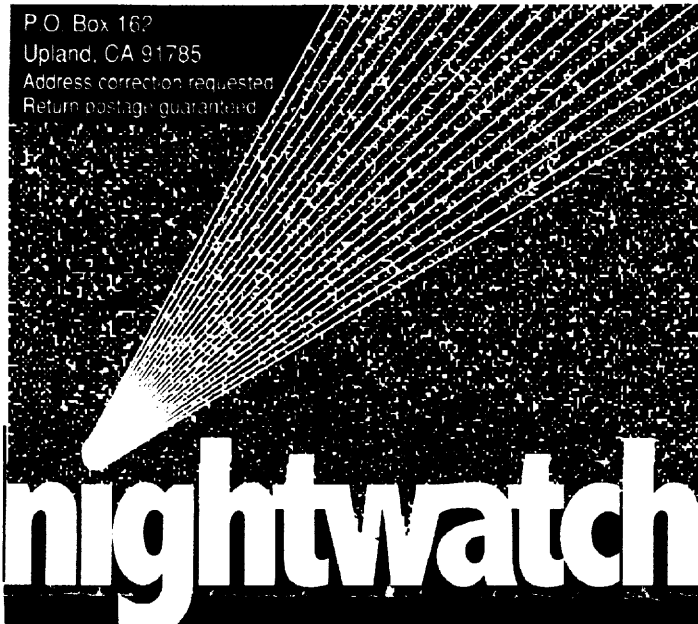
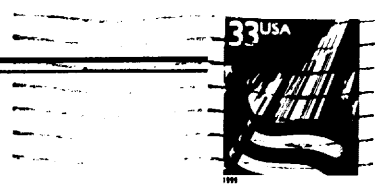
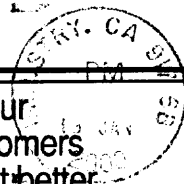


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**nightwatch**  
Newsletter of the Pomona Valley Amateur Astronomers

Amateur  
astronomers  
just get better  
looking ...



Janis Seaton

Volume 20 Number 1

*nightwatch*

January 2000

## A Word from Your President

The calendar has for the first time in a thousand years clicked over all four digits. Your president had come home from a wedding intent on witnessing the much-dreaded Y2K bug spawn its evilness unto the computers of this fair land. I cranked on my old 386/40 computer for what I thought could be the last time. Sadly I said, "Au voir my friend, we must part, as Romeo and Juliet so fatally parted, never to work together again". It was five minutes from midnight when the monitor had unscrambled (an injury from the evil static electricity monster many years before) and the screen serenely awaited my commands. 5....

4.....3.....2.....1....ZERO, the calendar had, in the twinkling of an eye, done its worst. With dread, I played with my computer for ten minutes, putting it through its paces, slowly understanding that the angel of computer death had passed me by. WOW.... I can still write my presidential messages, articles and notes. My words could now arise like Venus on a half shell from the ocean's foam. In this brief moment, I knew happiness.

But this, of course, isn't what I wanted to talk about. The club activities in the next few months are going to have several centers to draw to.

In February the central topics will be the giant planets, Jupiter and Saturn. We must see what we can see before they are lost in the Solar glare in April. These planets have the twin advantages of being easily seen from the city and displaying a never-ending panorama of features and orientations for the user of a modest sized telescope. Come to the general meeting on 2/18/00 to see what else we have to tickle your astronomical fancy.

On March 17<sup>th</sup>, we are going to cover the history of Astronomy in Ireland; progressing from the ancient

astronomical sites to the activity of present day. Who are the great contributors from the emerald isle and who held back the astronomical progress from that fair land. In April the members of the club will be treated with an in-depth report from the eyepiece of the 60-inch telescope atop Mt. Wilson. Those of us who will journey to the observatory will report on the experience to the general membership on the general meeting to be held on the 14<sup>th</sup>. Don't miss it. To wrap up my offering this month, I thought I would share a little discovery that I made on the Internet. Most of you reading this address have stumbled upon internet sites that contain interesting material specializing in some narrow astronomical field that without previous introduction prove to have real merit. I typed in AAVSO into my computer search engine and was treated to an informational delight. The definition of what makes stars variable and how many of them there really are was not unknown to me.... But the individual pages covering the better known variables were really great. Not only did the site cover these better known variables, but also further sources for individual study were included (along with magnitude vs time curves). I found also several studies on infrared measurements of pre-main

### PVAA Events Calendar

Month	Star Party	General Meeting	Board Meeting
January	8	21	28
February	5	18	25
March	4	17	24
April	8	14	7

sequence binary stars (good for determining the physical characteristics of a stellar system before it fires up).

The sites of interest are listed below:

<http://www.aavso.org/variablestars.stm>

[http://zeke.as.utexas.edu/~koresko/binary\\_colors/abstract.html](http://zeke.as.utexas.edu/~koresko/binary_colors/abstract.html)

Good Hunting

*Roy Schmidt*

### PVAA General Meeting 19 November 1999

#### Announcements

**An Evening at Mt. Wilson.** We have set a tentative date of April 1, 2000, members were asked to sign up. A maximum of 15 people will be allowed at a cost of \$60 per person.

**Cal State Northridge Solar Observatory.** In response to the participation of our tour of the Big Bear Solar Observatory, we are now attempting to arrange a tour of the facilities run by Cal State Northridge. Will announce details in January or February.

**Upcoming Star Parties.** The next Star Parties will be held on Dec 4 and Jan 8 at Mesquite Springs Campground in Death Valley. Joe Hillberg was the contact. An alternate party was held at Yesterday Ranch on the same night, for those who wanted a closer location.

**December General Meeting** was a Christmas party at Jouni's in Upland. Good food and company was had by the 30 or so members and guests who attended.

**Good Resource.** A yearly calendar of astronomical events by Guy Ottewell was highly recommended. He also produces a useful reference, the Astronomical Companion for background information on the subject.

**Camera Mount.** Joe Hilberg showed his hand crafted device for manually tracking objects in the sky during the long exposures needed for photography. A screw is slowly turned on the camera mount to allow it to track the object being photographed. It is a clever and inexpensive device for the mechanically inclined.

#### Member Participation

John Jacobs informed us that Planetfest 99 was held at JPL in Pasadena on December 3rd. This yearly event will have lectures and hands on computer stations. For details on future events, please see Internet site ([www.jpl.nasa.gov](http://www.jpl.nasa.gov)).

Seven new guests and some families attended our meeting, including Ray, Bill Burton, and Chris Scolinos. They had varied interests in astronomy, including questions about recent meteor showers, an interest in stellar photography, a

wish for advice on telescope repair, and a desire to attend our Star Parties. The Club invites you all to become members of the PVAA if you enjoyed your time at our meeting — Thank you all for attending.

#### What's Up?

Club members spoke about meteor showers past and future. While the recent Leonids on November 17-18 hardly qualified as the storm experienced in 1966, when 120 to 140,000 were seen in the United States, they were still worth staying up for even in this area. A maximum of 5000 per hour were seen in the Azores, while 1800 to 4000 an hour were seen in Eastern Europe. I was even able to see 4 in 20 minutes at 4:30 AM on the morning of November 18th from the city of Ontario. Here are some links to Leonid information for those who'd like to see what they missed, or to be ready for next year.

<http://www.arm.ac.uk/leonid/>

<http://www.amsmeteors.org/leo99update.html>

<http://www.leonidlive.com>

..PVAA 24 HR. Hotline.

Get the latest news on the star party, club meetings, special events and astronomy happenings.call 909/985-1684

Visit or website at:

<http://www.cyberg8t.com/patrick/PVAA.htm>

### PVAA Officers and Board

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<http://planetary.org>

### Presentation of the Evening.

Club member Bob Branch filled in for an ill Randy Fear of the Big Bear Solar Observatory. We will try to reschedule Randy for early next year. Bob's talk was based on an article in Mercury Magazine, from the Astronomical Society of the Pacific. By Virginia Trumbull on the last 100 years of Astronomy.

Among the top discoveries of the last century were the following:

Learning of the existence of other galaxies, which were discovered by Edwin Hubble in 1924. Hubble also deduced the expansion of the universe in 1929, based on observing the red shift in light from other galaxies. Planetary systems were discovered around other stars as well as the fact that stars run on nuclear energy. The universe went through a hot dense phase. In 1965, microwave background radiation at 2.9 degrees Kelvin was seen as evidence of what we call the Big Bang. Water is not rare in the universe and has been seen in sunspots and hoped for in the moon after the Lunar Surveyor detected hydrogen there. We have been able to locate water with much more ease since being able to observe above the Earth's atmosphere, which screens out detection from the surface of the Earth. The details of solar activity make a difference to the Earth - increasingly so as we become more reliant on satellites for navigation, cell phones, pagers, radio, and television reception.

Virginia also gave the century credit for working through four major misunderstandings in the working universe.

- 1) It was thought to be transparent, that is we could see everything out there. In the 1950s it was realised that dust and other atoms and molecules in space were absorbing much of the light out there. Accounting for this absorption yielded a much bigger and older universe.
- 2) Early in this century, the belief existed that Earth and the whole universe were the same age, about 2 billion years old. Research of older rocks and improved dating techniques have pushed the Earth's age back to about 5 billion years while the birth of the universe itself is now thought to have occurred between 15 to 25 billion years ago.
- 3) Stellar evolution was first thought to involve the same path for all stars - from a giant star slowly changing to a small dwarf. It is now known that many different paths of stellar evolution exist.
- 4) Prior to World War 2, it was believed that matter was continuously created to replace that dissipated in the expanding universe, this was called the Steady State Cosmology. It is now thought that this does not occur and that the original material from the Big Bang is what we see spreading out today.

All in all - a very busy and productive 100 years in the study of astronomy!!

*Claire Stover*

### Death Valley Star Parties

In December and January PVAA held dual Yesterday Ranch / Death Valley star parties. I chose to attend the Death Valley star party at Mesquite Spring campground.

The December star party on the 3rd and 4th coincided nicely with the earliest end of evening twilight on the 5th and the earliest sunset on the 8th. The January star party on the 7th and 8th coincided closely with the latest sunrise on the 5th and the latest morning twilight on the 8th.

In December Joe Hillberg, Lee Collins and I enjoyed showing some of the highlights of the winter sky to Rick and Chalene Dean and their sons Jonathan and Nicholas. I also spent some time looking unsuccessfully, for the Fornax dwarf galaxy and the globular cluster NGC1049 in that galaxy. I will keep trying. We all enjoyed the view through Ray Magdziarz's scope with the image intensified eyepiece.

In January, I got my best view ever of the Horsehead Nebula. It was just discernible without a filter and with an H-beta filter I thought I could just make out the shape of a horse-head.

Owen Robbins and Allen Hwang were there. Owen was busy taking CCD images with his Meade. He took an image of the small, faint planetary NGC2022, in the constellation of Orion for me. Allen let me see Jupiter through his 6 inch Astro-Physics refractor. What a thrill to see the planet through such a fine instrument. Allen's beautiful astrophoto of the Rho Ophiuchi region was published in the February 2000 issue of Astronomy magazine.

Apart from the wonderful dark sky, one of the great things about Death Valley is, there are so many things to see during the day. Lee Collins and I visited the Sand Dunes. I had breakfast in Beatty and toured the Rhyolite ghost town and Titus canyon with Joe Hillberg. Rhyolite is also the site of several sculptures made by various artists in the 80s and 90s. Ray and Irene Magdziarz visited Las Vegas on the way home. Scotty's Castle, Ubehebe crater, the Devils Cornfield and the "Racetrack" are also nearby.

PVAA will have one more Death Valley star party on March 3rd and 4th. If you miss that one, you'll have to wait until next winter.

*Ron Hoekwater*

### Astrofest Feb. 12, 2000

8AM to 6PM at the LA downtown library. John Dobson will speak several times during the day and will demonstrate telescope making. From LAAS, check details before setting out.

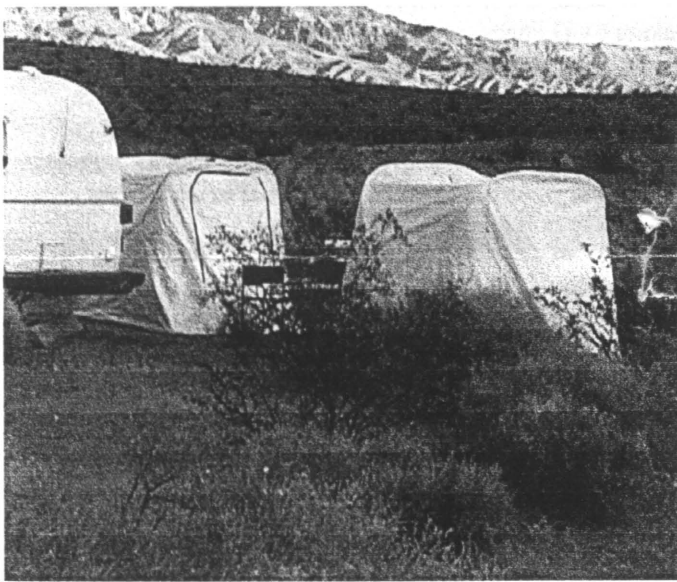
January 8, 2000  
Death Valey, Mesquite Springs



Ron Hoekwater at his 22 inch Starsplitter



Ray Magdziarz at his 10 inch Optical Craftsman



The portable observatories of Owen Robbins and Allen Hwang all zipped up.