East Valley Astronomy Club

September *Newsletter* *1994*

EVAC HIGHLIGHTS

Gene Lucas started off the August 24th program by briefly describing how the Griffith Observatory set up to provide coverage for the public of the Shoemaker-Levy 9 events. Gene also told us about some of his observations of the events.

The main speaker for the meeting was Bob Pappalardo, a graduate student at Arizona State University studying planetary geology. His presentation was entitled "Satellites of the Outer Planets." His slides were mostly from the Voyager missions to the outer solar system. Each of the satellites of the outer planets have very different geologies because of their different compositions and the forces at work. From a geologist's perspective, these are not mere moons; they are worlds of their own. Some of the interesting features on some of the satellites are:

Io: Sulfur volcanoes caused by tidal heating from the moon's proximity to Jupiter.

Europa: Surface is composed of fractured ice and possibly has an ocean underneath the surface.

Tethys and Mimas: Both of these moons of Saturn have very large impact craters.

Iapetus: The leading hemisphere of this satellite is very dark; the trailing hemisphere is very bright.

Miranda: This moon of Uranus has three regions of parallel ridges as well as a 7 km high cliff.

Umbriel: The satellite is the darkest in the solar system.

Triton: This moon of Neptune has liquid nitrogen geysers and a very thin atmosphere.

Both the local and deep-sky star parties were clouded out. The monsoon can't last forever though, so clear skies are on their way!

SEPTEMBER'S SPEAKER

The speaker for the September 21st meeting will be EVAC member Sheri Cahn, who will talk about her recent trip to England where she visited the Royal Astronomical Society and Greenwich Observatory.

SPECIAL STAR PARTY

On Thursday, September 29th, "More Than Meetings" will sponsor another star party at Desert Foothills in north Scottsdale. You should be set up and ready to go by 6:15pm and the star party will last three hours. More Than Meetings will pay EVAC for the event, so please plan on attending and bringing your scope! More information and maps to the event will be given at the September 21st meeting.

COMING CELESTIAL ATTRACTIONS

Saturn is well-placed in the evening sky and is on the meridian by about 9 pm local time. Generally, Saturn's atmosphere is not as active as Jupiter's, but recently a new low-contrast white spot has appeared. The spot is situated at 65 degrees south latitude. Observers at Pic du Midi and the U. S. Naval observatories discovered the spot on August 14th.

If you are an early morning person, Mars is slowly climbing its way out of the morning skies, headed for

UPCOMING EVENTS

EVAC Business Meeting
September 21, SCC Room PS172, 7:30pm

Local Star Party
October 1, Florence Junction Site and Carefree Site

All-Arizona Star Party
October 7-8, New Arizona City Site

opposition on February 11, 1995. On the morning of October 17-18, Mars crosses the Beehive cluster in Cancer. The planet itself, however, is disappointing as it is still only six arc-seconds across.

If you were hoping to see the Orionid meteor shower on October 20th through the 26th, you will probably have to lower your expectations. The moon interferes with the display during the prime morning hours throughout the shower's peak.

DON'T MISS THE ALL-ARIZONA STAR PARTY!

Our club's annual big event is coming up on October 7th and 8th (Friday-Saturday). It's time for the All-Arizona Star Party! On these dates, amateur astronomers from across the state will gather at the Arizona City site for two nights of observing and fellowship. You will be able to talk to other observers, make new friends and, of course, look through telescopes of all shapes and sizes. On Saturday afternoon, there will be a swap table, so if you have items you wish to sell, bring them to the table. If you're looking to buy, you will undoubtedly find a bargain on that one accessory you just can't live without! We will also be providing portable toilets to make your experience somewhat more comfortable. The map to the site is on the back page of the newsletter and signs will be set up to help guide you to the site.

Since this is a deep-sky event, all the usual rules apply. Please plan to arrive before sunset and no white lights after dark. If you anticipate leaving early, park your vehicle to minimize disruption as you leave. When you leave, please warn others around you—some may be trying to take photographs or be engrossed in observations of faint galaxies. Above all, have fun! That's what it's all about, isn't it?

EVAC ELECTIONS

If you would like to become more active in the East Valley Astronomy Club, it's not too early to start thinking about the club elections in November. There are plenty of ways you can help the club and guide its direction throughout the coming year. Stay tuned for more information in upcoming newsletters and meetings.

EVAC OFFICERS

President	Bob Kelley	451-6497
Vice-President	Don Wrigley	982-2428
Treasurer	Bill Smith	831-1520
Secretary	Frank Kraljic	991-5105
Newsletter	Don Wrigley	982-2428
	Robert Kerwin	837-3971
Properties	Carl Lorson	834-6864

ASTRONOMICAL CALENDAR

As in prior years, EVAC will be offering the *Astronomical Calendar* at a special discount rate. The calendar is a large-format book containing monthly information on celestial events along with a monthly star chart. In addition, you will find extensive information and charts explaining celestial events such as eclipses. The calendar is $12 and payment must be received in advance. Contact Bob Kelley for more information.

A NOTE OF THANKS

Last October, EVAC sponsored a public star party in which many students attended. Following is the text of a letter from John Rattay, one of the students who attended the star party:

"On Saturday I went to the stargazing party with some of my friends. When I went I didn't think it was going to be very interesting. After going I learned many more things and at the same time had a blast!! The most memorable parts of it were when we got to see Saturn with its rings and all. The next best thing after Saturn was the galaxies we could see. The thing that amazed me was that the galaxies we saw through the telescope you couldn't see with the naked eye. Before this I really didn't know how powerful telescopes could really be but now I know. The thing that surprised me the most was when: 1. I looked through the huge telescope 2. Then I looked through the short, fat one next to it. The pictures were almost exactly the same!!! At this meeting or show there were really no things boring about it. Thanks for introducing it in class!"

Although participating in a public star party can sometimes be a lot of work, it is time and effort well spent. Perhaps a view through your telescope will kindle a lifelong interest in the sky. Share the joys of observing with others!

FOR SALE

10" f/6 mirror, accurate to 1/12th wave, aluminized; $400. Contact Jeff Fromm at 569-0317.

Book Review: The Messier Album

by Frank Honer

The Messier Album by John H. Mallas and Evered Kreimer (Sky Publishing Corp.).

The Messier Album is a fine book for the beginning or intermediate deep sky observer. Written in the late seventies, it is still available from Sky Publishing Corp. Although still available, the price has increased somewhat from its initial price of $9.50 that I saw in the copy I checked out of the Phoenix Public Library. The book's current price is $19.95.

The book is essentially an observer's guide to the full catalog of Messier objects. It describes each Messier object by giving basic data on that object, its NGC description, and information on its visual appearance. Depending on the object, the basic data includes such information as its distance from earth, apparent size, and apparent magnitude. The NGC description essentially mimics the NGC description you would find in other reference books such as Burnham's Celestial Handbook. The visual appearance section for each object describes the authors' observations. They predominantly used 7x50 binoculars, a 4-inch Unitron refractor, and a 12½-inch Cave reflector. The authors gathered much of the information for the book with the 12½-inch Cave Newtonian outside Prescott, Arizona.

A discussion of Messier's life along with a historical account for each of the Messier objects precedes the book's observing section. I found this portion of the book to be very informative and entertaining. It gives the authors' opinions regarding some apparent inconsistencies in some of Messier's observations. For example, the original position that Messier gave for M47 was in an area of the sky where no deep sky object could be found. It appears that Messier subtracted rather than added the change in declination from a known star when he documented the object's position. In 1934, M47 was determined to be the deep sky object NGC 2422. This apparent mystery was solved approximately 110 years after Messier's death!

This book has been very helpful to me in locating some of the less popular Messier objects. In particular, I have had problems finding some open clusters in the past. M29, for example, was easy to identify once I compared the brighter star patterns of this cluster to the book. With the resolving power of a modern telescope, many open clusters can lose their identity. In fact, for a long time I marveled that Messier would even consider some open clusters as worthy of his catalog. The reason for the catalog was to "keep track" of known nebula so that these fuzzy spots would not be confused for his primary observing goal, comets. Apparently, this is a testimony to the very poor quality telescopes of the day. I doubt if Messier was able to fully resolve many open clusters. He may have actually recorded some of these open clusters as a nebulosity due to his relatively poor optics.

In closing, would recommend this book to anyone who interested in taking up deep sky observing. You will have to find your own source, though. I plan to renew the Phoenix Library copy often.

A Form for Recording Observations

If you do a lot of deep-sky observing, sooner or later you will want to record your observations either through sketches or a verbal description. Although recording your observations requires more effort and discipline, it forces you to really *observe* the object, not to merely glance at it. In addition, you will have a permanent record of your observation and can refer to it in the future. This can be extremely helpful in planning future observing sessions. Reviewing your notes can also be a fun cloudy-night activity.

Of course, there are as many approaches to recording your observations as there are observers. You simply have to choose the method that works best for you. The form on the following page was submitted by Sam Herchak and contains fields for entering virtually every piece of information about an observation you could possibly want to know. There are spaces for recording object data, observing conditions, descriptions and sketches of the object and surrounding field.

If you are wondering how to go about recording what you see at the eyepiece, give this form a try.

DEEP-SKY OBSERVATIONS

Visual log

For your convenience, fill in data ahead of time. (Use ATLAS CATALOQUE, etc.)

NGC/IC No.	M. No.	Name	R. A.	Dec.	Mag.	Size	Type of object	Cons.

Observers Name	Address	Observing Site	Elevation

Seeing (1-10)	Faintest star at zenith	Date UT	Time UT	TELESCOPE Make	Type	Size	Focal Length

Was this object hard to identify in starfield?		Was this the first time you saw this object?		Colors noted:	How many degrees above horizon was the object
Yes	No	Yes	No		

View object with low, medium and high powers, give your full description below:

VISUAL RATING - Check one.

- ◯ A. Visually impressive, a favorite
- ◯ B. Visually attractive
- ◯ C. Detected or resolved, not impressive
- ◯ D. Barely detectable, not interesting
- ◯ E. Detectable only with excellent skies
- ◯ F. Not seen

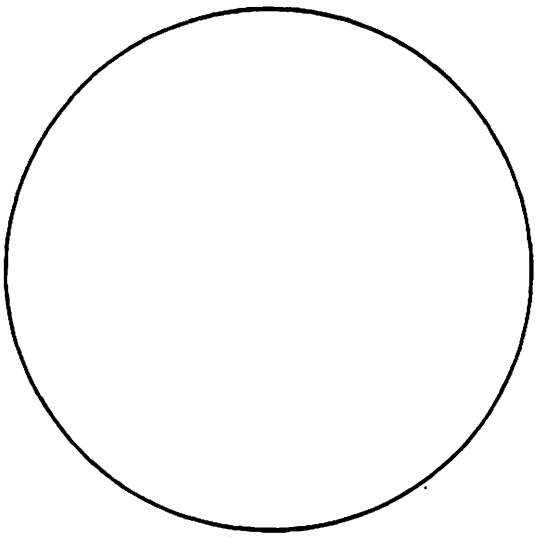
Pl Neb: Was central star seen? Yes◯ No◯

Pl Neb: Was center brighter than outer edges? Yes◯ No◯

Galaxies: Any dark lanes visible? Yes◯ No◯

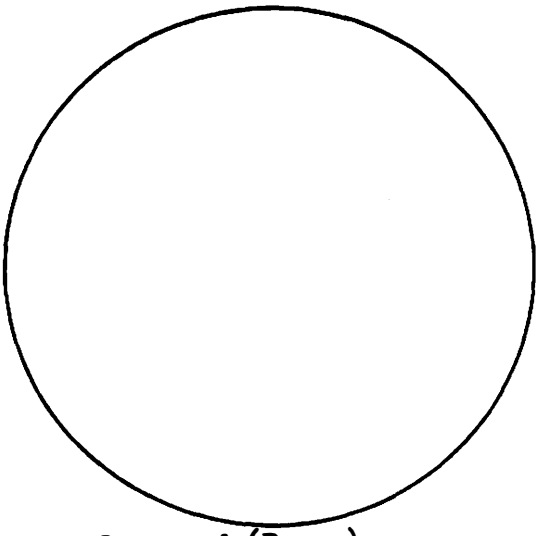
Dif Neb: Describe variations of brightness and shape in your descriptions.

LOW POWER FIELD DRAWING
Include fieldstars for identification.



Occular used (Power) _____

HIGH POWER DRAWING
Look for any additional details.



Occular used (Power) _____

Shut off clock drive, indicate direction of drift (West) and mark with arrow.
Use pencil for drawings so that details & brightness variations may be shaded.

EVAC Members as of 9/12/94

Name

Coconino Astronomy Club
AZ Museum of Science &
Manfred Alber
Enrico Alvarez
Nancy Austin /SCC Advisor
Don Bechtold
Dan Beck
Alex Beck
Jerry Belcher
David Brown
Earl Brown
Leigh Bunkin
Sheri Cahn
Walter Carruthers
Steve Conner
Paul Cooper
Spencer Covington
John Daly
Den Davis
Bill Dellinges
Paul Dickson
Don Dorchester
John & Nellie Durham
Don Farley
Saul Fein
Morgan Fish
Dennis Fox
Jeff & Reka Fromm
Bill Greiner
Ray Gunthardt
Roy & Carol Halverson
James Hamblin
Tom Harvey
David Hearne
Bill Heckathorn
Ted & Brenda Heckens
Sam Herchak
Frank Honer
Randy & Jan Iliff
Michael Janes
Mark Johnston
Jane & Robert Kearney Jr.
Kirk Keating

EVAC Members as of 9/12/94

Name

Bob Kelley
Robert & Beth Kerwin
Mel Kirschner
David Knoth
Leon & Fannie Knott
George Kohl
Frank Kraljic
Roger Kubeck
Warren Kutok
Karen Leavitt
Marc Leichter
Bob & LIn Leivian
Carl Lorson
Dana Lowery
Gene Lucas
Gordon MacKay
Chuck Manberg
Stewart & Matthew Mann
Matt Maynard
Dick Mayo
Chris McFarland
PO Box 809
Beth McLoughlin
Jerry Misner
David Mueller
Tony & Joyce Muller
Joe Murray
Fred Newman
Astronomy Network News
Carl Noble
Bob Norby
Steve O'Dwyer
John Osborne
George & Peggy Palfy
Bill & Kajia Peters
Eric Peterson
Jim Peterson
Randy Peterson
Don Pfohl
Tom Polakis
Wayne Richards
Lika Romney
Gene Rose

EVAC Members as of 9/12/94

Name

Doreen & Wendell Rossman
Charlie & Paul Santori
Robert Sassano
Byron Scott
Stanley R. Shorb
Dick Simmon
Sky & Telescope
Bill Smith
Steve Smith
Steve Smith
Cary & Shirley Stegman
Emerson Stiles
Scott Strawn
Richard Stufflebeam
Bob Swanson
Larry Toppenberg
Tom Trollen
TAAA
Lyle Urick
John Vames
Tom Vining
Wendy Wallace
Jim Waters
W. D. Westmoreland
Jeff Whitlock
Homer & Ginny Willard
Russell Wilson
Don Wrigley
Art Zarkos
Frank Zullo

The Deep Sky Notebook

by Robert Kerwin

Along the Northern Milky Way

To the north and east of Cygnus, the Milky Way harbors many interesting nebulae and open clusters to challenge the observer. In addition, this area contains many rich star fields and is excellent for sweeping with binoculars or a wide-field telescope.

Our first object is **NGC 7142**, an open cluster in Cepheus. NGC 7142 is located about five degrees southeast of β Cephei, or about two degrees northwest of 4th-magnitude ξ Cephei. At magnitude 9.3, this cluster is certainly not the most impressive in the autumn skies, but is interesting nonetheless. In moderate instruments, this cluster appears as a granular patch about 10 arc-minutes across. About 20 stars are resolved and the object is roughly rectangular. A mere 20 arc-minutes northwest is the tiny reflection nebula **NGC 7133**. This nebula appears as a small, faint glow without involved stars. Just to the west is **NGC 7129**. On *Sky Atlas 2000*, this object is plotted as a nebula, but on *Uranometria 2000* this object is plotted as an open cluster. Which one is right? Actually, both are correct; NGC 7129 is an open cluster with involved nebulosity. Interestingly, in two separate observations with the same telescope, I noted this object as either a cluster or a nebula, but not both! Perhaps my observations were biased by what I saw on the particular atlas I was using at the time. In smaller scopes, the cluster is likely to be reduced to only a couple of stars. In moderate telescopes, the cluster has only about a dozen stars and is about three arc-minutes across. The involved nebula is somewhat brighter than NGC 7133. Though none of the objects by themselves is spectacular, the sight of all three objects in such a tiny area of sky is fascinating.

Approximately midway between δ Cephei and β Cassiopeiae is the open cluster **NGC 7510**. This cluster appears as an elongated streak of stars, an unusual appearance for an open cluster. The cluster is about five arc-minutes long and contains approximately 15 stars. This is an interesting sight in almost any telescope. About one degree to the northeast, across the border in Cassiopeia is the fascinating nebula **NGC 7635**, also known as the "Bubble Nebula." On *Sky Atlas 2000*, this object is classified as a planetary nebula, but this is most likely an error. The nebula appears as a roughly oval haze about ten arc-minutes across surrounding two stars. I have not had the opportunity to use a nebula filter on this object, but it would probably show at least a modest contrast boost. A beautiful picture of NGC 7635 appears in *Burnham's Celestial Handbook*, volume one, page 522. Our final object is the open cluster **M52**, located less than a degree northeast of NGC 7635. This cluster is a beautiful sight in any telescope. In medium-size scopes, you should be able to see about 75 stars in a roughly circular area about 18 arc-minutes across. There is a bright star on the southwest edge of the cluster. If your scan the area south of M52, you may notice a sparse grouping of faint stars. This is the cluster Czernik 43. If you happen to see this elusive cluster, you can now go to star parties and show off your extensive knowledge of the sky like the experts, as I'm sure very few amateurs know of this cluster's existence. As for the correct pronunciation—you're on your own!

Name	Type	Mag.	Dimensions	Const	SkyAtlas	U2000	R.A.	Dec
NGC 7142	open cl	9.3	4.3'	Cep	3	33	21h 46m	+65° 48'
NGC 7133	diff neb	---	3' x 3'	Cep	3	33	21h 43m	+66° 06'
NGC 7129	diff neb	---	7' x 7'	Cep	3	33	21h 43m	+66° 10'
	open cl	11.5p	7'	Cep	3	33	21h 43m	+66° 10'
NGC 7510	open cl	7.9	4'	Cep	3	58	23h 12m	+60° 34'
NGC 7635	diff neb	---	15' x 8'	Cas	3	58	23h 21m	+61° 12'
M52	open cl	6.9	12'	Cas	3	58	23h 24m	+61° 35'

East Valley Astronomy Club

Membership Form

Please complete the information on the form and return to the address below along with a check payable to EVAC for $20.00 annual dues.

Bill Smith, EVAC Treasurer
1663 S. Sycamore
Mesa, AZ 85202

Name _____ ***Please***
Address _____
_____ ***Print***
Phone # _____

( ) New ( ) Renewal ( ) Change of address

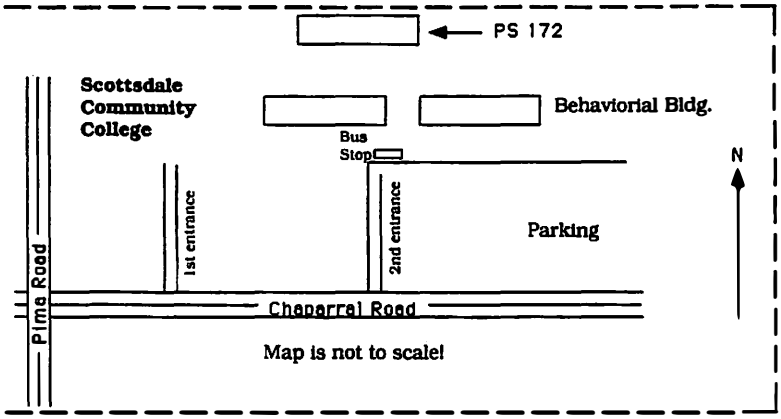
Major area(s) of interest:
( ) General observing
( ) Lunar observing
( ) Planetary observing
( ) Telescope Making
( ) Astrophotography
( ) Other _____

Enclosed:
___$20 annual
___$15 April - Dec.
___$10 July - Dec.

It is not necessary, but do you currently own astronomy equipment?
( ) Yes ( ) No
If yes, please describe. _____
How did you hear about the East Valley Astronomy Club? _____
_____

CLIP AND SAVE

Monthly business meetings are on the Wednesday nearest to the full moon.



Valued EVAC member since 1/17/92!

EVAC/Robert Kerwin
14026 N. Sussex Place
Fountain Hills, AZ 85268

New Arizona City Site

Take I-10 to exit 200 (Sunland Gin Road). Turn right (south) after exiting the freeway. After about 15 miles, the pavement ends and about one mile further, the road turns sharply to the west. One mile past the road to the old site, the main road will turn south just after the "Silverbell Estates" signs. Continue for another 2.5 miles. The road will veer off to the west. Immediately to the east is the road to the site. About 100 yards down this road are several large, open areas to the left.