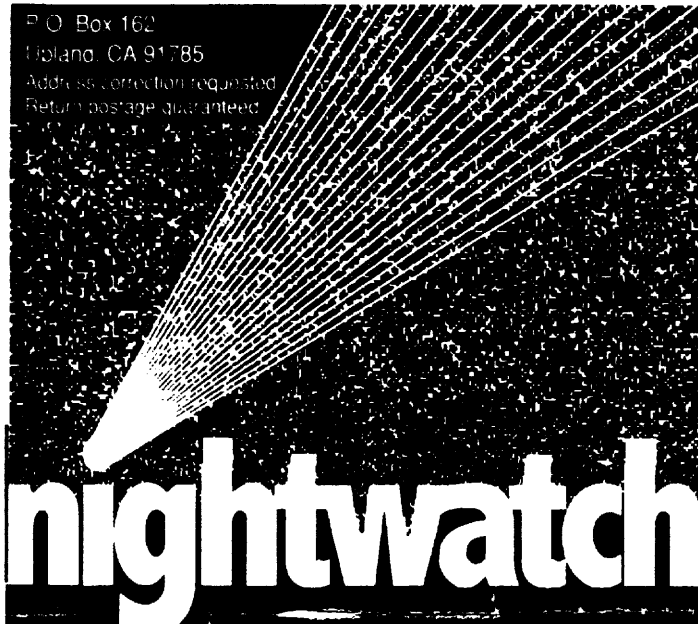


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nightwatch
Newsletter of the Pomona Valley Amateur Astronomers

Amateur
astronomers
just get better
looking ...



Janis Seaton

Volume 19 Number 3

nightwatch

March 1999

President's Message

There will be a star party at Death Valley on March 12-13, and a Messier Marathon at Yesterday Ranch on March 20.

The trip to Death Valley was very nice, but there were some clouds at night. More from Rick Dean.

Joe Hillberg

PVAA General Meeting February 5, 1999

Announcements

President Joe Hillberg called the meeting to order approximately 5 minutes late, starting the meeting with the following announcements:

Star Party. Out Star Party will be next week-end, February 12-14, at the Mesquite Springs campground, Death Valley. Best way in is via highway 395 to Trona road. Heavy rigs may prefer to go out Highway 15, and come in from the south, where the grades are easier.

Scope City Sale. Bob Branch announced a sale by Scope City on February 12 & 13. The main drawing card is the presence of Al Nagler, well-known eye-piece designer, at the Costa Mesa store, from 3 to 9 pm, February 12.

Guests. Guests Larry Helm, Vince Helm and John Baldwin were greeted and given PVAA information folders.

Prodigal Son. Roy Schmidt has returned! Roy celebrated his return by giving two Star Atlases to the club: Chandler's Star Atlas for beginners, and Pennington's (finally) published Messier Marathon handbook. Welcome back, Roy; we missed you!

What's UP?

Alper Ates presented a "What's Up" featuring the constellation Cancer. The most obvious and best-known object in this relatively-dim constellation is: Praesepe, or The Beehive Cluster, M44. This is a group of about 36 bright stars, and over 300 fainter ones, with a diameter 3 times that of the full moon. It is easily visible with the naked eye in a dark sky, and is best seen through binoculars, since only a fraction of the stars are visible in most telescopes. Remarkably, there is a galaxy cluster directly behind the star cluster.

The constellation of Cancer is one of several in which Alpha is not the brightest star--in this case, it is Beta. However, the most interesting star is Zeta, long listed as a binary, until it was discovered that its dim companion is itself a binary. The sec-

PVAA Events Calendar

Month	Star Party	General Meeting	Board Meeting
March	20	5	26
April	17	2	23
May	15	7	21
June	12	4	25

ond binary has a 60-year orbit, and is currently very close, but will be a much easier double in about 5 years.

Alper's presentation was enhanced by his use of the rear-projection computer screen. This use of the Audio Visual system was arranged by Dan Gray.

Main Speaker. After a coffee break, enhanced by cookies donated by Claire Stover, Bob Branch introduced our speaker for the evening, Dr. Brian Penprase, Professor of Astronomy at Pomona College. Dr. Penprase recently received publicity, when the Daily Bulletin printed a report that his research shows an enormous molecular cloud, stuffed with comets and planetesimals, that is destined to smash into the solar system--in a few million years. Dr. Penprase described the potential impact of the vast cloud--100 light-years across--as like a shotgun blast of tiny comets.

With the aid of his lively 4 1/2 year-old daughter as slide projectionist, Dr. Penprase presented a great variety of slides illustrating the research he and his students are performing, utilizing telescope resources scattered over a large part of the world. Dr. Penprase modestly described his research as: "Looking at invisible things--objects not visible to the eyes." Most of his research is done at infrared, ultraviolet, or radio frequencies. He described the "hardship" of doing research by flying to exotic locales, such as Naples, La Palma, or Cerro Tololo in Chile to use the giant telescopes. This is not to ignore the 1-meter remote-controlled telescope in the White Mountains that is owned and operated by Pomona College.

The molecular and dust clouds Dr. Penprase is investigating are located, as he describes it, "at high latitudes" above the galactic plane. This approach avoids the crowded and heavily-obscured areas along the galactic plane, plus it opens a neglected area of research. He is finding cool IR-emitting clouds, enmeshed in large, hot areas of X-ray emissions. One such cool cloud runs between the Large and Small Magellanic clouds (actually small galaxies) visible in the southern sky.

The molecular clouds show up as absorption lines in spectra utilizing the light of distant stars as an illuminating "lightbulb". Thus, the absorption lines indicate the presence of clouds of gas between the star and the earth, with the specific absorption lines indicating both the composition of the cloud, and its relative motion (due to a shift in the location of the absorption lines).

Elemental clouds, such as clouds of hydrogen or helium, have clean-cut absorption lines. However, molecular clouds have multiple spikes in a dense array that is useful for measuring temperature. Thus, says Dr. Penprase, he is using the billion-dollar space telescope as an expensive thermometer!

The new Ultraviolet telescopes are sensitive to a different range of frequencies, and thus provide a different spectral range. They can map hydrogen clouds to map the galaxy. An-

other project is to look at little wisps of hydrogen in the constellation Draco to use those wisps to outline the large molecular clouds already mapped there at radio frequencies, to determine their motion and speed. This was one of the research projects he has pursued at La Palma.

After fielding a series of penetrating questions from his attentive audience, Dr. Penprase concluded his talk just before 10 p.m.

Patrick Nicholson

Death Valley Star Party

A barren expanse of parched earth. A dark desert sky bending all along the horizon. A flamboyant profusion of sand and stars. For "desert rats" and amateur astronomers Death Valley is surely a paradise on earth.

It hasn't always been heaven, however. In 1849 a party of westward-looking pioneers descended into this ancient lake bed, only to commence arguing over the best way to get out of it. A couple of factions decided to break off and hunt for a pass to the north. Some of these eventually made it

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>

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to California. Others were not so lucky, becoming fare for the ravens and vultures. Still another small pitiful party remained in the valley while their two guides left for provisions, and to scout a suitable escape route. In time the guides returned and escorted their group over the Panamint Range, but not before one had turned to look upon the "awful" place that had nearly claimed them, and give it the name it carries today.

The next wave of visitors wanted to do more than simply hurry through the place. They bore notions of putting down roots, but only long enough to extract some of the land's precious insides and get rich. On our excursion through Titus Canyon, my family poked around one of these places - Leadville. Aptly named. But it went bust. A classic western mining town. Started in August of 1926, it soon grew to a population of 300, and sported it's own U. S. post office. By February of 27--before the earth managed even one full circuit around the sun--the desert once again owned the land on which the town was set.

As part of Joe Hillberg's winter star parties I and my family belong to the most-recent wave of visitors to the valley. Recreational tourists. During the day we fan out to "get lost" in the barren expanse of the desert, ranging over the sand dunes, venturing into tight canyons, reveling in the full-bodied silence of the desert preserves. Then at night we tag along behind our own guides--Joe and Ron Hoekwater, Lee Collins and Owen Robbins--who take us into and through the night sky.

A merry, congenial bunch, they help me to broaden and deepen that which lures me into the desert in the first place. The yearning to explore the physical space around me, and in doing so, to acquire some sense of place. It is more than a little ironic that I should find myself venturing to Death Valley to engage in such a thing. Neither the 49ers nor the transient citizens of Leadville would have the slightest idea what prompts me, or any of the others, to occupy ourselves in such "foolish" pursuits. In Death Valley of all places. Why would one tramp into Death Valley to find a sense of place?

Looking through Ron's fine telescope, into Virgo, scanning and hopping among it's rich display of galaxies, teases me with degrees of scale I am still trying to fully appreciate. Though I may be slow in comprehending the universe's complexity and gross dimensions, something in the experience of the desert sky, and the newly discovered thrill of peering up into a world that seems more remarkable to me as each star party exposes yet another startling new feature, fills the evenings with excitement.

As a child of post-industrial technology, I have the luxury of motoring into the desert to discover things not open to previous generations. New opportunities arise allowing me to appreciate and relate to the land in ways the pioneers and miners could scarcely imagine. Death Valley can thus become something more than a haunting, foreboding waste on the way

to California, or an out-of-the-way place to hit the mother lode.

So unlike the 49ers and the miners of Leadville, I will be going back. For there is real treasure to be found. And I have only scratched the surface.

Rick Dean

Observing the Virgo Cluster

Saturday evening at the February Death Valley star party was partly cloudy until a little after midnight. When the sky cleared Sunday morning we were looking at things that one might normally look at in spring or summer.

One of these is the Virgo Cluster of Galaxies. This is a cluster of about 3000 galaxies from 20 million to 70 million light years distant. 50 to 300 are visible in an amateur telescope, depending on the observers eyes. The brightest are about 10th magnitude.

When the 22-inch Star Splitter was trained on the richest part of the cluster there were 4, 5 and even 6 or 7 galaxies in the field everywhere one turned. Many of them were big and bright. Some hinted at spiral structure. It was an impressive sight!

To observe the cluster 27mm Panoptic and 20mm Nagler eyepieces were used. They both yielded approximately 0.7 degree fields and 90X and 125X respectively.

PVAA will have one more star party in Death Valley before summer, on March 12th and 13th. The dark skies of Mequite Springs revealed this cluster better than I have ever seen it before. If you stay up late it is well worth a look or wait a few months and it will be visible in the evening.

Ron Hoekwater

Announcements

At the March general meeting, Owen Robbins will give a talk on CCD photography. This should be very interesting -since there are many differences between photographic film and CCD imaging.

There will be a public star party, the City Lights Star Party at Jack Gardner's church. The First Baptist Church of Upland, at 531 W 8th street, Upland, beginning at 7 PM. We need telescopes and people at this event.

The last page of this newsletter has the registration form for the 1999 RTMC. The event takes place May 28 - 31, 1999 at Camp Oakes, Big Bear, California.

The Riverside Telescope Makers Conference is at an altitude of 7600 feet, so it can get very cold at night, and even snow. The major manufacturers will be there as well as a swap meet.

1999 RTMC REGISTRATION FORM

Name		
Company		
Address		
City	State	Zip

New Address? Need Vendor Booth?

MEALS AND LODGING (dorms or camping)	Cost Before May 1	Cost After May 1	Times # People	Equals Amount
Plan 1 - 5 Meals + Lodging	\$62.00	\$72.00		
Plan 2 - 6 Meals + Lodging	\$67.00	\$77.00		
Plan 3 - 7 Meals + Lodging	\$73.00	\$83.00		
Plan 4 - 8 Meals + Lodging	\$78.00	\$88.00		

CAMPING ONLY (no meals included)	Cost Before May 1	Cost After May 1	Times # People	Equals Amount
Adults (for whole weekend)	\$25.00	\$35.00		
Children 5 to 13 (under 5 free)	\$7.00	\$7.00		

DAY USE ONLY (no meals)	# Days	Cost Before May 1	Cost After May 1	Times # People	Equals Amount
Adults (Per Day)		\$10.00	\$15.00		
Children 5 to 13		\$7.00	\$7.00		

I need _____ extra parking passes.

TOTAL

Individual meal tickets can be bought at the dining hall, if the meal plans are not sold out. A snack bar by the telescope field opens Friday at 1:00 PM and stays open until dusk. It opens mid-morning on Saturday and Sunday.

Make checks payable to: **RIVERSIDE TELESCOPE MAKERS CONFERENCE**

Mail to: Riverside Telescope Makers Conference
 c/o Fox & Stephens, CPA's
 8300 Utica Avenue, Suite 105
 Rancho Cucamonga, CA 91730

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