



Sacnews

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Profiles: Chuck Akers



Hometown: Phoenix, Arizona

Weapon of Choice: Discovery 17.5 inch truss dob, Orion 8 inch dob & Orion ST-80 refractor.

Interests In Astronomy: Seeing the wonders of the universe with my own eyes and sharing the experience with others.

Interests Outside of Astronomy: Mountain Biking, Four Wheeling, computer and electronics projects.

What I do when It's Cloudy: I like to read books and web, I also occasionally work the amateur radio HF bands.

Where I get telescoping money: Lead Systems Administrator at American Express Technologies.

The following people put up with my astronomy: My Wife CC, Son Richard and Daughter Katie

Quote to live by: Love the stars fondly and do not be fearful of the night.

Astronomy 101

What a Long, Strange Trip it's Been

By Rick Tejera

I've always been the kind of person who does things in bunches. Before I moved to Arizona I built & flew radio controlled model planes. I'd work on a model furiously for a week or two and then not touch it again for a month. It seems I always had some project on the workbench. Usually I was building or fixing more planes than I had airworthy. Anyway, I couldn't do this in astronomy, Could I? I guess I found a way. I've been a SAC member for 6 years, which is how long I've had Gert. In that time I've been diligently working on the Messier catalogue. Pretty simple, Huh? I've seen several Sac members join after me and finish before me. I guess old habits are hard to break. In looking over my observation records last month, I noticed the same patterns as when I modeled airplanes. There'd be a period of two or three star parties when I'd log 10 or so objects in one night, and then a 4-month span when I logged nothing. The lapses in observing seemed to coincide with one thing- THE VIRGO CLUSTER! For some reason, this little patch of sky posed no end of difficulty in finishing this easiest of catalogues. Why?, I asked myself. I've gotten to point where I know the sky pretty well. I can use a star atlas. I'm pretty good in wielding a Telrad. What is the difficulty in getting through a bunch of bright galaxies? Part of it, I suppose is the psychological part. Everyone seems to have his or her own stories about how daunting this area is. Part of it was circumstance. More than a few times, the weather or life didn't cooperate. So come the February trip to the new KOFA site that was planned, I determined to finish the 8 objects I had left in the Virgo Cluster. This would finally finish the Messier catalogue and I could now concentrate on the rest of the SAC 110.

Arriving at the site Saturday afternoon, it looked like any chance of decent observing was gonna be blown away, quite literally, as the winds were quite gusty and strong. Steve Coe & Jack Jones said the previous night wasn't the greatest although being gluttons for punishment, they, like me, decided to stick it out and hope for the best. By sunset we actually had pretty good turnout considering the

wind. Since Virgo wouldn't be in a decent observing spot till about 0100 Sunday morning, I settled into an observing program including some SAC 110's, the Supernova in M74 and Comet Ikeya-Zhang (keep an eye on this one, it has potential to be a really good comet as it brightens).

By midnight, I could put the fair maiden's galactic treasures off no more. The next hour and a half seemed like all night. In spite of good charts and carefully calculated galaxy hops, I kept getting lost after a few objects. I think I started the whole thing about 4 times from the east (jumping off at Vindematrix) before I got 5 of the eight unobserved galaxies. I then worked east from Denebola and finally finished the remaining three. Throughout the whole time I felt like I was fighting the telescope to find these objects, which are actually pretty bright. Although the hunt was frustrating, it was worth it when the prey was snared in the eyepiece. I dutifully logged my observations, turned to the sky in the direction of the object of my frustration and gave it a big raspberry. Finally done, over, finito. The next morning I thought it wasn't that bad in retrospect.

Looking back, I think I had just made too much of a deal over the Virgo cluster. I had been working at my own pace and have been enjoying my observing time, so why the fuss? I don't know, but I can tell you this, don't expect me to finish the SAC 110 anytime soon!

The lesson here is not to let outside expectations tell you where you should be. I guess I felt like by now I SHOULD have completed the Messier catalogue. In reality, my sudden quest to finish, took some of the enjoyment of observing out of the final part of the hunt.

One last note. In one of the great ironies of life, after entering my observations for the last Messier objects, I discovered I still need M75 & M73. M73? Anyway, I guess I'll get those in April, So much for finishing my Messiers!!

A Story Above Your Heads

Cancer

By Mark Klosinski

This is one of the neglected constellations in the sky because of the lack of any bright stars. The brightest star in Cancer has a magnitude of only 4.3. But one of the neat things to see in this constellation is Messier object 44, the Beehive Cluster. This is one of the star clusters that can be seen with the naked eye, given dark skies similar to that at the Furman Observatory. On either side of this cluster are two stars known as Asellus Australs and Asellus Borealis. These names translated mean the northern donkey and the southern donkey. And of course, there is a story behind this.

Just prior to Zeus establishing his authority as king of the Gods, there was a group of Gods that ruled called the Titans. One day Zeus decided to go to battle against the Titans. Zeus called together all the gods that were his allies to go to war against the Titans. Among Zeus's supporters were the gods Dionysus, Hephaestus, the satyrs, and Selenus. These gods came riding into battle on donkeys. This bunch was not the most fearsome bunch of gods. As a matter of fact, as this bunch approached the Titans in order to do battle they attempted to turn their donkeys around in order to flee. The donkeys were as frightened as the bunch of gods, and instead of turning around to retreat; they stood terrified in place and started braying as loud as they could. This was a noise that the Titans had never heard before and were so terrified they turned and retreated. Zeus, and his allies were victorious in this battle, all

because of the braying of these terrified donkeys. To honor these donkeys Zeus placed them in the heavens as the stars Asellus Australs and Asellus Borealis.

Cancer, the crab, is one of the Zodiacal constellations. And at one time held a predominant spot in the evening sky. At the time that the constellations were first evolving, the summer solstice took place in the constellation of Cancer. The appearance of the sun around the time of the summer solstice appeared to slow down, almost stop, and then move backwards. This was just like the motions of a crab. During the summer solstice the sun appeared directly above the latitude on earth that was $23\frac{1}{2}$ degrees north of the equator. This $23\frac{1}{2}$ degrees matches the tilt of the earth's axis. The line that is $23\frac{1}{2}$ degrees north and parallel to the equator is now referred to as the Tropic of Cancer. The summer solstice no longer occurs in the constellation of Cancer, but in the constellation Gemini because of the precession of the equinox.

References:

The Glorious Constellations by Guiseppe Maria Seti
Star myths by Theony Condos.

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Novice Group Meeting

When: Saturday, April 6th

Where: Flat Iron Mountain Site

Subject: Beginning Astrophotography

A novice group Session will be held at the April 6th star party at Flat Iron. The subject will be: Beginning Astrophotography. Steve Coe will answer your questions about getting into this fascinating part of the hobby. Different types of photography will be discussed along with the equipment required and various techniques.

As a bonus, Rick Tejera will bring his Scotch Mount and we'll have a roll of film ready to go. Interested folks will get the chance to try their hand at taking a wide field guided photo. Rick will demonstrate aligning the mount

(with help from the group) and then each person participating will frame a shot and guide it through its exposure. We'll get the film developed and give you your first astrophoto at the next meeting.

This session promises to be a lot of fun and a good way for folks to lose the fear of astrophotography. If you've ever wanted to try your hand at astrophotography, but didn't know how to get started, here's a perfect opportunity.

Fuzzy Spot, Monoceros

By Ken Reeves

Monoceros (which rhymes with rhinoceros) is the unicorn in the sky. Our one horned friend sits in the sky between the two dogs, Canis Major and Canis Minor. Monoceros is a very faint constellation, with its brightest star, Beta, only at magnitude 3.76. This makes it tough to star hop in the area. However it will be well worth the effort, as there are many nice open clusters and nebulae in this area with the Winter Milky Way passing directly through it. All of these observations were taken in my 10" F4.5 scope.

NGC 2236 (06 29.7 +06 50): The first open cluster of the month is a faint but nice cluster. At 140X, I saw it as pretty faint, somewhat small, containing a bright star in the middle. There are 2 layers of stars under the bright star with a faint granular haze. It is elongated about 2:1 NW/SE. To the W and SW of the cluster proper, is a string of stars that resemble a spiral arm.

NGC 2244 (06 32.4 +04 52) Also, 2237, 2238, 2246: This is the Rosette nebula complex. 2244 is the central open cluster, which is visible naked eye as a hazy area from a dark site. The cluster is pretty bright, very large, very loose, and not at all rich. It contains a fairly bright yellow star with 3 levels of stars under it, and a count of 15 Stars. The nebula includes 2237, 2238, 2239, and 2246. It is seen to W of the central cluster without filter as a starless patch. Using a UHC filter, the nebula really comes out. On W is the largest area, which is gray and featureless. To E and SE of cluster, the nebula contains many dark lanes and detail. The whole thing barely fits in field of view at 35X (1° 45').

NGC 2261 (06 39.2 +08 44): This is Hubble's Variable Nebula, and is one of the most interesting objects in the sky. It looks like a little tiny comet! At 140X I saw it as pretty small, pretty bright, and fan shaped pointing S. The star at "head" comes and goes, and there is a star just to ENE. Averted vision makes tail extend a little farther. It is a hard object to describe. The nebula fades evenly as you move away from the head. As its name implies, this object does vary slightly over the years.

NGC 2264 (06 41.1 +09 53): This open cluster is extremely large, very bright, very poor, not at all condensed, and shaped roughly like a Christmas tree with the brightest star forming the trunk (on NNW) and a double star at the top. Because of its shape, this cluster is known as the "Christmas Tree Cluster". In addition, the faint and elusive Cone nebula should point "down" to the top of the tree, but it was not seen. There is some nebulosity seen at W end of "base" and possibly around the bright "base" star, which does not respond to the UHC filter.

NGC 2286 (06 47.6 -03 10): As we continue on with open clusters, this one is pretty large, pretty faint, somewhat rich, somewhat condensed, and elongated 2:1 NW/SE. On SE end out of the cluster are 2 fairly bright stars, and another pair on the SW. There are fairly bright stars around

the edge and a lot of fuzziness in the middle, making 3 levels of stars and background haze. I counted 20 brighter stars and about 30 faint stars in the middle that come and go. Every once in a while the seeing really steadies up and the background stars pop out real nice.

NGC 2301 (06 51.8 +00 28): This cluster is very large, pretty bright, somewhat compressed, and a little rich, with a real nice yellow/blue double star in the middle. 4 levels of stars with about 50 stars were seen, using averted vision didn't bring out any more. There are stars radiating out forming a sort of an 'X' pattern. 4 stars trail away to S, and to E and N are strings of stars.

NGC 2311 (06 57.8 -04 35): Another open cluster, this one is pretty bright, a little small, somewhat condensed, somewhat rich, and somewhat detached from the background stars. It is elongated 2:1 N/S with a string of stars trickling off to the S. There are 2 levels of stars with no haze, and a count of about 30 stars. This is a nice easy cluster with an unusual shape.

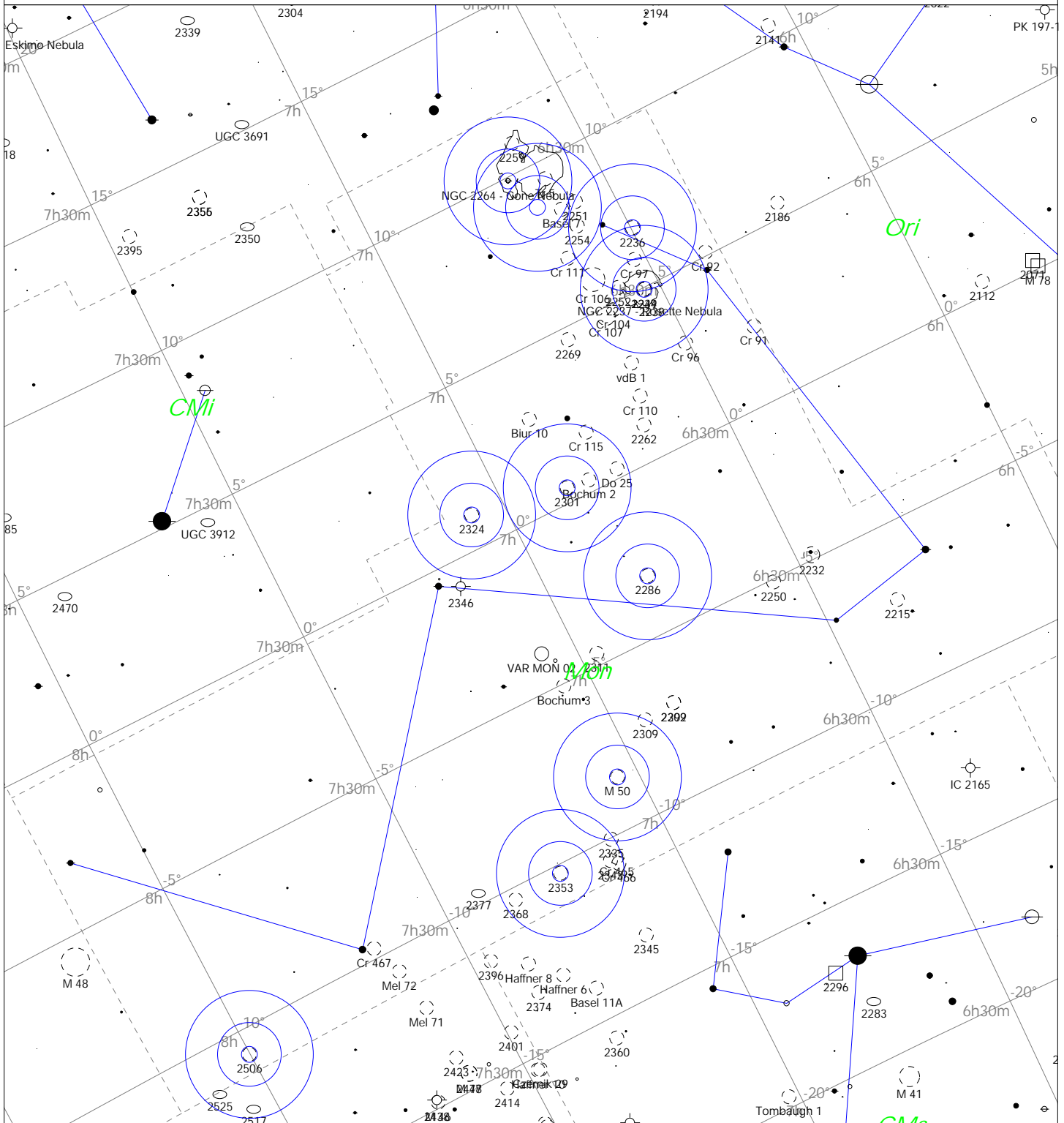
NGC 2323 (07 03.2 -08 20): The only Messier Object in Monoceros, M-50 is somewhat large, pretty bright, pretty rich, and pretty condensed. There are 4 levels of stars with no haze seen, and a count of about 118 stars, including a nice bright orange star. There are several nice groupings, but not many strings or arcs. The ESE end of the cluster comes to a point at a wide double star. There are perhaps some more outlying members, especially on the SSE.

NGC 2324 (07 04.2 +01 03): This cluster is pretty large, somewhat faint, very rich, and very compressed. There are perhaps 3 levels of stars with a very granular background haze. The count is about 30 stars, using averted vision brings out a few more and reveals many suspected on the threshold of vision. If it were brighter, it would really be something. I figured that if I took a lot of time to study this one (waiting for moments of good seeing), I would probably see over 100 stars.

NGC 2353 (07 06.6 -10 05): This cluster is dominated by a bright star, and is pretty big and pretty bright. There is a central grouping of stars with another shell surrounding this group, which is probably not part of the cluster. The shape is somewhat of a diamond. I saw 3 levels of stars with some possible unresolved haze, and counted 40 stars, probably double the count if the outer ring is included. This cluster is visually very pleasing.

NGC 2506 (08 00.2 -10 47): The last object of the month is (guess what?) another open cluster. It was seen at 100X as pretty bright, somewhat large, very, very rich and very, very condensed. There are 2 levels of stars over a very bright and somewhat granular haze. I was able to resolve about 15 of the brighter stars, but with the occasional background stars popping out, the count went up to 30 stars, but the cluster was still not fully resolved.

Fuzzy Spot Monoceros



STARS

- <1
- 2
- 3
- 4
- 5
- >6

SYMBOLS

- Multiple star
- Variable star
- ☄ Comet
- Galaxy
- Bright nebula
- Dark nebula
- ⊕ Globular cluster
- Open cluster
- ⊙ Planetary nebula
- ⊗ Quasar
- △ Radio source
- × X-ray source
- Other object

Herschel 400 Objects: 2185, 2215, 2232, 2244, 2251, 2264, 2286, 2301, 2311, 2324, 2335, 2343, 2353, 2506
SAC's 110 Best of the NGC Objects: 2244, 2261

Seeing Double

By Thad Robosson

It's something that nearly every astronomy minded person at least thinks of, if not fantasizes about. It convinces one to convince the spouse to re-landscape the backyard. Trees and shrubs have been trimmed down, removed, or planted to accommodate this dream, and patios put in for the sole purpose of providing for the astronomer's fix. The positions of your neighborhood's streetlights become important, as does your neighbor's security lights. And in drastic cases, entire buildings are constructed to serve out this dark fantasy. My desire to make this dream into reality begins like this...

Back in July last year, my wife came to me with the news that a friend's house in the area was selling for \$xxx.xxx. Our conversation quickly turned to how much we could get for our home. After all, we had lived in it for over 9 years, and nearly all the major improvements had been done. After contacting a realtor, and having the house appraised, it was easily decided that we were moving. A total of about 1.2 seconds had passed after that decision before thoughts of an observatory and workshop popped into my head. My wife may be the one with fashion sense and home styling savvy, but I wasn't about to let this opportunity pass me by. I had a couple of demands of my own in the situation. First, the backyard would be large enough to accommodate a 15 by 15 foot area for an observatory. And second, I will have a space for a workshop, preferably the 3rd stall of a 3-car garage. Happily, both demands were met.

We spent several weeks looking all over the valley. I definitely wanted to get towards the outskirts of town, but still have a reasonable commute to my shop downtown. On a whim, we took a look at the West

Valley. We looked through I forget how many model homes, and the ones the we cared to have either were out of our range, or some of our requirements weren't being met. My wife is one gracious person though, and was more than willing to keep looking until we were both satisfied. On our 3rd or 4th weekend out looking, it happened. We walked into the model, and the house spoke to us. It was open, light, spacious, and most important to me, had a 3-car garage, and a decent size lot. We signed a contract and proceeded to go on a 3 month long roller coaster ride.

As I write this, the groundbreaking of what will be the "Twin Points Observatory" looms ahead on this Saturday. The beauty of getting a new home is that we get to start from scratch with the landscaping in the backyard. As such, the observatory building has been a major part of the planning. After all, why not run the electric trench at the same time as the sprinkler trenches? Why not dig the hole for the concrete pier while I have the equipment rented?

When I brought several different colors of spray paint home to lay out our landscape design in the barren dirt, the observatory got marked out as well. It all figures into the work ahead. At first, I'll only have the concrete pier, but eventually, once the major part of the landscape is done, I'll get to the actual building. But that's all right; after all, the best dreams are the ones that you slowly wake up to while they're fresh in your mind.

Over the next few months, I'll be focusing my column on the construction of the Twin Points Observatory. Any suggestions or ideas? Send 'em over to: starstarcraacker@qwest.net



Pre-warm room shot of area where observatory will be.



Brittany "The ball is my life, my life is the ball" Robosson standing where the pier will be in the very near future.

March 2002

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Schedule of Events for March 2002

March 2nd	SAC Star Party at Flat Iron, Sunset 1829 Ast, Twilight 1951, Moonrise 2346
March 6th	Moon at last quarter at 0125mst. Josef Von Fraunhofer born in 1787. A master optician who first mapped the dark absorption lines in the Sun's Spectrum
March 7th	Sir John Herschel born in 1792. The son of William Herschel, Surveyed the southern skies and discovered Uranus, among many other accomplishments.
March 8th & 9th	Sentinel Schwaar Star Gaze, Sentinel Observing Site.
March 13th	Percival Lowell Born in 1855
March 14th	Moon is New at 0203mst
March 16th	Caroline Herschel born in 1750. She discovered 8 comets on her own as well as assisting her brother, William throughout his career.
March 20th	Vernal equinox occurs at 1916
March 22nd	Moon is at first quarter at 0228 mst
March 25th	Christian Huygens discovers Titan, the largest of Saturn's moons in 1655.
March 29th	SAC General Meeting at Grand Canyon University. 1930 Speaker: Dr Ted Dunham will speak about SOFIA: The Stratospheric Observatory for Infrared Astronomy

Future Planning

April 13th	All Arizona Messier Marathon
May 23rd-25th	Riverside Telescope Maker's Conference

2002 All Arizona Messier Marathon

By A. J. Crayon

Why marathon? Because it's fun!

If you decide to participate be sure to read and follow all of this information.

First arrive at the site early, don't plan on arriving by sunset. Give yourself time to setup your telescope and for it to reach thermal equilibrium. Also give yourself time to meet old friends and make new ones. If you are not going to stay all night, then park near the entrance so you don't disturb others when you depart. Please give a shout a few minutes before leaving and then again as you are about to depart. This will give observers time to hide so the light doesn't interfere with night vision.

There will be a check off list available at the site to record your observations. Be sure to pick one up, preferably before you start marathoning and fill in the top portion so awards can be made. It is important to remember that you must turn in your form to one of the Coordinators before leaving the site or by sunrise. We cannot accept any after these times.

If you plan on participating, then doing some homework ahead of time will pay dividends. If interested the check off list can be made available prior to the marathon for your reference. Study the list, or use your own sequences. Be prepared for the extremely unlikely case it should become cloudy.

Although it is possible to do the marathon with a 4 inch, or smaller telescope, it is not suggested, unless you are an experienced observer.

The marathon this year has been scheduled for a somewhat later time than normal for several reasons. First the earlier date in March has interference

from the moon well after astronomical twilight. The selected date has no interference of this type, is the day after new moon and will give marathoners a chance to brush up on the late risers, particularly M30! For the selected date the following will not be available at all: M74, M77 and M33. Only M34 and M76 will only be available in the evening, whereas M39, M31, M32 and M110 will only be available in the morning. That leaves an easy 101 objects, or 107 if you really work at it!

Concerned that you can't get a high count? Don't worry, set your own goals and don't be bothered about the high counts. The important point is for you to have a good time and not become frustrated. This is supposed to be a fun time - enjoy it!

Date: April 13/14, 2002
 Site: Arizona City, AZ
 Solar Data (all times are MST):
 April 13: 1855 sunset
 1955 moon set
 2021 astronomical twilight
 April 14: 0433 astronomical twilight,
 0558 sunrise
 0713 moonrise

Your efforts will not go unnoticed, as there will be awards in recognition of your participation. People observing 50 or more objects will receive an 8 1/2 X 11

certificate. For first, second and third place there will be plaques suitable for mounting on your telescope. Duplicate awards will be made in case of ties. This event is run on the honor system, there are no referees or umpires. We accept all legitimate observations. We will need your and your clubs support to help purchase the awards for its members.

If you don't care to marathon, don't worry - come anyway! You can do your own deep sky or planetary observing or astrophotography. There's always the chance to just relax under a clear dark sky or just socialize to your hearts content.

Directions to the site are on page 12 of this newsletter.

For more information, Contact either myself at: acrayon@mindspring.com or Jack Jones @ Spicastar@msn.com.

Bits & Pisces

Minutes of the January 25th, 2002 General Meeting

By Aaron McNeely

President Jack Jones opened the meeting at approximately 7:30 p.m. He began with elections. The following offices were filled:

President: David Fredericksen
Treasurer: Paul Dickson
Properties: Rich Walker

There were four visitors present and 50 people total in attendance. Aaron McNeely substituted as secretary for AJ Crayon. AJ had returned to New Orleans to attend the funeral of his mother-in-law. We extend our best wishes for AJ and his family in their time of mourning.

Newsletter Editor Rick Tejera outlined the status of the newsletter. He has had trouble sending some of the newsletters via email. Rick's new procedure will be to send email notifications to Club members when the newsletter is finished. The email will contain a link where the Club members can access and download the latest newsletter.

Treasurer Peggy Kain reported that the latest SAC income amount equaled \$1019.43. Various expenses added up to be \$742.38. SAC currently has \$3767 in savings. Peggy also needs to hear from any Club members who purchased materials from the Schwaar, Holmquist, or Discovery Store endowments. She needs to know who purchased what for bookkeeping purposes. Peggy also stated that money for scholarships and grants will be placed in a new, s e p a r a t e s a v i n g s a c c o u n t .

Steve Coe, speaking for AJ, discussed upcoming SAC events. The next Deep Sky Group meeting will be held on February 28. The Group will discuss celestial objects located in the constellations of Fornax and Triangulum. The Sentinel-Schwaar Stargaze is scheduled for March 9 at Sentinel. The Messier Marathon will be held on April 13 at the Farnsworth Ranch near Arizona City. Steve also discussed his book-signings, which were scheduled for February 2 and 17 at Starizona in Tucson.

ATM Subgroup director Thad Robosson announced that the ATM monthly meetings will resume in February.

Vice President Diane Hope introduced the guest speaker, Maggie Turnbull of the University of Arizona and the SETI Institute. Maggie has degrees in astrophysics and biology and she discussed her work with the SETI Institute. She began with an outline of the history of the search for extraterrestrial intelligence, which began in 1959 at Cornell University. Astronomers realized that it would be possible to send messages across the galaxy using radio energy. Eventually astronomers such as Frank Drake suggested that we search for radio messages from potential extraterrestrial civilizations who may wish to communicate with us. Maggie outlined the various projects and acronyms that were devoted to this search, most of these efforts revolved around the use of the giant radio telescope at Arecibo Observatory in Puerto Rico. Eventually government funding for such projects was eliminated and private sector donations were used to continue the search. Using money from Microsoft, the SETI Institute is planning to build a large array of many small radio dishes to be used to continue searching for messages from space.

Maggie's research involved the selection of target stars to examine with this new array. She discussed various criteria used to determine the potential habitability of stars. These stellar characteristics included temperature, mass, metallicity, multiplicity, and age. After running the Hipparcos Catalog of stars through her various criteria, Maggie has selected 25000 single stars and 5000 binary stars as potential targets. All of these stars are contained in an area within six light years of our sun. She predicted that the search would require five years of observing and stressed that even a negative result would be useful information.

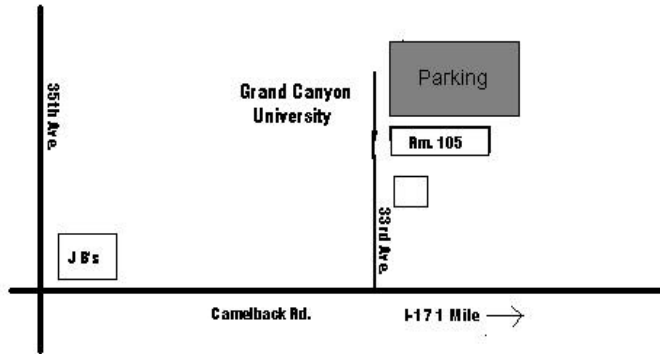
After the meeting, many SAC members went to JB's on 35th avenue and Northern and enjoyed food, refreshments, and plenty of astronomy discussion.

(Ed. Note: Secretary A.J. Crayon was unable to attend the January meeting due to a family emergency. Aaron McNeely kindly filled in on his behalf. Our thanks to Aaron for his help.)

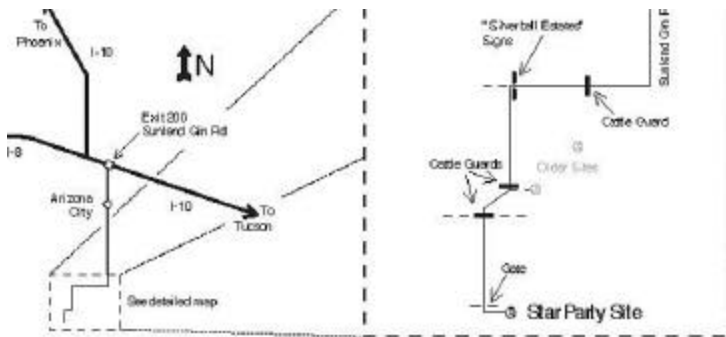
SAC Meeting and Observing Sites

General Meetings

7:30 p.m. at Grand Canyon University, Fleming Building, Room 105: 1 mile west of I-17 on Camelback Rd., North on 33rd Ave., Second building on the right.



2002 All Arizona Messier Marathon



Take I-10 to exit 200 (Sunland Gin Road). From here it is about 29 miles to the site. 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. After another four miles, the main road will turn south just after the "Silverbell Estates" signs. Three miles past the signs, the road will veer off to the west, and five miles further, the road will pass through a gate. Turn left immediately after the gate and continue for another 2/3 of a mile. The site is to the right.

Flatiron Star Parties



Head west on I-10 to the 339th Ave exit (exit 103). Turn North (right) and go two miles to Indian School Rd. Turn West (left) on Indian School and go 1 mile to 355th Ave. Turn North (right). This will turn into Wickenburg Rd. Follow this road for about 12 miles. Just after mile marker 23 you will go through Jackrabbit wash and pass a cattle guard sign. There is a dirt road just after the sign, marked by white painted rocks. Turn on to this road and follow it about .9 miles. Just after you pass through a wash, you'll see the field on your left. If you hit the cattle guard, or the dirt road your on is next to a fence, you've missed the correct road. Go back and look for the white rocks. (see detail map above).

May Meeting Change

In order to accommodate those who wish to attend the Riverside Telescopemakers' Conference At Big Bear, CA and not miss a meeting, the date of the May meeting was changed to Friday May 17th, 2002. Same Time (1930), Same Place (Grand Canyon University). Please make a note of it. The change will be announced at each meeting prior to May and in each newsletter.

SAC Membership Services Membership

Memberships are for the following calendar year and are pro-rated for new members as follows:
Jan.-Mar. 100%, Apr.-Jun. 75%; Jul.-Sep. 50%, Oct.- Dec, 25%

\$ 28.00	Individual Membership
\$ 42.00	Family Membership (one newsletter)
\$100.00	Business Membership (includes advertising)
\$ 14.00	Newsletter only
\$ 6.00	Nametag for Members

Subscription Services

The following magazines are available to members. Subscribe or renew by paying the club treasurer. You will receive the discounted club rate only by allowing the club treasurer to renew your subscription.

\$ 30.00/yr	Sky & Telescope
\$ 29.00/yr	Astronomy

Please Print

Name: _____

Address: _____

Phone: _____

E-mail (newsletter will be sent to this address): _____

Make Checks Payable to SAC

Mail Completed form to:

Peggy Kain
SAC Treasurer
P.O Box 30424
Phoenix AZ 85046-0424

Such-A-Deal

For Sale: A Dobsonian Bino stand which handles all sizes up to and including 100 mm objectives, professionally made of Walnut, two independently adjustable first surface mirrors, with rotating base. Allows very comfortable seated work position similar to using microscopes and inspection scopes. \$300.00 (JPEG available)

Meade Starfinder German equatorial with Magellan II digital setting circles (Magellan II is easily updated with info from Meade web site, flash EPROM system), 25 lb counterweight, saddle straps for 6" and 10" tube assemblies. \$1000.00.

Contact Curt Taylor: ctayltay@msn.com.



Meade Starfinder Eq. Mount & Magellan Digital Setting Circles

Dobsonian Bino Mount. Capable of handling up to 100mm objective binos.

SAGUARO ASTRONOMY CLUB

March 2002

5643 W. Pontiac Dr
Glendale, AZ 85308-9117

Phone: 623-572-0713
Fax: 623-572-8575
Email: Saguaro Astro@aol.com



DUES ARE DUE

As you know all memberships expire at the end of the year. If you haven't already done so, now is the time to renew your membership. You will receive one more issue of SACnews unless you renew, so send in you remittance now. Use the handy renewal form on page 11 of this newsletter.

Videmus Stellae



SAC Schedule of Events 2002

REVISIONS
UPDATE

SAC Meetings

Jan. 25th, 2002	July 26th 2002
Feb. 22nd 2002	Aug. 23rd 2002
Mar. 29th 2002	Sep. 20th 2002
Apr. 26th 2002	Oct. 18th 2002
May 17th 2002	Nov. 15th 2002
June 21st 2002	Dec. 20th 2002 (Holiday Party)

SAC Star Parties

Date	Sunset	Astronomical Twilight Ends	Moonrise
Jan 5th	1737	1906	0049
Feb 2nd	1803	1929	2346
Mar 2nd	1829	1951	2238
Apr 6th	1856	2021	0355
May 4th	1917	2050	0230
June 1st	1937	2118	0102
July 6th	1945	2127	0258
Aug 3rd	1930	2104	0132
Aug 31st	1858	2024	0009
Sep 28th	1820	1942	2250
Oct 26th	1745	1909	2136
Nov 30th	1723	1851	0410
Dec 28th	1731	1900	0305

Deep Sky Group Meetings

Feb. 28th 2002	Aug. 29th 2002
May 2nd, 2002	Oct. 24th 2002
June 27th, 2002	Dec. 26th 2002