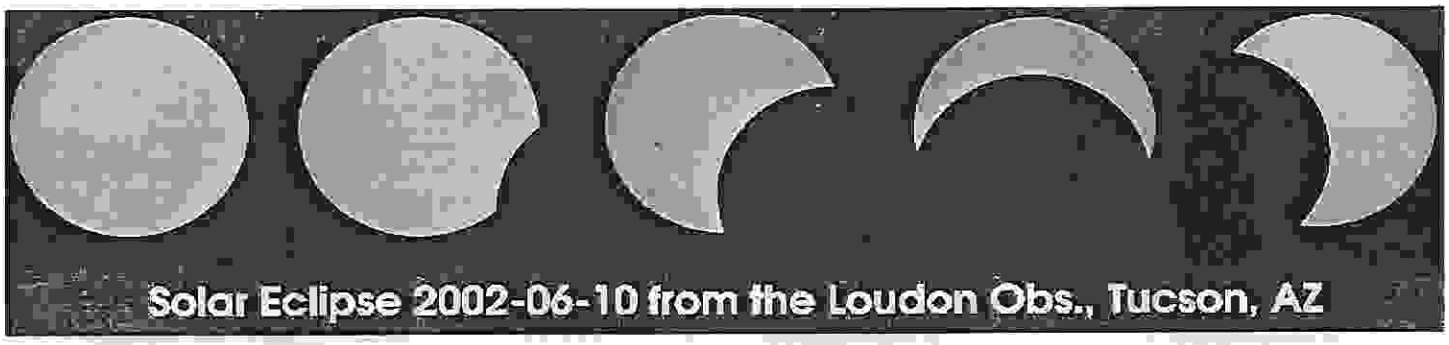
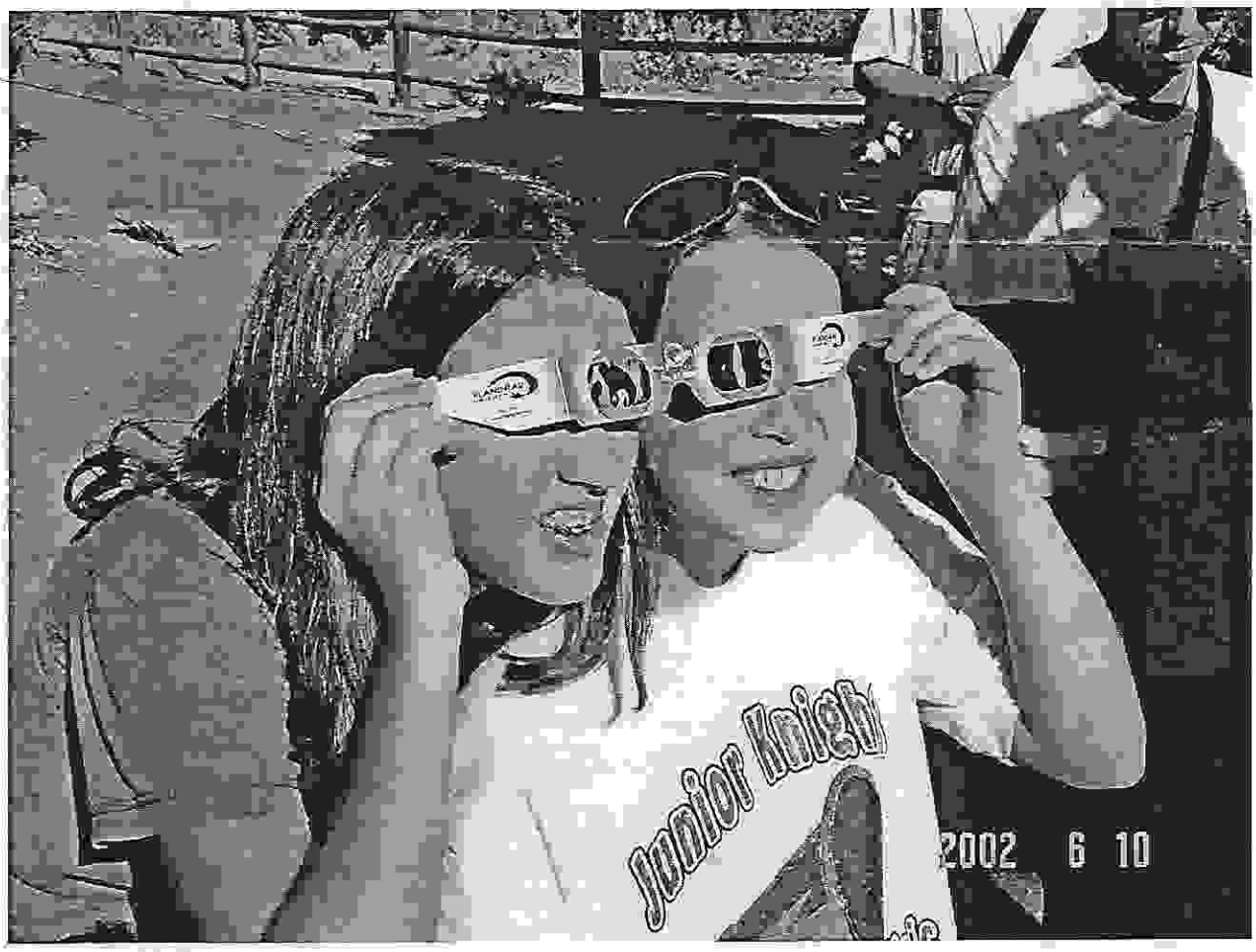
Desert Skies

Tucson Amateur Astronomy Association

Volume XLVIII, Number 7 July, 2002





June 10 Solar Eclipse

Cover Photos: Top composite of solar eclipse phases by Rik Hill. Lower: A pair of Illinois cousins find an innovative way to simultaneously observe the eclipse at the Grand Canyon with a single pair of glasses. Photo by Dean Ketelsen

TAAA Web Page: http://www.tucsonastronomy.org **TAAA Phone Number: (520) 882-1950**

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Membership in the TAAA

Annual Dues

Individual membership	$ 23
Family	$ 28
Senior (over 60) membership	$ 21
Senior Family (at least one over 60)	$ 26
Student membership (over 18 years old)	$ 15

Family Membership includes two adults plus minor children. Persons under 18 may join at a special Reduced Family Membership rate ($15/yr) upon parental or guardian acknowledgement of participation in TAAA activities. Call the Treasurer to request the required form.

Options (add to above membership rates)

Tucson society of the Astronomical League (TAL) dues	$ 3.50
Sky & Telescope Magazine	$ 29.95
Astronomy Magazine	$ 29.00
Postage for New Member Pack	$ 3.50

Donations are accepted for any of the TAAA funds: SA-IDA/Light Pollution, TIMPA, Education, 30" Telescope & Land, or General Fund.

Renewal Information

- Membership expires the last day of the month indicated on your mailing label. You will receive a renewal notice when they are due.
- TAAA members may join the Tucson society of the Astronomical League (TAL). TAL expiration will match your TAAA expiration.
- Discounted Sky & Telescope or Astronomy magazine subscriptions are available to members and can be started or renewed at anytime. Only single year subscriptions are accepted. Allow at least 3 months for processing. Subscriptions must be sent through the TAAA. *Do not send money directly to the magazines.* To change an individual subscription to the group rate, send the above subscription amounts and your magazine renewal notice to the TAAA treasurer.
- To ensure proper credit to your account, please include a note explaining what you are paying for. Credit cards are not accepted. Write one check or money order for dues plus any options or donations. Make it payable to TAAA and send to:

Tucson Amateur Astronomy Association
PO BOX 41254 Tucson, AZ 85717

Mailing Address or Email Changes - Send changes to the above address or email the treasurer.

TAAA Mission Statement - We are a resource for anyone interested in astronomy. It is our mission to nurture a person's natural curiosity about the night sky. By giving people a knowledge and understanding of astronomy, we enhance their enjoyment of the sun, moon, and stars. Through our public activities and school evening observing sessions, we bring astronomy to persons of all ages. Our regular meetings and observing sessions offer members a forum to meet others with similar interests and experiences and to learn from one another.

Desert Skies Publishing Guidelines - All articles, announcements, news, etc. must be submitted by the newsletter deadline noted above. Materials received after that date will appear in the next issue. The editor retains all submissions unless prior arrangements are made. Partial page submissions should be submitted in Word compatible files via e-mail or on a floppy disk. Full-page articles, artwork, and photos can be submitted camera ready. We will not publish slanderous or libelous material! Send submissions to:

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or by e-mail barbergj@flash.net

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President's Message

With what may be our last star parties of the summer season behind us we can look forward to a quiet period. Soon it will be time for maintenance on scopes or equipment. Do we get one more new moon? As we wait for the next new Moon just into July and we face a moral dilemma, do you pray for desperately needed rain or clear skies for one more new moon star party? I think the week's coverage of the Rodeo fire answers that question.

Despite a very successful program this year problems are looming. And as is so often true the problem of a volunteer organization is finding good people to do the simple tasks that keep the organization functioning. There are a number of positions now vacant, refreshment coordinators, ALCOR, newsletter production and other jobs (see further articles in this and future newsletters.) The board has made a deliberate effort to divide each task into manageable portions and splitting up big jobs to spread the load. This so that no one person is pressed by the responsibility.

When this works it works well... a good example is the club apparel. A single job that when handled well, as is currently being done by Ann Scott and family, does not take an onerous amount of time and provides invaluable service and is what makes the club a vital organization.

But after a term of service well performed there comes a time to find a replacement. Jeff and Maggie Buzek have given their notice as school star party coordinators. One of the most important tasks in this most successful club program. Jeff and Maggie have been our contact points for scheduling these events for over two years. So with more than a little regret we must say thank you and begin the search for a replacement.

Doing the things we do does have its rewards, thank you letters from school children and the knowledge that you are doing something for our community. Sometimes (not often) the rewards are material; the club now has a 10" Meade GPS telescope, courtesy Meade as a reward for our efforts on the Telescopes for Telethon event. This is added to an ETX-90 and other instruments the club has at its disposal. But that brings up another possible program, a loaner telescope program. But only possible if a qualified volunteer steps forward to make it a reality.

Andrew

Meeting Information and Calendar of Events

TAAA MEETING DATE: Friday, July 5 at the Steward Observatory Auditorium – Room N210

BEGINNERS LECTURE: 6:30 pm
Speaker: Dean Salman
Title: Polar Alignment

GENERAL MEETING: 7:30 pm
Speaker: David Levy
Title: These Late Eclipses in the Sun and Moon: Perspectives on Shakespeare and Astronomy

This month David Levy will treat us to a lecture tying two of his favorite subjects together: literature and astronomy. David has been a member of TAAA since he moved to Tucson in the late 70s and was our president from 1980 to 1983. On Nov 14, 1984, David discovered his first comet, Comet Levy-Rudenko, 1984t. Since that discovery, David has made 20 additional comet discoveries, tying him in third place in history for the largest number of comet finds. Many of the more recent discoveries were made photographically, as part of the observing team with Eugene and Carolyn Shoemaker. A most spectacular event in astronomy was the collision between Comet Shoemaker-Levy 9 with Jupiter. This event helped to catapult David's career as an observer and a writer. An excellent observer, David has documented essentially every one of his observing sessions. David has authored or edited 29 books, including biographies of Clyde Tombaugh and Bart Bok. David's "Star Trails" column in *Sky & Telescope* is devoted to the telling of fascinating amateur astronomers he has met in his travels. In 1998 David won an Emmy for his part in writing the Discovery Channel documentary, "Three Minutes to Impact." He currently is the Science Editor for *Parade* Magazine, responsible for bringing a little science into the lives of over 78 million readers. In March of 1997, David married his wife, Wendee, who takes full part in David's astronomical ventures. With Wendee, David co-hosts the weekly radio show "Let's Talk Stars" which can be heard on KTKT and is archived at www.letstalkstars.com. David and Wendee also organize the Muscular Dystrophy Association Telescopes for Telethon Star Party, which the TAAA participates in each year.

David writes the following about his lecture:

Last month we saw two eclipses, a penumbral of the Moon on May 26 and a partial eclipse of the Sun on June 10. I believe that these eclipses belong to the same saros cycle that produced eclipses in the fall of 1605, both visible from London, England. Shakespeare's great tragedy King Lear, which came out about that time, discusses the effects of "these late eclipses." I believe that he had the eclipses of 1605 in mind when he wrote those lines.

I love eclipses, and I love Shakespeare. This talk is about the excitement of both, and is related to my Doctoral Dissertation that I am currently involved in at the Hebrew University.

BOARD OF DIRECTORS MEETING: Tuesday, July 9, 7:00 pm at Steward Observatory Conference room N305.

Meeting Information and Calendar of Events (cont.)

STAR PARTIES AND EVENTS:

July 6 - TAAA Star Party at Las Cienegas
July 11 - Astrophoto SIG Dinner
July 13 - TAAA Star Party at TIMPA

Newsletter Schedule:

Deadline for articles: Mon, July 15. Printing: Mon, July 22. Folding Party: Tues, July 23. Mailing: Wed, July 24. The newsletter is mailed at least one week prior to the following month's General Meeting.

Club News

Member News

We welcome the most recent members who have joined the TAAA: Richard Benson, Lilli Christoph, George and Eileen Dudley, Kevin and Patricia Erwin, Cathleen and Charles Feld, Bob Stanin, Jimmy Stewart (yes, KVOA's weatherman - is this an indication we will have clear skies through our "monsoon season"?). Glad to have all of you join! If you haven't already, be sure to pick up a new members pack at a meeting. Hope you'll make it to our star parties or meetings so we can all get to know you. (Updated membership lists are available at the regular meetings, so pick one up if you need it.)

Astronomical League Correspondent Needed

We need someone to take over the Astronomical League Correspondent (ALCor) responsibilities. After performing this job for the last 18 months, Doug Smith has had to step down. The ALCor is a very important person as he or she serves as the contact between the Astronomical League and the club. The ALCor provides information to our members regarding AL benefits. These include the observing awards, regional and national conventions, and any other League information that they receive. Most importantly, the ALCor is responsible for keeping the AL informed of membership changes by sending a complete list of TAL members to the AL 4 times a year.

If you want to learn more about the position, go to http://www.astroleague.org/al/general/alcors/dutyalcr.html or talk to Terri Lappin (contact info on page 2). You must be a member of the Tucson society of the Astronomical League (TAL) to hold this position.

(Members of the TAAA may join the TAL which will entitle you to receive the quarterly publication the *Reflector*, participate in the AL Observe program, purchase astronomy related books at a 10% discount (with no shipping and handling charges), and to take part in other AL benefits. All this will cost you only $3.50. For more information about the Astronomical League, go to http://www.astroleague.org.)

Astro-Photo SIG

11 July 2002
China Rose, 7pm NE corner Rosemont/Speedway

We are changing the date of the astro-photo SIG for a couple of reasons. One is that it conflicts with another group - the Arizona Photo Collectors, which run the twice a year camera shows also meet the first Thursday. The other reason is that some people disliked tying up two consecutive nights with the SIG and TAAA meeting on adjacent nights. So we will try it on the Thursday after the TAAA meeting (which may not necessarily be the second Thursday...). With all the clear weather we've been having, I'm hoping to see lots of great new images. I've got a few of the planetary conjunction taken with my new digital camera, as well as a few of the Grand Canyon Star Party just concluded. See those and hopefully more on the 11th! For questions, Dean Ketelsen 293-2855.

TAAA and Interpreters Help Kids See Night Sky

May 16, 2002
Text and Photo By Steve Marten

Interpreters assisted a group of more than thirty deaf students, ages 5-19, see and "hear" about the night sky at the Arizona School for the Deaf and Blind in Tucson on May 16th. At the tele-scopes from TAAA were John Kalas, Chuck Schroll, Steve Marten and Ken Wheelock. Jupiter, Venus, Mars, double stars and clusters were among the sights many had observed for the first time. The most impressive for the group was Jupiter and it's attendant Galilean moons. The students were also amazed at the multitude of tiny stars seen in the Hercules cluster. TAAA members learned a bit of sign language too, in responding to students' questions while showing them around the night sky. No "signing" was needed, however, to know that the students were very enthusiastic and enjoyed a truly memorable evening.

Desert Sunset Star Party

May 1-4, 2003, Kartchner Cavern State Park, Benson AZ

Hosted by Chart Markers and More (Pat and Arleen Heimann) and the Arizona State Park Department. Mark your calendars and watch our website for updates http://chartmarker.tripod.com

Currently looking for volunteers for

- Evening talks - ½ hour lectures
- Afternoon presentations - 15-20 minutes
- Afternoon demonstrations - to small groups, possibly repeatable (e.g. for beginners, how to culminate your scope)

Provide a written title and brief description, Email to chartmarker@cox.net. Deadline for submission, Sept. 30, 2002

Club News (cont.)

Grand Canyon Star Party 2002

Text and Photos by Dean Ketelsen

Wow, did we have a star party! We never saw a cloud all week and every night the glow of the Milky Way reminded us of why we live in Arizona. While the wind blew briskly on 3 nights, setting up downwind from the van worked well for me. I think we had record-breaking crowds for the twilight slide shows, but perhaps less overall for general observing. From the crowds and availability of parking at almost all times of the day, park attendance must be down after September 11, but we still had 60 or so astronomers which has been holding steady the last few years.

One thing that the star party is evolving into is a real food festival. While at first it seems difficult to cook masses of food while most of us camp, it somehow happened. Of course on Sunday we had the traditional potluck picnic, and as has been the tradition the last 3 years, the Saguaro Astronomy Club hosted, buying $200 dollars worth of pizza for the second year in a row. Added to the salads and deserts folks brought, nobody went away hungry. More food happened on Wednesday afternoon when the Sirius Lookers of Sedona hosted a mostaccioli feed - pasta and hamburger and sauce, again with another variety of salads and foods thrown in. Thursday morning was huevos rancheros for breakfast thanks to the culinary talents of George Barber and Steve Ratts helped out by other TAAA members. Friday afternoon brought ice cream from Sally Wahler. Sally is the wife of our long time ranger liaison Chuck Wahler. They have hosted our Saturday picnic for many years but had a conflict this year, so brought ice cream for everyone to enjoy. And then the traditional feast on Saturday, this year hosted by our new ranger Carol Tepper. Because of fire restrictions, we couldn't use charcoal, so Carol went out and bought a turkey to cook in her oven. In addition to that, Thom from Phoenix brought the traditional Jambalaya, and I think it was Ron Bishop from Sedona that brought the pasta and steak. James Burnham from Council Bluffs brought two flat cakes, and with everything else most couldn't move afterwards.

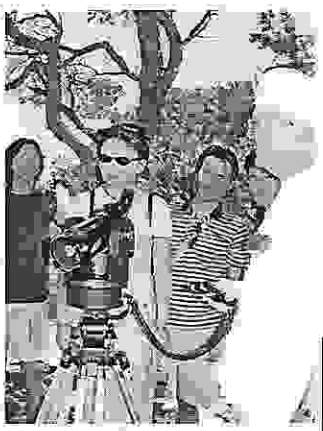
We had the eclipse on Monday afternoon the 10th. I've never seen so many telescopes in one place looking at one thing! There were likely 35 scopes out at Yavapai parking lot showing everything from eyepiece projection to H-alpha views. I had the 5" binoculars at the rim with glass filters and had a constant line. While the view got lots of compliments, most people were amazed most by the view thru eclipse glasses with their own eyes. Something about the real thing, rather than the magnified view excited them more. Speaking of setting up during the day for the public, Sim Picheloup of Houston sets up most every day showing folks Venus or the sun at a different location most days. At 3 hours or so per day, over the course of the week, he got over 2600 people looking thru his scope just for the daytime viewing. Way to so Sim!

Except for the windy nights, the viewing was great. By the time I got back after putting the post-talk AV stuff away, the parking lot was already crowded. Rather than spend the time to set up the equatorial mount and 10" Newt, I yanked out the 6" scope of Jane Tongate, for which I made the optics. It was set up in a minute and after washing off 2 years of dust off the mirror (picking up about a

Club News (cont.)

magnitude) it worked great. Mostly I showed folks comet Ikeya-Zhang which was still brightly visible in binoculars and showed a hint of a tail in the 6" Newtonian. Most of the other telescope owners seemed oblivious to the comet, so I was happy to show many their first view of a comet. If they were just coming into the parking lot from their cars, I showed a lot of them Alberio or the Ring Nebula, or the Hercules Cluster or the Dumbbell Nebula (named after the famous astronomer). I got a green laser pointer a few weeks before and folks were amazed at the "light saber" that showed them where the objects were. I found lots of uses for it - if you give a beginner your binoculars and have him follow the beam, he can find everything you point to be it clusters or galaxies. It is a great learning tool. We also used the pointers to flash the north rim star party. In post-event conversations with those attendees, they said the beam expanded to about 15" at the 10-mile distance, making it very bright, not to be missed. The returns from the north rim with their red lasers (difficult to point because you can't see the beam) was faint by comparison. But for the ultimate accessory I encourage more to invest in Televue's 8-24mm zoom eyepiece. It is cheaper than their usual eyepiece, but is a great public event eyepiece as you can zoom in as the seeing and object permit.

I didn't get 'round very much to the other scopes. Dennis Young again had the big scope with his 28". He added electronic control this year to assist in finding things. There was pretty much always a line and I didn't get to look this year. Mike Spooner had his 18" down in the lower field and he insisted showing me M-13 at 700X. It was breathtaking! Then came M-51 at 400X. Dobson was the first to advocate high powers to darken the background, but that in combination with Mike's great optical fabrication skills (one of the few home made scopes there), the combination was a killer. The crowds didn't last long and after 10:30 or so it was mostly the astronomers sharing views. I think everyone, astronomers included, was happy with the viewing and seeing. Only the wind was complained about...



There already have been lots of requests for next year's dates. It is a hard event to schedule next year. The normal week to have it would be the first week of June, but many kids across the country are still in school (and thus not on vacation at the Canyon). For that reason, I'm planning on having it the 21-28 of June 2003. Jupiter will be up, Mars will rise an hour or so after twilight, and the moon phase is 3rd quarter to new. There will be a chance of monsoon clouds, but the Milky Way also rises earlier. Besides, it pushes that last exquisite week of cool temperatures back so we have to endure the summer heat of Tucson a little less...

Many thanks to all who helped out and participated. Our new Ranger liaison Carol Tepper did a great job in getting out the word of the event with fliers and informing the bus drivers. It wouldn't nearly have been so crowded without all that info getting out. To all the folks who brought scopes and shared them and those who did the same with the food at the newly formed "festival", I thank you profusely. I suspect most who were there will be back and those who have yet to experience the event need to go. I know I'll be back...

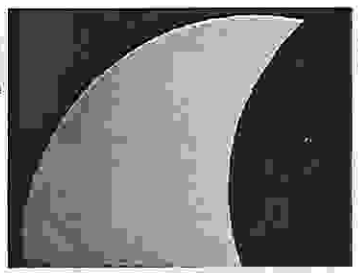
TAAA Land Search Committee

The TAAA Board of Directors voted at their Tuesday, May 14th meeting to reactivate the Land Search Committee. Andrew Cooper will serve as the committee chair; JohnPaul Sosville, George Barber, Paul Olson, Steve Ratts, and Terri Lappin volunteered to serve on the committee.

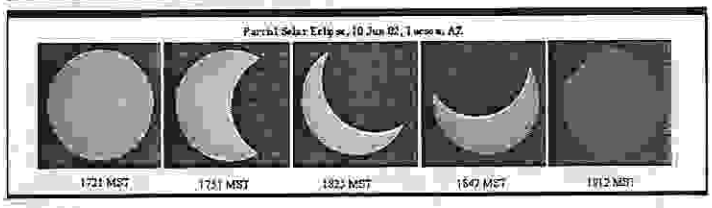
The first order of business charged to the committee by its chairman and our club president, is to identify clearly what we are looking for and what criteria will drive our search. A survey was published in last month's TAAA newsletter. Copies of the survey will also be available at the July meeting, or, if you will not be able to attend the meetings, feel free to mail it to TAAA, P.O. Box 41254, Tucson, Arizona 85717. Completed surveys may be dropped off with any committee member. Our goal is to have all surveys completed by the August meeting.

June 10 Eclipse

A partial eclipse of the Sun occurred last month and sparked quite a few of our club astrophotographers into capturing the event:



Sam Turner took this with his Nikon Coolpix through the lens of his 8" scope.



Alfredo Garcia took this collection of partial phases.

Items of Interest

WEBSITES: TRIPS ON THE INTERNET SUPER-SKYWAY
OUR NEIGHBORS TO THE NORTH - Pt.1
By Rik Hill

No, the title does not refer to the RASC or some astronomy club in Minnesota, I'm talking about Phoenix, and there are not many places in the U.S. that can call that north! If you have never visited the websites of our sister clubs in Phoenix, you should. There's some real top quality amateur astronomy being done up there.

The Saguaro Astronomy Club has a number of fantastic amateurs doing great work. More than just a few books have come out of the ranks of SAC. One is Steve Coe's DEEP-SKY OBSERVING: THE ASTRONIMCAL TOURIST. (Available at amazon.com) Anyone who knows him and his great sense of humor will appreciate this title and all deep sky observers will appreciate the contents. But from this book, or perhaps leading to it, and the hard work of a number of SAC members are the SAC Databases at: http://www.saguaroastro.org/archive/sacdbs.htm

These are two zipped files, both of which will fit on a floppy disk. One is the SAC Deep Sky Database, a listing of "over 10,000 star clusters, galaxies, and nebulae of all types". It consists of five files when unzipped the a largest of which is a bit over 3Mb and is an comma, quote delimited ASCII/text file. This can be read into any database program like Quattro-Pro, Excel, KSpread etc. (GNumeric would not load these files.) It has information on over 10,000 objects!

For the double star observers there's the Double Star Database. This has over 10,000 double star systems with information on each one. However, this one appears to be designed for Windows OS as it has an Install.bat file to unpack the secondary zip files. For non-Gates users, you will have to unzip each file individually. As above, this will create text files that are comma/quote delimited and can be read by most spreadsheet programs.

These two databases, and contained executables, will provide you with more than enough to do for many nights. But with monsoons around the corner (no, honest, it WILL rain, go with me on this one) you may not get the night you want to observe. So bring the sky indoors with HNSky at: http://www.saguaroastro.org/hnsky.htm

This is a cyber-planetarium program that was developed by Han Kleijn, which can read in Gb worth of stellar and deep-sky databases like the two mentioned above plus SAO, TYCHO, GSC, WDS, USNO and a dozen others. The version on the SAC page is abridged but a full version, FREE, is at: http://www.hnsky.org/software.htm#spread

If you do not have a good planetarium-type program this one is a must! Even those who have programs like MegaStar, Dance or Starry Sky will be astounded at what is available here.
As always, if you know of a particularly good website you would like mentioned here, drop me a line at rhill@lpl.arizona.edu.

KITT PEAK VISITOR CENTER RESTRICTS HOURS
By: Andrew Cooper

Due to the extremely high fire danger and the possibility of dry lightning strikes, Kitt Peak National Observatory is closing public access to its grounds and the Kitt Peak Visitor Center at 2 p.m. daily instead of the normal 4 p.m. The time change will have an impact on the last guided tour of the day, which will start 30 minutes earlier than normal. The public picnic grounds have already been closed to visitors until further notice.

The new hours will take effect immediately and last until the monsoon rains start in July. This does not affect the Nightly Observing Program for the public, which will continue with a few changes, nor does it affect current astronomical research on the mountain.

"We expect the shift in hours to last approximately 6 weeks or until we get a good soaking from monsoon rains," says Public Outreach Manager, Rich Fedele. "Our primary concern is public safety," says Fedele. "By closing early we are reducing the number of visitors on the mountain during the time of potential dry lighting strikes, which normally start at the beginning of monsoon season and occur during the mid- to late-afternoon. We are watching the situation closely and may take further actions if needed."

For more information, call the Visitor Center at 520/318-8726 or check our website at www.noao.edu.

Kitt Peak Job Openings

Kitt Peak National Observatory is looking for 3 enthusiastic individuals, to help conduct its Night Astronomy Programs (beginning and advance). The position requires knowledge of astronomy, skill in the area of public speaking and proficiency with computers and amateur telescopes. Candidates must be able to work without close supervision while maintaining the highest level of awareness in terms of both public safety and non-interference with scientific research programs at Kitt Peak. Knowledge in the area of telescopes maintenance, CCD imagery is highly desirable. Part time positions are available. Preference will be given to qualified Native Americans living on or near the Tohono O'odham reservation. Transportation and meals are provided. Must have a valid AZ driver license http://www.noao.edu

Send resume to:
Sandra Abbey, NOAO Human Resources Manager
P.O. Box 26732, Tucson, AZ 85726
or email to hrnoao@noao.edu

The National Optical Astronomy Observatory is an affirmative action/equal opportunity employer

Star Parties & Events

TAAA Star Party at TIMPA
July 13(Saturday)

Come out and enjoy the early summer skies! What makes this event special is that our novice members can get help with observing issues or equipment problems. There will be experienced members present who would be more than happy to help. If you don't own a telescope, don't worry. There will be lots of scopes set up and everyone is invited to look through them. This is a great way to check out the different telescope designs before you make that all-important decision to buy. There is no scheduled talk for this activity. Just come out with lots of questions and we'll do our best to get you the answers you need. If you have friends who might be interest in amateur astronomy, bring them along. Directions to the TIMPA site are located on the outside flap of this newsletter.

Pima County Natural Resources Catalina Area
July 12, Friday No. of Scopes: 2

This is the second of three star parties that Wendy Burroughs of the Pima County Natural Resources has requested. The first was last month at the Lew Sorenson Community Center. She indicated this event was a HUGE success and was very appreciative. This star party is being held at the Catalina Recreation Center and is located at 16562 N. Oracle Road. Take Oracle Road past Tangerine Road into the town of Catalina. Proceed through town and take a right on Pinto Lane. The rec center is located on the southeast corner of this intersection. The set up area is an open, grassy area that is located just south of the rec center. Set up is at 7:30 with viewing from after 8:00 to 10:00 or so. A Star Party leader is needed for this event and a sign up sheet will be available at the July meeting.

TAAA Star Party at Las Cienegas (Empire Ranch)
July 6 (Saturday)

Las Cienegas (formerly Empire Ranch) has been our normal dark-sky observing site for quite a number of years. Please try to arrive before sunset. Stay as long as you like, but let everyone know when you are ready to leave; someone may be taking astrophotos. Bring a telescope if you have one, but you don't need one to attend. Any member would be glad to let you look through their telescope. There are no restroom facilities at the site, so be prepared. Attendees should park their vehicles either perpendicular to the airstrip facing toward the center of the strip or parallel to the airstrip along either side facing west. That way, when you are ready to leave, you will not have to back up and turn on your bright white backup lights. One nice advantage to belonging to the TAAA is the opportunity to observe among friends. Help in finding an object or the sharing of equipment always goes on at our star parties. If you haven't attended a star party yet, you're missing the best part of belonging to the TAAA. See the directions to Las Cienegas on the outside flap of this newsletter.

Dark Skies for July 2002

DARK SKIES (no twilight, no moonlight) for Tucson in 24-hour MST:18=6pm, 20=8pm, 22=10pm, 0=12am
RISE, SET, VISIBILITY for sun and bright planets: rise for morning object, set for evening object

Su/Mo	30/ 1	21:15 - 23:51	Th/Fr	11/12	21:11 - 3:48	Su/Mo	21/22	3:42 - 3:57
Mo/Tu	1/ 2	21:15 - 0:18	Fr/Sa	12/13	21:48 - 3:49	Mo/Tu	22/23	- - -
Tu/We	2/ 3	21:14 - 0:45	Sa/Su	13/14	22:27 - 3:50	Tu/We	23/24	FULL MOON
We/Th	3/ 4	21:14 - 1:13				We/Th	24/25	- - -
Th/Fr	4/ 5	21:14 - 1:43	Su/Mo	14/15	23:03 - 3:50	Th/Fr	25/26	- - -
Fr/Sa	5/ 6	21:14 - 2:16	Mo/Tu	15/16	23:36 - 3:51	Fr/Sa	26/27	21:00 - 21:21
Sa/Su	6/ 7	21:13 - 2:54	Tu/We	16/17	0:10 - 3:52	Sa/Su	27/28	20:59 - 21:51
			We/Th	17/18	0:44 - 3:53			
Su/Mo	7/ 8	21:13 - 3:38	Th/Fr	18/19	1:22 - 3:54	Su/Mo	28/29	20:58 - 22:19
Mo/Tu	8/ 9	21:13 - 3:46	Fr/Sa	19/20	2:03 - 3:55	Mo/Tu	29/30	20:57 - 22:46
Tu/We	9/10	21:12 - 3:46	Sa/Su	20/21	2:50 - 3:56	Tu/We	30/31	20:56 - 23:13
We/Th	10/11	21:12 - 3:47				We/Th	31/ 1	20:55 - 23:42

Weekend	Sun	Sun	Mercury	Venus	Mars	Jupiter	Saturn	
Sa/Su	Set	Rise	Rise Vi	Set Vi	Set Vi	Set Vi	RiseVi	Vi=Visibility
29/30	19:33	5:19	4:00 4	22:01 -3	20:27 9	20:30 5	4:09 5	-3 brilliant
6/ 7	19:32	5:22	4:16 5	21:57 -3	20:17 -	20:08 8	3:45 3	0 conspicuous
13/14	19:30	5:26	4:48 8	21:51 -3	20:05 -	19:46 -	3:21 2	3 moderate
20/21	19:27	5:30	Set	21:43 -3	19:53 -	Rise	2:57 1	6 naked eye limit
27/28	19:23	5:34	19:55 9	21:35 -3	19:41 -	5:05 -	2:33 1	9 binoculars limit

By Erich Karkoschka

Object of the Month by Alfredo Garcia, Jr.

I have chosen an OTM that is one of the summer sky's most splendorous objects, a personal favorite of mine and one of the first objects I ever saw through a telescope back in 1964. I always return to it in the summer and to this day, it still gives me the same pleasure as back then.

This OTM belongs to the nebula class of objects, in particular a diffuse nebula. Diffuse nebulae are extremely large structures, often many light-years wide having no definite outline and a tenuous, cloud-like appearance. These nebulae are some of the most striking objects in the sky with tremendous streams of matter intermingled in violent, chaotic currents. If they are large and massive enough, they are often places of star formation, thus forming clusters of stars. Some of the young stars in the cluster are often very massive and very hot. Their high-energy radiation excites the gas of the nebula (mostly hydrogen) and causes it to shine. Such diffuse nebulae are further cataloged as emission nebula. Now, if the stars are not hot enough, the dust in the nebula reflects their light yielding a reflection nebula. Since most diffuse emission nebulae also contain dust, they typically have a reflection as well as emission component. They can also contain dark nebulae. Diffuse nebulae are not only found in the Milky Way Galaxy, but other galaxies as well and are one of the most abundant classes of nebulae in the universe.

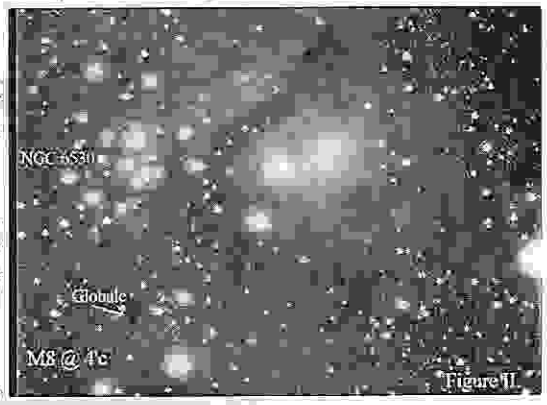


Figure II.

The OTM I have chosen lies in the constellation of Sagittarius, the Archer. The French astronomer Le Gentil first discovered it in 1747. It was later (1764) cataloged by Charles Messier and became known as M8, or more commonly the Lagoon Nebula.

The estimated distance to the Lagoon Nebula is about 5,200 light-years. The nebula has an apparent size of 90x40 arc minutes, which at the above distance estimate equates to a size of about 140x60 light-years! This size equates to an approximate area of sky of three by one and one-third Full Moon widths, no small piece of space real estate!

Diffuse nebulae are often associated with bright open star clusters and such is the case with M8. The young open cluster NGC 6530 lies in the eastern half of the nebula and it was first discovered in 1680 by the English astronomer John Flamsteed. It consists of some 50 to 100 stars with its brightest one at about magnitude 6.9. The cluster is situated just in front of the Lagoon Nebula and is definitely associated with it. The cluster is visible in just about any size telescope.

The Lagoon Nebula is noted for the presence of dark nebulae as well These nebulae are called "globules". They are collapsing protostellar clouds that are up to hundreds of billion of miles in diameter! Some of these globules have been cataloged in Barnard's Catalogue of Dark Nebulae. Within M8, you can find Barnard 88, 89, and 296.

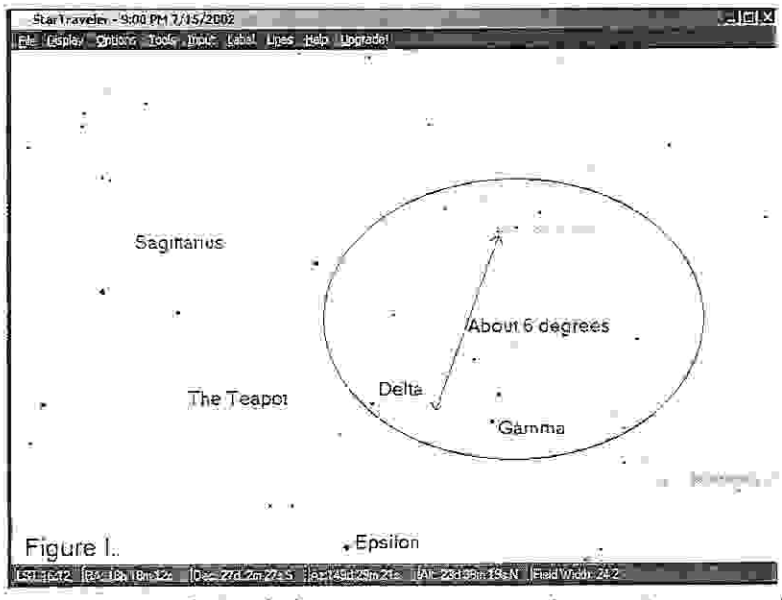


Figure I.

Around mid-July at about 9:00 PM in the southeastern sky you will find M8 at an altitude of about 30 degrees above horizon. Since the stars of Sagittarius are quite bright as well as the nebula itself (magnitude 6), finding M8 is easy to do. The Lagoon is visible to the naked eye from a dark sky location, but from the city you can find it at RA: 18h 03.8 min and DEC: -24deg 02min. Using star hopping techniques, start by locating the constellation of Sagittarius. Looking for the famous asterism known as "The Teapot" easily does this (see Figure I). Once you find "The Teapot", find the stars Gamma, Delta, and Epsilon that make up the "spout". You will find M8 about six degrees from the spout in what I like to call the "steam" from the spout. The Lagoon is visually unmistakable through a telescope or pair of binoculars. M8 was one of the first nebulas I astrophotographed and also one of the first I imaged with my Starlight X-Press MX5C CCD camera. I used my 80mm f/5 Orion ShortTube Refractor piggybacked on my 10" f/6.3 LX 200 to produce the image at Figure II. The amount of detail that you can capture is amazing even with a small telescope, and in a color astrophotograph it shows itself in a beautiful pinkish color So if you get a chance to astrophotograph or image this nebula, I recommend you do so. It will reward you with a fine image to proudly display. So if monsoons permit and we get some clear, moonless early summer nights, go out and observe this splendorous nebula for yourself. You will not be disappointed!

TAAA Board of Directors Meeting - June 11, 2002

Board Members Present: Andrew Cooper, Thom Peck, Terri Lappin, and Jane Tongate.
Board Members Absent: Steve Peterson, Robert Callanan, Bill Lofquist,
Meeting opened at 7:15 pm. A quorum is present

Changes to the agenda: Andrew asked for additions to the agenda, items 8-11 were added.

1. Events: Andrew reviewed upcoming June events with the Board The June 15, Mt. Lemmon Women's Club Star Party has been cancelled due to the fire danger.
2. Treasurer's Report: No formal report was prepared. Terri informed the Board, that the Astronomical League dues need to be paid.
3. Newsletter: Andrew announced that George Barber would take on additional duties associated with the newsletter previously performed by John Kalas. George will paste up the newsletter and deliver it to Roger Tanner for copying.
4. Meade Telescope: Andrew confirmed the exchange of the 8" for the 10" scope and mentioned that a work party will need to be scheduled to finish what has already been started in preparation for the 10".
5. Book Sale: Andrew reported that $75, less $21 for the tables, was made from the sale of books at the June general meeting. Three boxes remain and will go to Marilyn Unruh, TAAA member.
6. 2003 Calendar: Andrew has started to put together the 2003 calendar of club activities. A brief list was complied with the assistance of Terri and Thom.
7. ALCOR. Terri announced that an ALCOR correspondent is needed. Terri will write something for the newsletter and will do mailings at this time until someone volunteers. This is only temporary.
8. Refreshments: It was noted that the club has not had refreshments for the past two months.. Andrew will make contact with the members responsible.
9. Summer Breaks: Thom will be out July 4 through July 24 Andrew will be out July 25 through August 3, missing the August general meeting.

Meeting adjourned at 8:00 pm.

Desert Skies Classified

FOR SALE:	Arizona Observatory/Home/Land for Sale in Cochise County House: 28'x52' doublewide on 167 acres, fenced; well; underground utilities, r.v.site with full hookup; barn/garage. Observatory: 14'x14', two panel roll off roof; adjacent warm room. Altitude 4500 feet. Telescopes: Two C-14's; one on Losmandy G-11 mount, with installed CCD camera from SW Cryogenics (Roy Tucker), 13.1" binocs. Contact Jim Kessel (jwkessel@mac.com) 520-384-3637 fax: 520-384-3282, 6650 Covered Wagon Road, Willcox, AZ 85643 (10/02)
FOR SALE:	Kodak Model 4200 Carousel Slide Projector. About 10 years old, but in good working condition. Included is a new (unused) light bulb, 6 carousel trays, and a tripod-mounted projection screen. Selling price is $75 for all items. Contact Charles T. Bridges, 520-321-1403 (home # evenings), 520-628-2078 x 116 (work # days), charles@dakotacom.net (10/02)
FOR SALE:	Meade ETX-90E 3.5" telescope. Includes AutoStar controller, deluxe field tripod, hard carry case, 2 eyepieces (26mm and 9.7mm), Barlow lens, moon filter, 8X25 right-angle finder, 8X21 erect image viewfinder, owners manual. New condition. Cost $1300 in 2000, will sell for $650. Call Wes or Rene Ellingson at 586-9292 (located in J-six area near Benson, AZ). (09/02)
FOR SALE:	Meade 10" SCT Lx50 with standard Meade foam case. Asking $1200 OR BEST OFFER. Phone# (520) 722-5351 (feel free to leave a message) Email: jtennantsprint@earthlink.net (07/02)
FOR SALE:	8" Meade Equatorial Starfinder. Like new. Optics star test very good. Battery powered clock drive. Includes Telrad finder, 40mm, 25mm, 10mm eyepieces, 2X barlow, and 5 colored filters for planetary viewing. Scope alone costs 600 new. Selling for $450. I'm in Mesa, but can deliver to Messier Marathon in Arizona City this April. Call 480-924-5981. (07/02)
FOR SALE:	Celestron SPC8W Schmidt-Cassegrain 8" telescope with equatorial mount, dual-axis drive and Advanced AstroMaster computer with V 1.38 software. Includes: Three Eyepieces, 2x Barlow, T-adapter, Mylar Solar Filter, Footlocker case for telescope tube, Case for mount, Heavy-duty wooden tripod. Asking price, $1200. Contact Blair Kuropatkin at Blairy@earthlink.net. (07/02)
FOR SALE:	Odyssey 1 13.1" Dobsonian mount reflector with Telrad finder. Three-volume Telrad finder star maps. $1000+ invested, sell for $690. Also includes the 8/98 issue of Sky & Telescope with a (very favorable) review of this telescope. Tim Roelike 794-0527 (wk.) 663-1518 (hm.). (07/02)
FOR SALE:	8" Odyssey Dobsonian with eyepieces, 12 years old in excellent condition. Asking $400. Nima Smith, 743-1890. (07/02)

Your ad will run for 4 months unless specified. Month and year of last appearance is last item of ad. For additions or changes to this list, call George Barber at 822-2392or e-mail at barbergj@flash.net.

Constellation Report by Chris Lancaster

Scorpius

The Scorpion

It should be no surprise that this constellation is named after a scorpion. I can think of no other constellation that looks more like its namesake that this one. The bright red star Antares marks the scorpion's heart, and its tail curves down to the southeast, ending in the pair of stars Shaula and Lesath which form the stinger. In mid-July, Scorpius is crossing the meridian as soon as the sky becomes fully dark. In mythology, Scorpius is the scorpion which the goddess Hera sent to attack Orion to prove to the mighty hunter that he, indeed, was not invincible. The scorpion's sting proved fatal, and we see this event played out every spring night--when Scorpius is rising, Orion sets

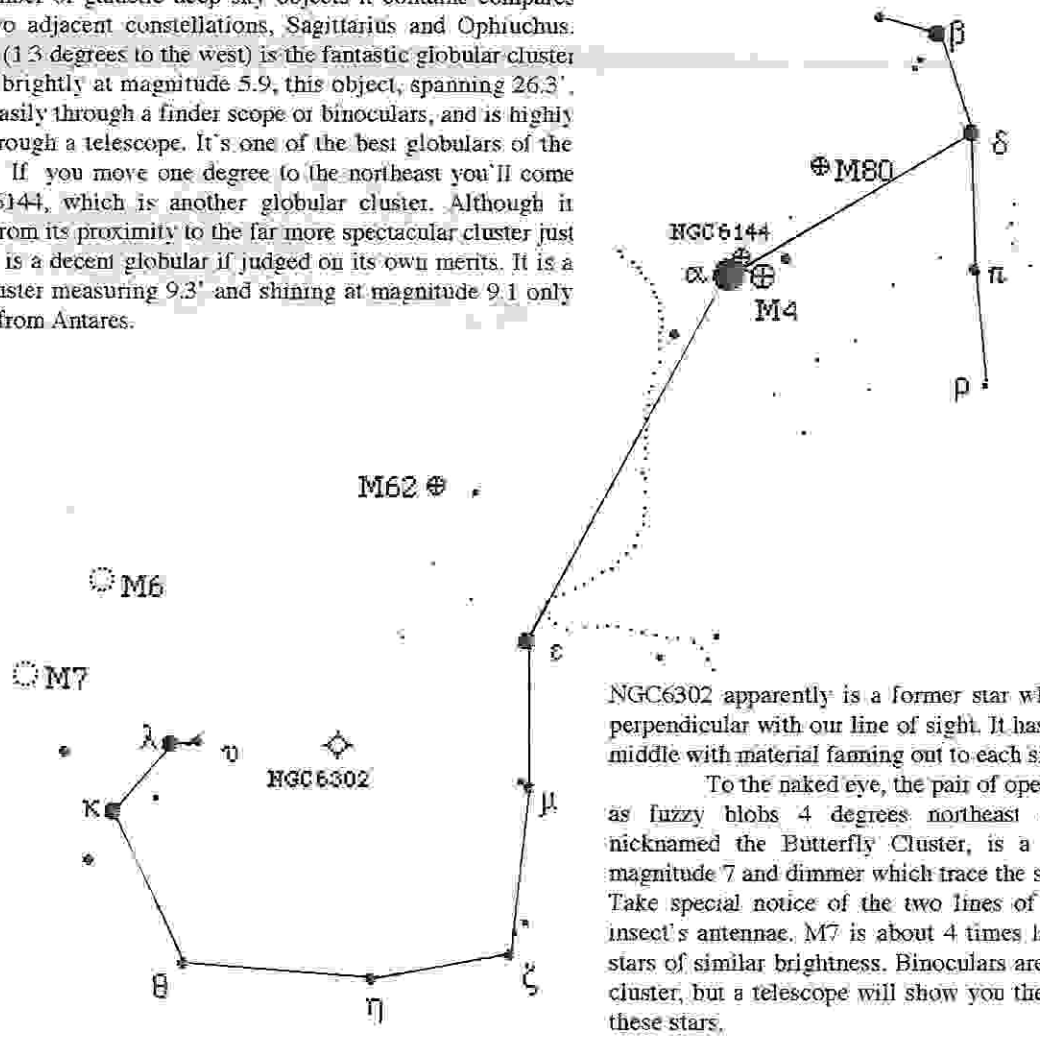
Due to its red color, Antares [Alpha (α) Scorpii] gets its name from the Greek components "anti" and "Ares", which when put together mean "rival of Mars." When the two meet again in the early morning sky during January and February of next year, their color can be easily compared. In the family of stars, however, Antares has a different rival. It and Betelgeuse are the only two M-type supergiants of first magnitude brightness. If viewed at very high power, a sixth-magnitude companion can be glimpsed through the glare of Antares 3 arc seconds distant.

Because much of Scorpius is immersed in the summer Milky Way, the number of galactic deep sky objects it contains compares only with two adjacent constellations, Sagittarius and Ophiuchus. Near Antares (1.3 degrees to the west) is the fantastic globular cluster M4. Shining brightly at magnitude 5.9, this object, spanning 26.3', can be seen easily through a finder scope or binoculars, and is highly resolvable through a telescope. It's one of the best globulars of the summer sky. If you move one degree to the northeast you'll come across NGC6144, which is another globular cluster. Although it suffers a bit from its proximity to the far more spectacular cluster just mentioned, it is a decent globular if judged on its own merits. It is a resolvable cluster measuring 9.3' and shining at magnitude 9.1 only half a degree from Antares.

Another in the list of remarkable globular clusters is situated not quite half way between Antares (α) and Beta (β) Scorpii. Here we see M80, a very rich collection of stars packed in a space of 8.9' and glowing with a magnitude of 7.2. (RA 16h 17m Dec -22d 59.6'.

Moving toward the tail of Scorpius is yet another globular cluster, M62. This one practically straddles the boundary separating Ophiuchus from Scorpius, and some debate could be raised about to which constellation it belongs. Since it is in the area, let's go ahead and consider it one of Scorpius's. Although smaller than M4, you might say that this one is the best of the group. At magnitude 6.6, it presents quite a sight in a telescope. Its bright, dense core softens to a speckled glow to round out its 14.1' size. Find M62 4.7 degrees northeast of Epsilon (ε) Scorpii, or RA 17h 01.2m Dec -30d 7'.

Between the middle part of the scorpion's tail and the stinger is an interesting planetary nebula called the Bug Nebula. NGC6302. While it glows only at magnitude 13, it is fairly easy to see in medium sized telescopes because it measures only 0.8', so its surface brightness is moderately high. Look 4 degrees west from Lambda (λ) Scorpii, or center your scope on RA 17h 13.7m Dec -37d 06'. This does not fit the typical planetary nebula appearance, which is normally oval or round in shape with perhaps a pair of lobed structures extending out into space. What we are seeing with



NGC6302 apparently is a former star which has its rotational axis perpendicular with our line of sight. It has a pronounced pinch in the middle with material fanning out to each side.

To the naked eye, the pair of open clusters M6 and M7 show as fuzzy blobs 4 degrees northeast of Lambda Scorpii. M6, nicknamed the Butterfly Cluster, is a collection of 80 stars of magnitude 7 and dimmer which trace the shape of a butterfly's wings. Take special notice of the two lines of dim stars which form the insect's antennae. M7 is about 4 times larger than M6 and contain stars of similar brightness. Binoculars are all you need to savor this cluster, but a telescope will show you the subtleties of the colors of these stars.