

East Valley Astronomy Club

November

Newsletter

1996

EVAC MEETING HIGHLIGHTS

By Aaron McNeely

Robert Kerwin opened the meeting at 7:30 pm. There were 53 persons present with 4 guests. Robert discussed the following events:

All-Arizona Star Party, Oct 12.
Local Star Party, Nov 2.
Deep Sky Star Party, Nov 9.

Robert also directed the nominations for club offices, and the election will be in November. Here are the following positions and nominees:

President: Sheri Cahn
Vice President: Tom Polakis
Treasurer: Silvio Jaconelli
Secretary: Aaron McNeely
Properties: Ken Spruell
Directors: Frank Honer, Paul Dickson, Don Wrigley, Bob Kearney

One more Director can be added for a limit of five. Robert stressed that more than one individual could be nominated for an office! Details concerning the duties of each office can be found in the EVAC By-Laws.

Richard Gans stated that EVAC could assume control of an observatory located on a Boy Scout Camp north of Payson. The observatory features a 17 inch Newtonian and a roll-off roof. The Club would be responsible for upkeep of the facility in exchange for unlimited access during off-season times. EVAC could also institute some educational programs for the Scouts. Richard also said that the Scouts could use some astronomy merit badge counselors, preferably individuals with a good background in astronomy as the average EVAC member possesses.

Paul Dickson has one astronomy kit for beginners left at \$15, and he is also selling SAC's Best of the NGC for \$5. Paul also has a sign up sheet for a tentative University of Arizona Mirror Lab open house.

Chris Schurr displayed some of his latest photographs

taken with the red sensitive Kodak 400 Pro PPF film. Most of his slides were a combination of two 45 minute slides sandwiched to produce images of 90 minutes exposure. Chris showed images of Comet Hale-Bopp, the Veil Nebula, and the nebulosity near Gamma Cygni. His images of the "Mexico" portion of the North American Nebula, and the Eagle Nebula display unprecedented detail.

FEATURED PRESENTATION

EVAC's own Sheri Cahn was the main speaker at the October meeting. Sheri spoke about her summer research using data from the Hubble Space Telescope. The Hubble data archive is available to registered users with appropriate equipment. Her initial aim was to examine Hubble images of H2 regions in hope of determining criteria to judge other nebulae for the presence of proto planetary disks. Sheri is able to download the data into her personal computer at home, and she provided slides detailing each step of the downloading process. Users need to provide object coordinates and specify which Hubble camera they wish to obtain data from. Each image, corresponding to one of the four CCD chips composing the Wide Field and Planetary Camera (WFPC2), requires from 80 to 100 megabytes of storage space on a computer. This dilemma prompted Sheri to install a Zip drive to store images on separate data cassettes. Sheri's computer required 16-18 hours of on-line time to download six exposures. She then converted the data into "gray

UPCOMING EVENTS

- Deep Sky Star Party, Nov. 9, Sunset -5:29 pm
Vekol Road site
- EVAC Club Meeting, Nov. 13, 7:30 pm
SCC, Physical Science Bldg., Room 172
- Local Star Party, Nov. 30, Sunset -5:20 pm
New Florence Junction site
- Deep Sky Star Party, Dec. 7, Sunset -5:20 pm
Vekol Road site
- EVAC Club Meeting, Dec. 11, 7:30 pm
SCC, Physical Science Bldg., Room 172

scales", black and white images, using image processing software created by the National Institute of Health. Sheri then elected to convert the gray scales into color photographs, her results were similar to the famous "Hubble Pillars" photo of the Eagle Nebula. The slides were very impressive, she also had obtained images of the Hourglass Nebula in the heart of M8 and the Trapezium multiple star in the Orion Nebula.

Throughout Sheri's presentation I received the impression that she possesses enormous patience and drive. Not only does she put in many hours of work at home, her production of the slides from the computer images require a trip over to the University and more multi-hour production times as they gradually were exposed in an optical device attached to a computer. She even recounted an anecdote about how her major professor accidentally opened the device and ruined some of the slides! He graciously re-exposed them for her.

Sheri concluded that nebula M20 would be a favorable candidate for a circumstellar disk search with M17 being too old and M8 being too "weird." Another thing that I learned about H2 regions is that characteristics such as mass and number of ionizing stars vary with closeness to the galactic center.

NOVEMBER MEETING

First on the agenda for this meeting is nominations for club officers and directors. After nominations, we will hold the election. This is very important. Remember, to come to the meeting and vote early and often. (Ed. Note)

November's speaker will be Paul Knauth, an amateur astronomer from the ASU Geology Department. He will speak about the Mars meteorite discovery.

FIRST HIGHWAY CLEANUP

By Sam Herchak/Secretary

12 members of the Club completed the inaugural cleanup of Highway 60 mile 211-212 on Saturday, September 28th. This began our indefinite commitment under the Adopt-A-Highway program to help keep the roadsides beautiful.

The cleanup went pretty much as planned, lasting from 9:30 AM until 1 in the afternoon. It was a beautiful day to be outside, but a little warm for the amount of work we had in store for us. Though not allowed by the program to clean the median, the group managed to collect over 30 huge trash bags of litter from just the edges! By far the most common debris was glass beer bottles, whose weight sometimes exceeded the capacity of the trash bags (and our backs). There weren't any injuries; nothing hazardous was found, but Bernie did

managed to come up with a unique x-rated toy.

Many thanks to the members below who supported the Club with this effort. I do hope we see some different volunteers for the spring cleanup.

Enrico Alvarez
Silvio Jaconelli
Bob Kearney
Aaron McNeely
Bernie Sanden
Art Zarkos

Sam Herchak
Jane Kearney
Robert Kerwin
Tom Polakis
Don Wrigley

LUNAR ECLIPSE NOTES

By Tom Polakis

(Ed. Note- This report is about the Lunar Eclipse that took place on 26 September 1996.)

About a dozen people from the East Valley Astronomy Club gathered East of Phoenix to watch the eclipse through broken middle level clouds. It was apparent early that this was going to be a bright eclipse when the dark limb of the moon became apparent before the Moon was even 20% covered. Twenty minutes past first contact, the edge of the umbra displayed a subtle orange tint. As the partial phase advanced, the umbral edge was nothing more than gray through any instrument ranging from small binoculars to a 12.5-inch Newtonian. This contrasted with the event of November 1993, when the edge of the Earth's shadow was a beautiful teal blue. By the time the Moon was 80% covered, there was a kind of "secondary umbra" coming across the Moon. The shadow, from its edge and inward for 5' or so was colorless gray until it met up with the classic orange glow of sunlight filtered through our atmosphere.

The Moon was well out of the clouds by the onset of totality. The naked eye view best showed the bright rim around all but the southern limb. My 8-inch showed a dark patch that appeared as a "false sea" where there is none down in the Southern Highlands. Sam Herchak's 12.5-inch best showed the subtle colors in the deepest portions of the shadow, and made me wish for more aperture out there. Clearly the winning view, though, as it has been in past eclipses, was through binoculars. Aaron McNeely's 11x80mm's gave us all a great view of that 3-dimensional effect so often noticed. The field around the colorful Moon in the bins was just swimming with stars. I'll second Jay Freeman's comparison to a sodium vapor lamp for the eclipsed Moon's color, although it was a hell of a lot more pleasing to view.

Halfway into totality, many had resorted to deep sky observing, what with the Cygnus Milky Way overhead and all. I'm looking forward to seeing the next round of dark sky images of Comet Hale-Bopp in a few days,

since I could swear I saw a thin anti-tail pointing sunward for 1/2 degree. In light of recent observational claims regarding comets, I'll leave it to the photographers out there to prove me wrong. 'Nuff said!

During totality, Arizonans were treated to two occultations. A 6th magnitude star disappeared and reappeared a half hour later. Another 8th magnitude star disappeared during totality as well.

I rated the brightness of the Moon at -1 magnitude, or somewhere between Saturn and Jupiter. If anybody knows what the advantage of the Danjon scale over a magnitude estimate is, I'd be interested in hearing about it.

Third contact didn't reveal any new surprises, so the more social star party session began. Even when only a quarter of the uneclipsed disk had emerged, the sky was as wiped out as it would have been with a Moon of twice that phase. The direct lighting on the Full Moon is much brighter for a given area than it is during Quarter phase.

Although my long lenses were left at home, that didn't stop me from burning a roll of Fuji 400 using only a 100mm lens. Most of these are not really scannable, but I've posted one of the moonrise at:

<http://www.goodnet.com/~polakis/eclipse/eclrise1.jpg>

1997 CALENDARS

By Sam Herchak/Secretary

It's time to think about those astronomical calendars for next year. Kalmbach Publishing is selling the monthly Exploring the Universe version for \$6.00, while the Starry Messenger Press offers the weekly Astronomy & Space for \$9.00 each. Both prices require orders of more than ten calendars, but include shipping. I will have samples and take orders at the upcoming club meeting. Bring cash or checks payable to: EVAC. If you can't make the meeting, call 924-5981 to work out a mail order. Payment must be received by Nov. 26th and delivery will take place at the Dec. Club meeting. Unfortunately, they cannot be sent directly to you.

Additionally, Paul Dickson will be taking orders for the 1997 Observer's Handbook. Details from Paul at the Nov. meeting, but expect a price around \$11.00 each.

WRAL MEETING AT YUCCA VALLEY

By Bob Gent, Tucson, AZ

Greetings from the Western Region of the Astronomical League!

We have scheduled a planning meeting held in Yucca

Valley, California on November 9. If you can attend, we'd be pleased to see you. We will be meeting at the Yucca Valley Community Center in the Mesquite Room at 4:00 pm on Saturday afternoon. Our goal is to discuss plans for a WRAL regional star party and meeting in late 1997. If you can attend this meeting or have any agenda items, please send me e-mail message at rlgent@aol.com.

As it now stands, there will be about 10 people representing various western astronomy clubs, the WAA, and the League. In addition, there will be a representative from the Joshua Tree National Park as well as a rep from the Yucca Valley Chamber of Commerce. Tim Hunter and I will be driving from Tucson early Saturday morning.

Paul Livio and others will be bringing scopes for viewing Saturday night after our meeting. Since this is a new moon weekend, it will be a good chance to check out the sky conditions if the weather holds out.

If you need a place to stay, there are several hotels in Yucca Valley. Two of the "guidebook choices" are Oasis of Eden Inn (619) 365 6321 or the Desert View Motel at (619) 365-9706. Tim Hunter and I will be staying at the Oasis with a couple other attendees. See you soon.

Clear and steady skies,
Bob Gent, WRAL Representative
Tucson, Arizona

LETTER TO THE EDITOR

Malcolm R. McKellar
P.O. Box 809, Mossman FNQ 4873
Tel & Fax: 070-993135

October 8, 1996

To the Editor,

I keep receiving and enjoying the fabulous EVAC newsletter (and envying the range and depth of speakers, activities, contributors and knowledge the members of the Club enjoy these days), and promising myself that I should write and congratulate you, the Executive and the Club on your success and high standards.

I enjoyed my brief period of on-site membership with the Club back in '92-'93, and truly appreciate being a long-distance member since my move back Down Under. I now live in tropical Far North Queensland, north of Cairns on the north-east coast of Australia, and though the atmosphere is thick (and during the summer wet season, very moist) the winter skies can be crystal clear (temperatures can get down to the 60's) and there is no such thing as pollution (light or

otherwise).

I noticed that several members visited Sydney and environs earlier this year; though that is about 2000 miles south of here, should anyone be visiting Australia and happen to come through the Cairns/Great Barrier Reef area then please tell them to give me a call.

I have done very little astronomy since our move, but I am hoping to get something going in the area in '97. In the meantime I will continue to enjoy serious amateur astronomy vicariously through your great newsletter.

Keep up the good work, and best regards to all.

Sincerely,
Malcolm R. McKellar

STAR WARE 2 SURVEY By Phil Harrington

Greetings, I'm hoping you can help me. As you may know, in 1994, I released my book **STAR WARE: THE AMATEUR ASTRONOMER'S ULTIMATE GUIDE TO CHOOSING, BUYING, AND USING TELESCOPES AND ACCESSORIES**. The purpose of this book is twofold. First, it explains various terminology and concepts that those who are new to astronomy often find confusing. It also surveys, in an unbiased and objective way, the astronomical equipment marketplace in an attempt to answer the age-old question that so many stargazers ask: "Which telescope is right for me?" Unlike most other telescope books, **STAR WARE** names names! Which telescopes are good, and which are not?

Sales of **STAR WARE** have been great, but to keep it up-to-date, it is time to reexamine the market, and see what has changed. There are a lot of new telescopes out there! Are the good telescopes still good, or is there something better?

STAR WARE 1 relied heavily on people's opinions of their telescopes and accessories. The response back then was terrific! This time around, I'm asking people to complete a simple one-page survey, telling me what they think of their telescopes and accessories. I've attached a copy of the form at the end of this note. If it's not too much trouble, could I ask that you make mention of it at your next club meeting...perhaps even include something about it in your newsletter, if you have one. People may then fill out the form and send it back to me at 54A Dillmont Drive, Smithtown, New York 11787, or by e-mail to STARWARE@JUNO.COM. If people would prefer to receive an electronic copy of the survey, they should visit <http://www.rahul.net/resource/surveys.html>.

I am also looking for homemade projects to highlight in

the book. I'm not so much interested in complete telescopes, but rather "gadgets." In **STAR WARE 1**, I included plans for such diverse things as an LED flashlight, light-pollution shield, binocular mount, an observing chair, and even a complete observatory. I wonder if one of your club members might have an interesting project along those lines. If so, I would like to hear about it, and possibly feature it in **STAR WARE 2**. No project is too small to be considered, but I am looking for a "stand-alone" project, not just a modification to a particular telescope. If a project is selected for the book, the "inventor" will receive a free copy when it is released in mid-1998. Ideas may be submitted either my regular mail or e-mail at the addresses above, or on the WWW at <http://www.tiac.net/users/atm/starware.html>.

I want to expand the global nature of the book, and am hoping the WWW will help me. That's why I am sending this same request to clubs all around the world, asking them to spread the word about the **STAR WARE 2** survey. Perhaps together, we can help manufacturers serve our needs better!

Thanks very much for any help you can give me. I truly appreciate the effort! If you have any questions or comments, please drop me a line.

STAR WARE 2: ASTRONOMICAL EQUIPMENT SURVEY

Instructions: Please answer all (or as many) of the questions below as possible. If you own more than one telescope, I'd like to hear about each. **USE AS MUCH ROOM AS YOU WANT!** I'll save each response and reference them when it comes time to write the reviews. Note, however, that I will not name specific individuals in the book, in order to preserve anonymity. Also, your name/comments will **NOT** be circulated to any mail lists or manufacturers.

Thanks in advance!

Your name:
Address:
City:
State:
Zip:
E-mail:

Years in astronomy?:

Do you consider yourself a:

Beginner Intermediate Advanced

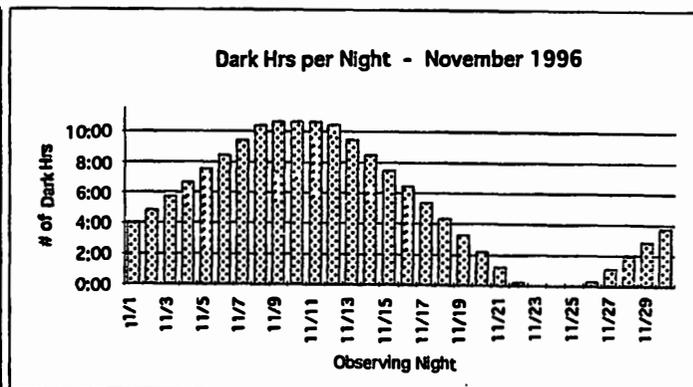
TELESCOPE (please include each telescope you own)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27 	28 *Hole-Boop/M14 Conjunction	29 *10:49 PM Occ *7:49, 8:29, 9:59 PM Gd Moons *Good N Lunar Libration	30 *3:30 AM Algal at Min *11:55 PM Occ	31	1 *11:59 PM Algal at Min. *Mercury at Sup. Conjunction *ALL MONTH NOTES	2 Local S Party *S Taurid Meteors
3	4 *7:59 AM Occ *8:47 PM Algal at Min. Sunset 5:30 PM Sunrise 6:48AM	5	6	7 *7:00 PM PAS Mtg	8	9 Deep Sky S Party
10	11 *N Taurid Meteors	12	13 EVAC Meeting *ELECTION of Officers *6:53 PM M23 Occ	14 *6:17, 7:18, 8:32 PM Gd Moons	15	16
17 *7:00 AM Leonid Meteors Peak	18 Sunset 5:21 PM Sunrise 7:00AM	19 *4:52 AM Algal at Min.	20 *9:55 PM Occ	21	22 *1:41 AM Algal at Min. *7:30 PM SAC Mtg	23
24 *10:30 PM Algal at Min. *Pluto in Conjunction with Sun	25	26	27 *7:19 PM Algal at Min. *Excellent N. Lunar Libration	28	29	30 Local S Party

Date	Start	Title	Description
11/1/96	12:00 AM	ALL MONTH NOTES	<p>CALENDAR NOTES: See 1996 EVAC Occultation Predictions in the February newsletter for details on lunar "Occ" events. "Gal Moons" refers to at least 3 events of Jupiter's satellites. See Sky&Telescope (S&T) and Astronomy (ASTRO) magazines for more info.</p> <p>PLANETS: MERCURY is not visible until late Nov. and then it is a difficult evening object low in the SW after Sunset. VENUS rises around 4:30 AM and dominates the eastern sky at a brilliant white -4 magnitude. MARS is small (6 arcseconds) and rises after midnight. A good telescope can still show its N polar cap. JUPITER is low in the SW at dusk, this being the last month practical to observe it. SATURN is well placed in the evening sky for observation. Ring tilt has decreased somewhat to only 3 degrees (south side visible). URANUS and NEPTUNE are about 15 degrees east of Jupiter and soon to be lost in solar glare. PLUTO IS lost to solar glare! See pg 64 of the July ASTRO or pg 70 of the April S&T for findercharts.</p> <p>OBJECTS OF INTEREST: Comet Hale-Bopp (pg 71 of Nov S&T; pg 71 of Nov ASTRO). Zodiacal Light (pg 65 of Oct ASTRO). Asteroids 511 Davida and 704 Interamnia (pg 72 of Nov ASTRO).</p>
11/2/96	12:00 PM	S Taurid Meteors	Meteors from this shower can be seen two weeks before and after the 2nd. They are normally much slower than average and about 15 Taurids per hour can be expected with dark skies. Moon interferes in early AM.
11/7/96	7:00 PM	7:00 PM PAS Mtg	Phoenix Astronomical Society meeting, Brophy Prep, 4701 N. Central Ave. Turn off Highland into Main entrance, follow signs upstairs to Physics lab.
11/11/96	11:00 AM	N Taurid Meteors	This shower lasts several weeks like its cousin, the S Taurids. Max rate about 15/hour.
11/13/96	6:53 PM	6:53 PM M23 Occ	If you can't make the Club meeting, watch the crescent moon glide across the open star cluster M23.
11/17/96	7:00 AM	7:00 AM Leonid Meteors Peak	The swift and prolific Leonids peak this AM. Moon does not interfere after midnight. At least 40/hr are expected, with possibly many more. See Nov S&T and/or ASTRO magazines for details.
11/22/96	7:30 PM	7:30 PM SAC Mtg	Saguaro Astronomy Club meeting, Grand Canyon University, Fleming Bldg, Rm 105. Camelback and 33rd Ave.

Dark of the Moon Table -- November 1996

O SERVING NIGHT	START OF DARK	END OF DARK	TOT AL DARK	OBSERVING NIGHT	START OF DARK	END OF DARK	TOTAL DARK
FRI/SAT	11/1 7:00 PM EOT	11/1 10:56 PM MR	3:56	SAT/SUN	11/16 11:12 PM MS	11/17 5:36 AM SOT	6:24
SAT/SUN	11/2 6:59 PM EOT	11/2 11:48 PM MR	4:49	SUN/MON	11/18 12:16 AM MS	11/18 5:37 AM SOT	5:21
SUN/MON	11/3 6:58 PM EOT	11/4 12:41 AM MR	5:43	MON/TUES	11/19 1:20 AM MS	11/19 5:38 AM SOT	4:18
MON/TUES	11/4 6:57 PM EOT	11/5 1:34 AM MR	6:37	TUES/WED	11/20 2:24 AM MS	11/20 5:39 AM SOT	3:15
TUES/WED	11/5 6:57 PM EOT	11/6 2:28 AM MR	7:31	WED/THURS	11/21 3:27 AM MS	11/21 5:39 AM SOT	2:12
WED/THURS	11/6 6:56 PM EOT	11/7 3:23 AM MR	8:27	THURS/FRI	11/22 4:29 AM MS	11/22 5:40 AM SOT	1:11
THURS/FRI	11/7 6:55 PM EOT	11/8 4:19 AM MR	9:24	FRI/SAT	11/23 5:30 AM MS	11/23 5:41 AM SOT	0:11
FRI/SAT	11/8 6:55 PM EOT	11/9 5:18 AM MR	10:23	SAT/SUN	none	n/a	--
SAT/SUN	11/9 6:54 PM EOT	11/10 5:31 AM SOT	10:37	SUN/MON	none	n/a	--
SUN/MON	11/10 6:54 PM EOT	11/11 5:31 AM SOT	10:37	MON/TUES	none	n/a	--
MON/TUES	11/11 6:53 PM EOT	11/12 5:32 AM SOT	10:39	TUES/WED	11/26 6:48 PM EOT	11/26 7:03 PM MR	0:15
TUES/WED	11/12 7:08 PM MS	11/13 5:33 AM SOT	10:25	WED/THURS	11/27 6:48 PM EOT	11/27 7:54 PM MR	1:06
WED/THURS	11/13 8:05 PM MS	11/14 5:34 AM SOT	9:29	THURS/FRI	11/28 6:48 PM EOT	11/28 8:46 PM MR	1:58
THURS/FRI	11/14 9:05 PM MS	11/15 5:35 AM SOT	8:30	FRI/SAT	11/29 6:48 PM EOT	11/29 9:39 PM MR	2:51
FRI/SAT	11/15 10:08 PM MS	11/16 5:35 AM SOT	7:27	SAT/SUN	11/30 6:48 PM EOT	11/30 10:32 PM MR	3:44



EOT = End of Astronomical Twilight

MR = Moonrise

SOT = Start of Twilight

MS = Moonset

NOTE: Applies to Phoenix area (Mtn Std Time)

Bernie Sanden 10/96

Telescope model:

How old is it?

Are you the original owner?

What do you like about it?

What don't you like about it?

Has it lived up to your expectations?

Would you buy it again?

Have you ever had to contact the company about a problem?

Was it resolved? Explain.

EYEPIECES

What eyepieces do you own?

How do they work? Any particular likes or dislikes? (Please list your impressions separately for each)

ACCESSORIES

What accessories do you own? (anything...binoculars, books, software, filters, finderscope, etc.)

Any particular likes or dislikes? (Please list your impressions separately for each)

Your vote for the best telescope of yesteryear (only models that are no longer made):

Please send completed surveys to STAR WARE 2, c/o Phil Harrington, 54A Dillmont Drive, Smithtown, New York 11787 or by e-mail to STARWARE@JUNO.COM.

TOUTATIS

By William J. Peters, EVAC (813-4242, bpeters@asu.edu)

Every four years one of the strangest Earth-crossing asteroids, zips past the Earth. This November 29 (4179) Toutatis will come within 5,300,000 kilometers of the Earth. At magnitude approaching +10.5 it should be easily visible in most backyard telescopes. Toutatis was discovered in 1989 by a French team as it was receding from its close pass in October 1988. Toutatis is in a four year synchronous orbit with the Earth that swings inward from the asteroid belt into the earth's orbit when both are nearly in the same location. Of the 387 known Earth-approaching asteroids (Apollos, Atens and Eros) Toutatis holds the

record for being in an orbital plane most similar to the Earth's, with less than half a degree's difference.

In 1992 the Jet Propulsion Lab imaged Toutatis and discovered that the asteroid is an unusual contact binary whose primary is eight times more massive than the secondary, with respective diameters of 4.0 and 2.5 kilometers. It's shape, like a football with a ping-pong ball on it's nose, has resulted in a tri-axis non-repeating rotational period. This means that an observer on the surface would never see the sun rise and set at the exactly same place twice on the horizon. The unusually slow periods of rotation, 5.41 and 7.35 days respectively in combination with precession, have not allowed enough time for the asteroid to stabilize into a repeating cycle. Only about a dozen asteroids of the more than 8000 catalogued have been discovered to have a non-repeating orbit to date.

You can spot Toutatis whizzing across the sky at over 2 degrees per hour in late November and early December. Will Toutatis eventually strike Earth? At this point there is no way to know for sure. Earth affects it's orbit just enough so that our safety can only be accurately guaranteed for the next century. Stick around though, in September 2004 Toutatis will pass less than 1,600,000 kilometers from the Earth - a mere hair's breath astronomically speaking. Be sure to keep your head down. (Additional information about Toutatis and other near Earth asteroids can be found on the worldwide web at the Minor Planet Center <<http://cfa-www.harvard.edu/cfa/ps/mpc.html>>.)

CLASSIFIEDS

For sale Meade LX200 HP f/10 10" scope with V3.34 software. Very good condition and ready for deep sky viewing or astrophotography. Includes \$1,700 worth of accessories.

Asking \$3,500 OBO. Phone 554-8789, 8 to 5PM.

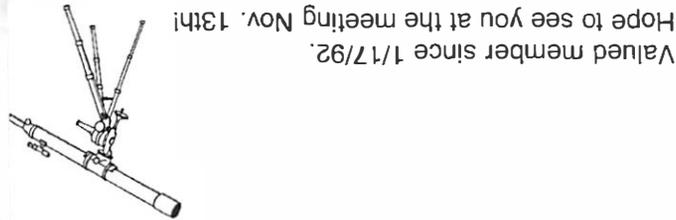
Jim Waters EVAC

FROM THE EDITOR

With this issue, I have completed one year as editor. I hope that this newsletter has been of use to you. I have enjoyed editing this newsletter and I will continue, as editor, for at least another year.

I have received some feedback from you, some constructive, most appreciative. The only way I can continue as editor is to heard from you occasionally. Your input is most welcome. Recently, I changed my internet service. My new e-mail address is starjb@mail.idt.net. Thank you.

• TOWERS
 • STARWAVE 2
 • LUNAR ECLIPSE NOTES
 • HIGHWAY CLEANUP
 IN THIS ISSUE



Valued member since 1/17/92.
 Hope to see you at the meeting Nov. 13th!



EAST VALLEY ASTRONOMY CLUB
 Robert G. Kearney, Jr., Editor
 2120 W. 8th Ave.
 Mesa, AZ 85202

EAST VALLEY ASTRONOMY CLUB

President: Robert Kerwin 837-3971	Vice-President: Tom Polakis 967-1658	Treasurer: Sheri Cahn 246-4633	Secretary: Sam Herchak 924-5981	Properties: Steve O'Dwyer 926-2028
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MEMBERSHIP&SUBSCRIPTIONS: \$20.00 annually. Reduced rates available to members for *Sky&Telescope* and *Astronomy*. Contact Sheri Cahn, 3721 W. Hayward Ave., Phoenix, AZ 85051, (602)-246-4633.

CLUB MEETINGS: Second Wednesday of every month at the Scottsdale Community College, 7:30 PM. Normally Room PS 170 or 172 in the Physical Sciences Building.

NEWSLETTER: Published and mailed out the week before the monthly Club meeting. Send your thoughts and stories for publication to: Robert G. Kearney, Jr., 2120 W. 8th Ave., Mesa, AZ 85202, (602)-844-1732. Email to: starjb@mail.idt.net.

CHANGE OF ADDRESS: Notify Bill Smith, 1663 S. Sycamore, Mesa, AZ 85202, (602)-831-1520. Email to: bsmithaz@aol.com.

EVAC LIBRARY: The library contains a good assortment of books, downloaded imagery, and helpful guides and is usually brought to the Club meetings. Contact Steve O'Dwyer for complete details, (602)-926-2028.

BOOK DISCOUNTS: Great savings for members through Kalmbach and Sky Publishing Companies. Contact Sam Herchak, 145 S. Norfolk Cir, Mesa, AZ 85206-1123, (602)-924-5981.

EVAC PARTY LINE: Let other members know in advance if you plan to attend a scheduled EVAC observing session. Contact Robert Kerwin, (602)-837-3971. Email to: p24493@geppo7.geg.mot.com.