679
- VP Facilities.....Bob Akers.....909/946-0228

Board

- Lee Collins..... 626/852-9442
- Ray Magdziarz.....909/626-8303
- Spencer Crump.....909/624-4893
- Larry Pall.....909/949-2323

Directors

- Nightwatch....Ray Magdziarz....909/626-8303
- Membership...Ludd Trozpek 909/624-3679
- Publicity.....Dorene Hopkins..909/983-5584
- Programs.....Roy Schmidt.....909/980-1867
- Speaker.....Walter Brown.....909/989-6535

orbital period of Venus and the distances of both the Earth and Venus to the sun. The distances would be calculated using parallax when observations were taken of the transit at different locations on Earth and using Kepler's third law – which says the square of the period of a planet's orbit equals the cube of its distance from the sun. Many adventures ensued as observers strove to reach their observing locations by land and by sea, often under hazardous conditions of war between nations, including wars between France and England.

In addition to the physical challenges of travel in the eighteenth century there was the obstacle of not knowing one's precise location, which made observations of the Transit inaccurate. There were not accurate clocks at the time and therefore longitude measurements were approximations. The final element of inaccuracy which stymied Halley's precise mathematical equations was called the Black Drop Effect which can be observed by looking at your own fingers held only a millimeter apart – you can see how hard it is to precisely determine when they first touch. The same phenomenon occurs when trying to determine both the first and last contact times of the planet with the sun and therefore results were not precise.

In spite of all these difficulties, a figure of 77 million miles for the AU was determined – slightly short of the figure known today to be just over 92 million miles – but vastly longer than was assumed at the time. The solar system and in fact all we observed in both the day and night skies was much more distant than we thought - the universe was a huge place.

By the transits in the late 1800s, technology and government spending had advanced to a point where many observations and special equipment was designed to capture the events. By this point, however, the science had also progressed enough that no one

expected new truths about the solar system to be revealed during these observations. The size and orbit of Venus were already known as was the AU, since better observing equipment enabled parallax to be calculated using stars beyond our own sun more often than every 100+ years.

It sounds like even 100 years ago; we had progressed to nearly the point where we are today with our observations. The transit is viewed by even more today than in the 1800s, and travel, despite how we like to complain about airport security, is vastly improved over that in the 1700s. So why do we do it? One of the historical reasons is no longer – to answer the great questions for the first time – is gone. I think we can still appreciate past efforts though, and if we are ambitious, try out the accurate observations and the calculations for ourselves to see if we can get close to the "right" answer. Alex thought one of our motivators as amateur astronomers is being able to play with the technology and I think this applies today to transit observers. Today our toys are not only tripods and telescopes but also a huge variety of reasonably priced digital cameras and image processing software with which to record our observations. Just try a Google search for photos of the Venus transit to locate numerous and excellent examples of such amateur photographic efforts. Another motivator is the desire for adventure – despite the relative ease of travel today, there is still the lure of exploring new places and cultures whether we travel far to see eclipses and transits or a hundred miles to find a new dark sky star party site. Alex proposed that a final reason we view the sky is simply the desire to appreciate the beauty we can see in heavens – a great reason for our hobby all by itself!

Claire Stover

Calico Star Party

In September PVAA held its first star party at the Calico Ghost Town campground. This site has the advantage of being closer than Cottonwood. It is about the same distance as our former site at Yesterday Ranch, but it is all freeway except for the last 3 or 4 miles and there are no dirt roads involved, so that less drive time is required to get there. The campground is right next to the ghost town and admission is included in the \$18.00 camping fee. This can result in some savings if you wish to visit the ghost town and there are two or more in your vehicle.

The Calico Ghost Town was once owned by the Knott family of Knott's Berry Farm fame. It is now a San Bernardino County Regional Park. For more history see: <http://www.co.san-bernardino.ca.us/parks/calico.htm>. While there I watched a mock gun fight and toured part of the old mine. I also looked in on an 1880s schoolhouse. There are a number of shops in the ghost town including one, which has many fossils for sale. There is a restaurant at the site. Other restaurants and fast food places are within 5 miles of the campground. I ate at Peggy Sue's which many of you will have seen from the 15 freeway. The management has gone for a feeling of nostalgia. The food was good and the ambiance was interesting.

The campground has showers and restrooms and unfortunately the restrooms have outside lights. Next time I might try to remedy this with some aluminum foil over the side of the light fixture facing my campsite. Also, Barstow puts up some

light in the southwest, but overall it is a decent sky. There were very few other campers and none within sight had lanterns or fires.

As it turned out only Laura Jaoui and I attended this star party. None the less we had a good time. We observed M57, M31, M32, M110, and the Helix Nebula among others.

During the day we visited the early man site in Yermo. This site was discovered by *amateurs* in the 40s. It was excavated and studied by Louis Leaky in the 60s and 70s. (Under a different director, work continues there today.) There is a small museum with replicas of stone tools discovered at the site. The actual tools are at the San Bernardino County Museum. There are also displays showing what the area looked like when the site was on an ancient Pleistocene lake, Lake Manix. There is a self-guided tour and the museum host was very good about answering questions.

We also visited Amboy crater, a relatively recent volcanic crater that is only about an hour away. It is an excellent example of a very symmetrical volcanic cinder cone. Volcanic activity in this region began about 10,000 years ago with some eruptions occurring within the last several hundred years. The cone is about 250 feet high and 1500 feet in diameter. A trail leads to the crater, inside, and around the rim. The unique landscapes found at Amboy Crater have attracted numerous research studies including research and testing on the Mars Rover.

All together this was quite an enjoyable star party. I am sorry that more of you couldn't have been there. Our next

star party will be October 9th at one of my favorite sites, Cottonwood Springs.

Ron Hoekwater

THE NIGHTWATCH WANTS YOU to let us know what you are doing. There are two prime contributors to the newsletter. I'm sure that there are members that have stories to tell of their activities and observations. Please send your astronomical experiences by Email as an attachment to mugjug@excite.com. Or by US mail to Ray Magdziarz at 259 Blue Mountain Way, Claremont Ca 91711

Membership Dues

Well, it's that time again! Membership fees are due. Individual memberships are \$30.00, family memberships are \$40.00, and youth (under 18 years) are \$12.00. Checks should be made out to PVAA. Payment may be made at the general meeting or mailed to:

PVAA
PO Box 162
Upland, CA 91785

September Program

Due to a last minute cancellation, our September 24th program will consist of several short (10-15 minutes) presentations by some of our own PVAA members. We tried this once before and it turned out to be one of our better and more interesting programs.

Mount Palomar Tour

On October 16th at 2:00 PM PVAA will be given a guided tour of the fourth and final of the great telescopes built by George Ellery Hale, the 200-inch telescope on Mount Palomar. For those wishing to go there will be a signup sheet at the general meeting. If you have never visited the Mount Palomar Observatory (or even if you have) make your plans to attend. This should not be missed.

A Survey of PVAA Membership

In order to better serve the PVAA membership, the Board of Officers would like to know what are the interests of the members.

For instance here is a partial list of astronomical activities, just to name a few.

- | | |
|----------------------------|----------------------------------|
| Planetary observing | Solar observing |
| Deep Space | Messier objects |
| Asteroids | Comets |
| Meteor showers | Galaxies |
| Planetary nebula | Variable stars |
| Radio astronomy | Astronomy history |
| Telescopes | Eyepieces |
| Astronomical math | Equipment |
| Telescope operation | Getting around in the sky |

On the other side of this page please fill out the form and return it at the general meeting or mail it to

PVAA
PO Box 162
Upland , Ca 91785

DigiScope 821 offered for raffle.

The September meeting on the 24th will include a raffle for a Digiscope 821 Super Monocular Digital Camera. It comes with software and a USB cord for picture transfer to your computer. The internal memory will hold between 26 and 312 images (depending on the resolution setting). It has the ability to Video Record up to 90 seconds with it's built in 8MB memory. The specifications for this Monocular Camera are:

1. Specification 8x21 mm
2. Angular field of view 7.0
3. Exit Pupil 2.8 mm
4. Close focusing distance 5 m

Raffle tickets will be available for \$1.00 each or 8 tickets for \$5.00. Come and take a chance, you may win this "Extreme Digital Camera" that Williams Optics says has a retail value of \$100.00. Good Luck and Good Viewing!

What Can The PVAA Do To Make Astronomy More Interesting To You

NAME _____

PRIMARY INTEREST _____

SECONDARY INTEREST _____

YOUR EQUIPMENT _____

HOW CAN THE CLUB IMPROVE YOUR ENJOYMENT OF ASTRONOMY?

