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Amateur
astronomers
just get better
looking . . .

nightwatch

Newsletter of the Pomona Valley Amateur Astronomers

Volume 23 Number 4

nightwatch

April 2003

President's ADDRESS

How did we ever get along without home computers? They guide our telescopes to their targets and tell us what it is that we are looking at. They give us the ability to run amazingly accurate and detailed planetarium programs and plan our observing sessions. They provide us with access to the latest scientific information. (More images and data and interpretation are available than one could ever hope to examine.)

Two things caused me to start thinking about what a boon to amateur astronomy computers have become. The first is a regular feature for the Nightwatch that board member Larry Pall proposed. The topic of his column is to be astronomy related websites and the first of the series is in this very issue. These articles will (I believe) prove to be very valuable in directing PVAA members to the wealth of resources available on the Internet.

The second is a CD-ROM that was given to me by my friend, Barbara. Barbara is a chemist and at the AAAS (American Association for the Advancement of Science) annual meeting in Denver Colorado she picked up a CD-ROM with information from and links to three different astronomy sites. "Imagine the Universe!" (<http://imagine.gsfc.nasa.gov/>), "Star Child" (<http://starchild.gsfc.nasa.gov/>), and "Astronomy Picture of the Day"

(<http://apod.gsfc.nasa.gov/apod/astropix.html>).

"Imagine the Universe!" I found to be fascinating. The second site, "Star Child" is aimed at the under 14 years of age crowd, and the third, "Astronomy Picture of the Day," is, by coincidence, the subject of Larry's article this month.

And, while I am on the subject of amazing technological advances our speaker this month, James Butz, will give a presentation on "Current Space Projects at JPL." This is a good opportunity to be brought up to date on the various missions at the Jet Propulsion Laboratory.

Ron Hoekwater

March General Meeting

Announcements

We had three brand new visitors to our off-site meeting in March, and two people joined our ranks – Wayne Lutz and Laura Jaoui. Please introduce yourselves to our new members at your next opportunity and make them feel welcome.

Ron was contacted by an Alta Loma Boy Scout Pack, who is interested in finding a person willing to act as their Astronomy Merit Badge counselor. This is a great opportunity to pass along your enthusiasm for the night sky to the next generation while helping them to earn a Merit Badge. Please contact Ron Hoekwater at the number given in our newsletter if you are willing to help.

PVAA Events Calendar

Month	Star Party	General Meeting	Board Meeting
April	26	18	10
May	31	16	8
June	28	13	5
July	26	11	3

Featured Event

For our March meeting, we enjoyed a planetarium show at the Milliken Planetarium presented by fellow member, Alper Ates. The show began with a medley of music and pictures in remembrance of the Columbia Space Shuttle mission and her astronauts.

Alper then discussed the life and times of Frenchman Charles Messier who lived from 1730 – 1817. While he is best known today for his catalog of over 100 fuzzy objects in the sky – known as Messier Objects – his original goal was to locate comets. He was hired in 1751 by Joseph Nicolas Delisle, astronomer of the Navy in Paris, because of his excellent handwriting. From Delisle he learned the basics of astronomy as well as the value of keeping accurate observation records. These skills served him well as he began to hunt for comets. He eventually discovered 20 of them, 13 of which were original discoveries. His catalog of what became known as Messier objects was the result of a desire to document the comet-like objects he saw which were actually stationary so comet hunters wouldn't be distracted by these small fuzzy objects and take time away from their hunt for the moving comets. While Messier called all the objects he cataloged nebula, they were discovered in later years – and by those with telescopes much larger than the 6-inch Messier used – to be quite a variety of different things, from globular clusters and planetary nebula to huge galaxies much larger than our own.

While Messier's catalog provided useful assistance to his contemporary comet hunters, it provides sport today to amateur astronomers. As Alper demonstrated with the Planetarium, during March and April it is theoretically possible under ideal viewing conditions to see all of Messier's objects in one night – catching the first one just after sunset and the last as the sun's rays start to peek over the horizon. While this is a relatively recent observational goal for astronomers, one wonders if Messier himself would have had better luck in his day under the dark skies of 18th-century France with his 6-inch telescope than we do today – with much larger telescopes but much lighter night skies!

Claire Stover

VOLCANO ERUPTS AT COTTONWOOD SPRINGS

It was a good choice to go out to Cottonwood campground on Friday afternoon, instead of the traditional Saturday afternoon. In addition to allowing an extra evening under the stars, the early departure enabled us to secure one of the last available campsites in loop B. This obviously is the tourist season for Joshua Tree. There were climbers, wild flower watchers, vacationers, and of course, amateur astronomers. The March saying: "In like a lion, out like a lamb", suggested it might be windy, and it was. We speculated that being inside Mount Wilson's dome would be an improvement. But at approximately 10 pm. the wind finally died down enough to get in some good observing. Saturn looked outstanding, with its rings, which are quite exposed right now. King Jupiter also looked great, especially being positioned in the same field of view as M44, "the beehive" (when using binoculars). But in order to see any of these items, first Ludd and I had to unpack our two Dobsonian telescopes and all the supporting gear from his VW van. It was assembled with such care, utilizing every square inch, such a masterpiece that even a Bekins mover would be jealous!

The first evening I spent some time trying to find the recent

..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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comet: C/2002 Y1 (Juels-Holvorcem), also in the morning, all unsuccessfully. It had definitely gone down while the wind was gusting and apparently was a little too dim to see through the early morning light. We did succeed viewing the Arizona sized asteroid, Vesta. It's currently running at the 5.5 mag level and is nicely placed in the sky at about 10pm. A poll of nearby astronomers revealed that they were infected with "March madness". They weren't cheering on their favorite basketball team, but instead attempting to observe all of comet-hunter Charles Messier's famous "M objects". As the evening progressed, the public and even a few park rangers decided to stop by and take a peek at the heavens. Several visitors reported never having looked through large scopes before, and so as expected, the pleasant night air was filled with countless Oh's and Ah's! As word spread around the camp, the Messier search was temporarily put on hold, as to support the impromptu public star party. Dozens of strangers conversed with excitement in the darkness, while waiting patiently for their time at the eyepiece (s). Several returned the favor by offering hot drinks to their new-found "sky hosts".

One of the outstanding objects of the evening was, in my opinion, was the rare southerly view of the enormous Globular cluster, Omega Centauri (NGC 5139). Ludd commented that it was out of the city glow enough and positioned well enough in a dark section on the horizon to actually be visible to the naked eye. Although listed with a 3.6 magnitude, this large object is very diffuse, and not quite as easy to see in our So-Cal skies as you might think. However, this also might be the lame rational offered by a guy with 50 (+) year old eyes? This Globular is 10 times as massive as the average large Globular. It actually equals the mass of the smallest *whole* galaxies. It also holds the title for the brightest Globular in the Milky Way. It's the size of this Globular that has experts thinking that it was actually a small galaxy, that only got smaller after its "encounter" (crash) with the Milky Way.

The next night started out much better than the first, with greatly reduced wind. We were pleased to see a group of amateurs set up nearby, who were referred to as the "Stellarvue Bunch". They were apparently doing trial runs on several prototypes refractors for Stellarvue. Although the "seeing" was mediocre, there were indeed, some fleeting views of the planets that were really quite amazing. Given calm air, I could see how the crisp images from these scopes would truly be spectacular, particularly on planets. One of the models of Stellarvue scopes, in combination with a 2" Meade Ultra Wide eyepiece, had such a wide field of view that I had to remind myself that I was looking through telescope...not binoculars! The two galaxies M81 and M82 not only fit into the field of view but had about the same amount of vacant space on either side. I estimated views were covering about 2 degrees of the sky...very cool indeed! This delightful evening abruptly ground to a halt when a nearby group of campers decided to build a large campfire upwind, resulting in all the amateurs and their equipment downwind smelling and feeling like badly smoked salmon. Visiting club member, Robert Braun and wife showed up with

his wonderful large refractor scope for a while, but closed up shop quickly, for fear of dust/ ash damage to his precision optics. What irony, we all drive 2.5 hours to get to some of the darkest skies around, only to be dumped on by a simulation of Mount Vesuvius staged in a fire-pit next door! Ludd and I tried to tough it out, but finally realized that retiring to a smoke-free area for a few hours would be "the plan". Ludd got up a few hours later, and got in a few more hours of good viewing (zero wind, no smoke). I, nearly unconscious from damaged lungs and still blowing smoke rings, choose to remain warmly wrapped in my sleeping bag, a decision I still regret. It was reported on the return trip home, that seeing was outstanding early that morning...but that fact was wasted on a surly snoring slumberer.

Bob Akers

A Night on Mount Wilson

On March 29th, a bevy of P.V.A.A. gathered on top of Mt. Wilson to skywatch with the help of the historic 60" telescope. Mt. Wilson, noted for its smooth air currents, has been home to professional telescopes for 114 years. The 60" the club used is a mere 95 years old, but was once the world's largest. Nearby stands the famous 100" Hooker Telescope, most productively used by Edwin Hubble in determining that the mysterious "spiral nebulas" are actually remote galaxies. There are also significant sun telescopes and a nearly new interferometer. Also, studies of the speed of light were done here by bouncing it off the far slopes of Mt. Baldy.

During the night of viewing, with the informed help of Ron Hoekwater, Roy Schmidt and other shadowy figures, we viewed planets, gas nebulas, a quasar, a gravitational lens, galaxies, double stars, globular clusters, and planetary nebulas. A perplexed reporter from The Daily Bulletin was there, did she ever write an article? Well, not being as dark as it was 95 years ago, the best objects to observe were the brightest ones: Jupiter, Saturn, and globular clusters such as M10 and M13. Distinctly seen bluish planetary nebula included the cat's Eye in Draco and the Starlight in Hercules. Most well defined were the edge-on galaxies such as the Flying Saucer NGC 4565 in Coma Bernices and the Sombrero M104 in Virgo. About 4 AM clouds put an end to our observing and I staggered out of the dome only to be astonished by the endless twinkling sea of artificial lights in the valley below. Don't they ever shut them off?

Lee Collins

Surfing the Stars

This is the first in a series of articles that will highlight a different Internet web site each month. It is my hope and desire to bring something interesting and informative to everyone that will enhance your astronomy experience. So, lets begin with one of my favorites: "**Astronomy Picture of the Day**".

The web address is: <http://antwrp.gsfc.nasa.gov/apod/astropix.html>

This web site is self explanatory, since it offers a different astronomical picture each day. But wow! What pictures. They vary from recent Hubble shots to pictures submitted by amateur photographers. Many are timely and are of current events. Most are worth printing for permanent record keeping if you desire.

Let's start by scrolling down to the bottom of the home page and left click on:

"Archive", you will see that the pictures date back to June 16th, 1995. All of the pictures have a brief description. Click on any picture description that may interest you and there is detailed information on the subject. Within the description are underlined words and phrases that give even more detailed information with regard to the underlined word or phrase.

Next to "Archive" at the bottom of the page is:

"Index". One click of the mouse gives you a page with different categories such as, "Cosmos", "Solar System", "Space Technology", "People", and "Sky". Within each category is a list of sub categories that you can click on and it will bring up a complete list of every picture that relates to that subject.

For instance, within the category "Sky" you can click on "Messier Objects" and you will be greeted with a catalog of 109 Messier Objects, many with beautiful pictures taken from Hubble or large earth bound telescopes. Do you want to learn about Messier himself? Just click on the underlined "Charles Messier" and you will get a brief biography of the man himself and several underlined links for more detailed information.

The next link at the bottom of the page is:

"Search". This is self-explanatory and allows you to search any word for information. For instance, I typed in "shuttle", pressed "enter" and came up with 147 references to "shuttle". This can be a wonderful learning tool for both adults and children. School projects could be developed and greatly enhanced with the pictures that are available and printable.

The next link at the bottom of the page is:

"Calendar". It creates monthly calendars by making thumbnails of all the "Astronomy Pictures of the Day". I did not find this link particularly useful since it does not place the date on the days and it only has monthly calendars for past pictures.

Maybe someone can explore this link with more detail and email me with some added benefits of this link.

The next link at the bottom of the page is:

"Glossary". This is a decent reference tool but is very abbreviated and could use many more terms to be as useful as it could be.

The next link at the bottom of the page is:

"Education". It is a list of Educational links that I could spend hours investigating. For those of you with children, there are many links that help create school projects. This link is so incredible that I have included a copy of it to peak your interest with some of the diversified topics. I dare anyone to read these links and not click on at least one to satisfy a curiosity.

Astronomy Picture of the Day's Educational Links

What follows is a list of resources that excel in astronomy education. Each resource is distinctly different - they have been chosen to highlight a wide range of interests. We believe the list is topologically complete in that there are no publicly advertised astronomy resources on the WWW that cannot be found by following the internal links of these resources. The list is in alphabetical order, and is subject to change as the WWW, and our knowledge of it, matures.

APOD in the Classroom

How Astronomy Picture of the Day (APOD) is being used as a learning tool by teachers and students.

Ask the Space Scientist

Answers to thousands of astronomy questions by Dr. Sten Odenwald.

Astronomy HyperText Book

Several astronomy lectures on an intermediate level. You can also ask a question, through e-mail, of an astronomy expert.

Astronomy with a Stick

Elementary school astronomy activities that can be done with only a stick. Brought to you by the National Science Teachers Association.

Astronomy Picture of the Day Subject Sorted Archive

This archive contains Astronomy Pictures of the Day (TM) sorted by subject and is updated monthly.

AstroWeb: Astronomical Internet Resources

An exhaustive list of astronomy resources on the Internet.

ASCL: The Astrophysics Source Code Library

An archive of computer programs useful to researchers in astronomy or astrophysics.

Black holes and Neutron Stars

Take a virtual trip to a black hole or neutron star. Have your MPEG movie player ready. Intended for the advanced student, but fun for everyone.

The Exploratorium

A fun way to explore science for a beginner.

George Mason University's Introductory Astronomy Lecture Notes

Lecture outlines and transparencies for an introductory college level astronomy class. Knowledge of pre-calculus level mathematics is assumed.

Great Debates in Astronomy

Do leading astronomers always agree? Not always. Here are detailed accounts of several debates in astronomy starting with the famous Scale of the Universe discussion in 1920 between Curtis and Shapley.

Imagine the Universe!

This premier internet education site now covers a broad range of astronomy topics. "Imagine the Universe!" is a service of the Laboratory for High Energy Astrophysics at NASA/ Goddard Space Flight Center.

Hubble Space Telescope Public Information

Detailed pictures and explanations of Hubble Space Telescope results.

NASA Spacelink - An Electronic Information System for Educators

An entry into NASA's educational projects. Intended for teachers looking for on-line teaching aids.

The Night Sky Live

See the night sky live from some of the world's premier observing sites. This growing global network of CONtinuous CAMeras (CONCAMS) returns live images of stars, planets, meteors, and much more.

StarChild: A Learning Center for Young Astronomers

Intended primarily for ages 4-14, this site presents material on the Solar System, the Universe, and other Space Stuff. Produced by a collaboration of professional scientists and educators it is one of the very few astronomy WWW sites for elementary

school readers.

Stellar Education Site

An elementary school teachers' resource for general astronomy education.

Students for the Exploration and Development of Space (SEDS)

A library of information for the student on all aspects of space and space travel. Be sure to take the "Nine Planets" tour.

Views Of The Solar System

Great pictures and detailed information on the space program and the solar system.

The last link at the bottom of the page is:

"[About APOD](#)". (Astronomy Picture of the Day). It is a list of APOD's mirror links in foreign countries. All of the mirror links have the same picture.

However, near the top of the page is a "[Frequently Asked Questions List](#)" that has information on how to submit your own picture for consideration along with a list of general questions that may be of interest to the user.

I hope that I have created enough interest in this Web site to inspire you to give it a try. If any of you have favorite Web sites that you would like to share with fellow members, please email them to me at: teampall@msn.com. I would like to thank Bob Akers for already sharing a couple of his favorites with me that no doubt will be included in future articles. Don't forget to click on "Favorites" and "Add" these to your list.

**Happy Surfing,
Larry Pall**

Telescope for Sale

MakerDiscovery

Type.....Dobsonian

Size.....Twelve and one half inch primary

Primary.....Pyrex glass

Focal ratio.....f5.4

Secondary.....Spider mount

Focuser.....2 inch, with 1 1/4 inch adapter

Eyepieces.....24mm and 10mm, 1 1/4 inch diameter

Finder.....Telrad

Price.....\$800

Call John Jacobs at (909) 593-5855

Eyepieces for Sale

4.8 mm Nagler Teleview

7mm Nagler Teleview

9mm Orion Plossel

26mm Meade Super Plossel

All eyepieces are 1 1/4 inch diameter barrel.

Price for all 4 eyepieces is **\$150.**

Call John Jacobs at (909) 593-5855