

Saguaro Astronomy Club



Sacnews

Volume 25 Issue 3

March 2001

SAC Officers

President: Jack Jones

602-944-5488

Spicastar@mindspring.com

Vice President: Diane Hope

602-431-6959

di.hope@asu.edu

Treasurer: Peggy Kain

Pegsi@interwrx.com

Secretary: A. J. Crayon

602-938-3277

Acrayon@primenet.com

Properties: Adam Sunshine

623-780-1386

Public Events:

Adam Sunshine

623-780-1386

Asunshine@netzone.com

Deep Sky Group: A. J. Crayon

602-938-3277

Acrayon@primenet.com

SACNEWS Editor:

Rick Tejera, 623-572-0713

SaguaroAstro@aol.com

ATM Subgroup: Thad Robosson

602-527-0455

Tmrob@primenet.com

Inside this issue:

The Times They Are A'changin' 1

Astronomy 101-For the rRecord 2

Novice Group Meeting 3

Fuzzy Spot-Lynx 4-5

Seeing Double 6

Calendar of Events Asteroid 13006, Schwaar 8

Bits & Pieces 9

Membership Info 10-11

The Times, They are A'Changin'

By Rick Tejera

This past month has been an interesting as one as far as publishing SACnews goes. Those of you at the January meeting remember me advising the club that my regular source for printing newsletters ceased operation in Arizona, forcing me to look elsewhere. Seemingly simple enough until I figured out that we were getting the deal of the century (millennium?) on printing costs. What cost us an average of \$50.00 will now cost about \$120.00. Quite a jump. The newsletter is the largest item on the clubs budget and as editor I feel a certain responsibility to keep our clubs costs down. Tom Polakis suggested that we look into putting the newsletter into an electronic format, as was done at EVAC. Since getting SACnews online in some form by the end of the year was a goal of mine, I thought Tom made sense. Apparently so did everyone else at the meeting. All present indicated that they would prefer an electronic newsletter over the printed version. Thus the journey began.

Tom suggested that the club look at the possibility of using Adobe Acrobat, a program that can convert documents into what is called

a pdf (portable document file) file. The pdf file is sort of a standard for sharing large document over the internet. All that is required is a free program called Adobe Acrobat Reader, and anyone can view the document in it's original formatting. Mike Wilmoth has Acrobat and ran a few tests on old issues of the newsletter. The results have been promising.

How will the new electronic newsletter work? Simple. Members with internet access can download the free Reader program. I imagine many of you probably already have Acrobat Reader if you do much information exchange via the internet. Each month as the newsletter goes to press you will receive it directly via e-mail as an attached pdf file. You can then view it at your leisure.

Some of the advantages of receiving the newsletter by e-mail:

1. You will receive the newsletter as soon as it is available, no waiting for me to find a chance to get to the post office.
2. The newsletter will be in color. Pictures will look a lot

(Continued on page 11)

Astronomy 101

For the Record

By Rick Tejera

Most amateur astronomers start out their observing careers by going to star parties and pointing their scopes at well-known objects. Usually they are the object everyone knows how to find blindfolded (I'll bet the Orion Nebula has been first light for more scopes than any other object). After bouncing around between these objects, it seems like you've been there before. Maybe someone tells you of the detail they've seen in something you've observed. You try to remember if you saw the same thing but can't remember. Why? Because you haven't been recording your observations, that's why.

Sooner or later every amateur astronomer realizes that recording observations is a worthwhile effort. The key is, what do I record, do I need to make sketches (I have no artistic talent)? Let me offer some pointers.

First thing in recording observations is to get the basic information of the observation down. This includes the Object name & designation, the date of the observation, the location of the observation, the instrument used, eyepiece and magnification used and the sky conditions at the time of the observation. If you're recording your observations for an observing program, such as the Messier or the SAC 110 best of the NGC lists, this information is required.

After the basics, all you really need to do is record your impressions of the object observed. How you do this is up to you. For myself I usually make a written notation of what I see, including things like dark lanes H II regions, A count of stars in open clusters, anything that helps describe the object as I see it. A lot of folks like to sketch their observations. Being one of those with absolutely no artistic talent, I've done little sketching, although I am starting to try my hand at it more often. If you think you'd like to sketch your observations but are like me (artistically challenged), Steve Coe has some useful pointers in his new book "Deep Sky Observing, The Astronomical Tourist", available at finer

outlets on the web and from the author himself. I must say outside of this blatant plug, that Steve is the only author I've read whom touches on this subject, and I think he gives a good basis to get started.

Actually getting your impression down while at the eyepiece can be a bit of a challenge. You're trying to write down some notes and observe at the same time. You've got a pad or drawing tablet on your knee and a red light between your teeth. Not too comfortable. If you drive a dob, you have the added fun of keeping the object in eyepiece. Here is where you ingenuity can come in. I've seen quite a few contraptions designed to help one keep all of their stuff handy at the eyepiece. The item ranged from backlit transparent clipboards to Hospital like desks that fit over the observer's legs. My preferred method is to use a small portable tape recorder and record my observations in to that, to be transcribed later. Experiment a bit to come up with something that is comfortable and convenient for you.

Can you use a computer for recording observations? Of course. There are more than a few observing log programs available, most notably NGCview. I can't speak for all planetarium programs but I do know, since I use it, that Skymap pro v6.0 and higher has an observing log function. I imagine that there are probably a few shareware and freeware programs out there also. A quick search on the internet should find something you can use and afford. You could also just use a regular word processor to record your observations. Most word processors can import images, so if you have a scanner, you can import your sketches. The advantage of a dedicated observing log program (or utility in a planetarium program) is that you can organize and sort your observations to suit your needs. For instance, You've finally finished the Messier list and are ready to submit your notes to AJ. Rather than try to sort out and copy the relevant observations, you sort your observa-

(Continued on page 6)

Novice Group Meeting

By Steve Coe

The Novice group will hold its first session of the year (even I'm tired of saying Millennium! ed.) at the April 14th Star party at the Flat Iron Mountain Site. Sunset is at 7:02 pm. Plan on arriving about an hour before sunset so you can set up your telescopes and attend the twilight talks.

There will be two twilight talks:

A.J. Crayon will give a talk on finderscopes: different types, Telrads and other zero power finders, Prism vs. Amici types, alignment of the finder to the main optics.

Steve Coe will follow with star charts: which ones to purchase, how are star charts used and a simple discussion of making an observing list so that you won't waste precious time under the stars.

Once it is dark Rick Tejera will point out a simple method for using a bright constellation to find a less-obvious constellation. Using Orion as a starting point, Rick will demonstrate star pointers to lots of other fun things to see.

Please feel free to bring any questions you may have as that is the whole purpose of this meeting.

After the three short presentations the telescopes will be up and working and we will be observing planets, star clusters, nebulae and distant galaxies.

Two important tips: dress warm and be careful about white light. Don't bring a white flashlight, use a red light to maintain your night vision. Also, when you are ready to leave, give a holler before starting your vehicle and turning on the headlights. The observers can just turn their head while you exit.

For those of you who haven't attended a star party before, there are some basic rule of etiquette to be followed to insure every has a good time. Here are the basics:

1. As mentioned before, white light is bad, red light good. If you don't have a red flashlight, you can make one using some red cellophane. Just wrap it over the lens of the flashlight and you should be good to go. White light will ruin someone's night vision for at least ½ an hour, so you will be sure NOT to make friends with a white light.
2. If you plan to leave early, park near the exit of the observing field with your lights pointing out. Remember to let everyone know your leaving, as there will most likely be a little stray white light from things like dome lights, reverse lights (as you shift through to drive) and daytime running lights.
3. Keep it clean. We observe with a respect for the land we're on. If you bring it in, carry it out.
4. Observing is a quiet time. Most of us observe with a certain amount of awe and reverence for the wonders of the night sky, so please, while conversation is not prohibited, do not shout across the field. Also please leave the boom box home.

Directions to the Flat Iron Site are on page 10 of this newsletter. If you've never been to the site, many members often convoy out. If you'd like to convoy, Let Rick Tejera know at saguaroastro@aol.com or call him at 623-572-0713, the week prior to the star party, to arrange a meeting point (usually the McDonalds at I-10 & Dysart Rd). Check on AZ-Observing prior to the Star party for the latest info on weather prospects, who's convoying out with who, meeting times etc. Hope to see you there.

Fuzzy Spot, Lynx

By Ken Reeves

Lynx is a non-obvious string of stars running between Ursa Major and Auriga/Gemini. The brightest star, alpha, is only 3rd magnitude. Lying out of the Milky Way, this constellation is dominated by galaxies. However there is a faint planetary nebula, and a very distant globular cluster. Known as the Intergalactic Wanderer, there continues to be disagreement as to whether or not this globular is a member of the Milky Way.

I only have 4 observations of objects in this constellation (NGC 2419, 2683, 2782, and 2844), all in the 10" scope. All other observations are taken from the Night Sky Observer's Guide (George Robert Kepple and Glenn W. Sanner, Willmann-Bell, INC.) and are in quotes.

NGC 2419 (07h38.1 +38 53): This globular cluster is known as the Intergalactic Wanderer. I saw it as a fuzzy spot, quite bright round, a little brighter in middle, and no stars or granularity. There is a very bright star next to it and a nice double past the bright star. Increasing the magnification to 170X or 240X shows no stars resolved or granularity.

NGC 2500 (08h01.9 +50 45): "12/14 inch scopes - 125X: NGC 2500 is a diffuse, circular 2' glow without much central brightening. The galaxy lies just south of a loose sprinkling of ten faint stars. Three more stars are to the north. A faint star nearly touches the ESE tip."

NGC 2541 (08h14.7 +49 04): "16/18 inch scopes - 150X: NGC 2541 has a rather low surface brightness 3' x 2' NNW/SSE halo with an oval-shaped core and a faint non-stellar nucleus. An 11th magnitude star lies 4.5' NNE and a 12th magnitude star 3' SW."

NGC 2552 (08h19.3 +50 00): "12/14 inch scopes - 125x: NGC 2552 is a very faint, amorphous glow about 2' across. A 12th magnitude star lies 3' NE."

NGC 2683 (08h52.7 +33 25): This is a real beautiful elongated galaxy. I saw it as pretty bright, pretty large, and very elongated ENE/WSW. It is brighter in the middle, but no nucleus was seen.

The middle definitely bulges. Using averted vision extends the halo somewhat. An occasional star was seen near the middle, but I don't believe it is the nucleus. There is also a star on ENE of the halo. A possible dust lane on S side was seen. A fantastic object, worthy of belonging in the SAC's 110 Best of the NGC.

NGC 2782 (09h14.1 +40 07): This galaxy is pretty faint, somewhat small, slightly brighter in the middle, and contains a stellar nucleus. The elongation is uncertain, perhaps slightly E/W. To the SW of the galaxy are 2 stars. There are no stars involved with the galaxy. Just not much here.

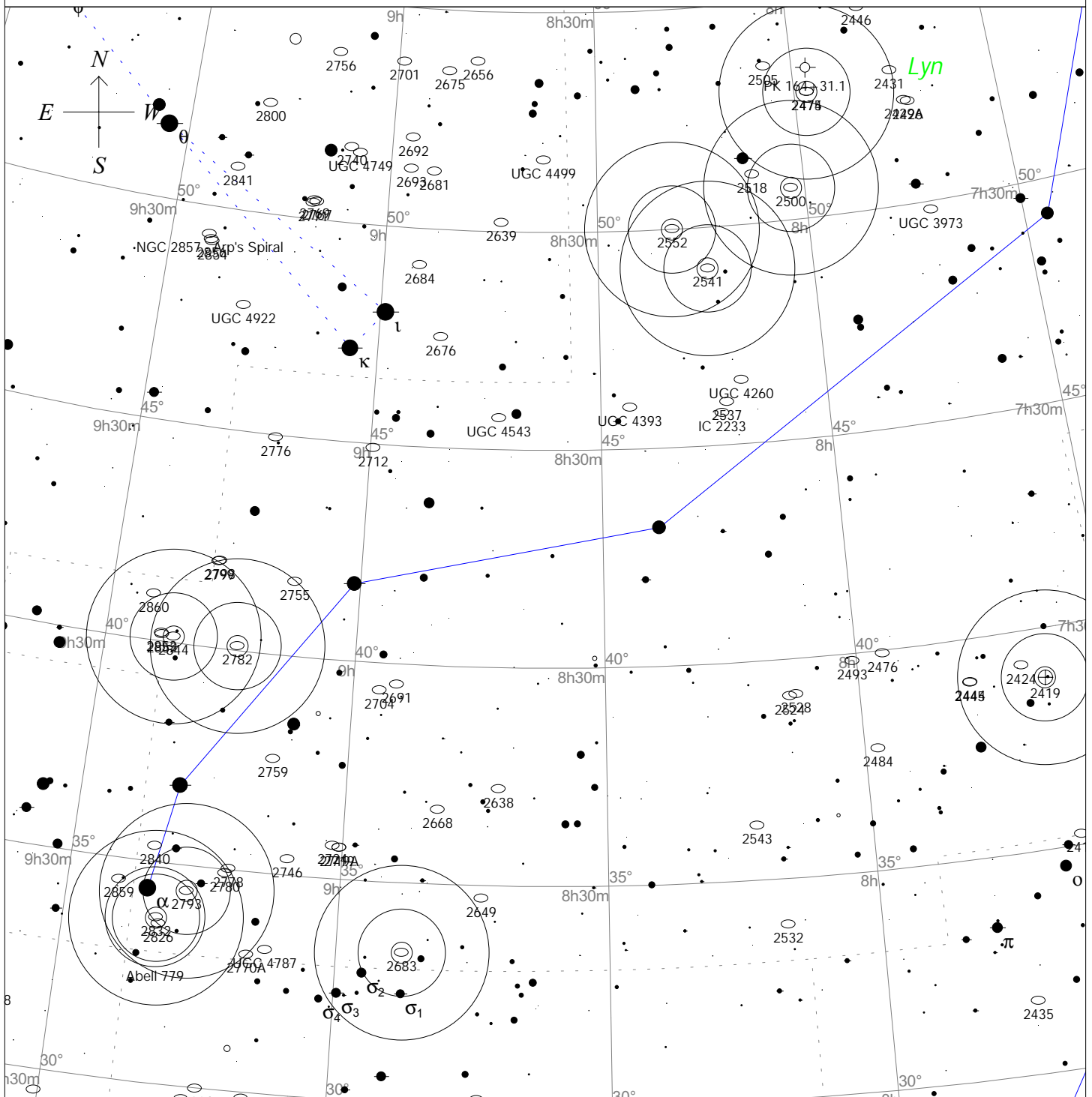
NGC 2793 (09h16.8 +34 26): "8/10 inch scopes - 100x: NGC 2793, 1 degree west of magnitude 3.1 Alpha = 40 Lyncis, is a tiny galaxy contained in a diamond-shaped asterism of 10th magnitude stars, the star at the diamond's northern vertex a 15" NNE-SSW double. The galaxy's halo appears round and is uniform in surface brightness."

NGC 2832 (09h19.7 +33 46): "8/10 inch scopes - 125x: NGC 2832 is the brightest object in the Abell 779 galaxy group 1 degree SW of magnitude 3.1 Alpha = 40 Lyncis. It appears fairly faint, about 1' in diameter, and slightly brighter toward the center. Approximately 3' to its east and SSE are two double stars, the former a coarse pair of 11th magnitude stars and the latter magnitude 10 and 11.5 stars only 10" apart."

NGC 2844 (09h21.8 +40 10): Here is a galaxy, which is somewhat small, pretty faint, a little brighter in the middle, and shows an occasional nucleus. It forms a flattened triangle with 2 bright stars, which do interfere with the viewing. Use averted vision on this object to get the most out of it.

PK 164+31.1 (07h57.8 +53 25 01): "12/14 inch scopes - 125x: This huge planetary, 5' ENE of a magnitude 12.5 star, has such low surface brightness that it requires a UHC filter to be seen at all. Its halo is diffuse, and only irregularly brighter toward the center. Several faint stars are embedded in it."

Fuzzy Spot Lynx



<p>STARS</p> <ul style="list-style-type: none"> ● <3 ● 4 ● 5 ● 6 ● 7 ● >8 	<p>SYMBOLS</p> <ul style="list-style-type: none"> ● Multiple star ○ Variable star ☄ Comet ○ Galaxy □ Bright nebula 	<p>SYMBOLS</p> <ul style="list-style-type: none"> □ Dark nebula ⊕ Globular cluster ○ Open cluster ○ Planetary nebula ⊗ Quasar △ Radio source × X-ray source ○ Other object 	<p><i>Herschel 400 Objects: 2419, 2683, 2782</i> <i>Sac 110 Best of the NGC Object: 2683</i></p>
--	--	---	---

Local Time: 11:54:42 1-Jan-2001

UTC: 18:54:42 1-Jan-2001

Sidereal Time: 18:09:22

Location: 33° 39' 56" N 112° 49' 10" W RA: 8h37m18s Dec: +42° 38' Field: 25.0°

Julian Day: 2451911.2880

Seeing Double

By Thad Robosson

The Christmas season finally hit me when my loving wife asked me what I wanted. This caused two distinct panics...first, what do I get my wife, and second, what do I ask for? After figuring out the answer to the first, I hit upon a solution to the second. I grabbed the latest week's edition of the Orion catalog, and started circling anything that I cared to have. Books, eyepieces, 'scopes, and binoculars were scribbled next to, leaving the choosing up to my wife. Fortunately, she already thinks I have too much astro-junk (her term, not mine), so she went for the items that would have the least impact spatially, yet still impress on me how much she cares that I have such a great hobby. I'm sure that the helpful Orion salesperson helped her make her choices, and I ended up with a pair of Vista 10x50 binos, and two new lunar atlas'. (So I can start the Lunar program soon.)

I anxiously waited for dark to fall Christmas night, and hoped that the clouds wouldn't learn of my new toy. Luck was with me and the sun set into a cloudless horizon. I was happy to see that the binos were well collimated, and the two objective circles formed effortlessly into one. I was even happier that I was able to set the focus for my underpowered left eye quite a bit easier than I expected. I toured all the expected sights, M42, the Pleiades, the Auriga clusters. After quickly learning how fast a neck can tire, I chose to sit down. How amazing the sky through Cassiopeia and Perseus is, with cluster after cluster. The Alpha Per. Association was stunning, and the double cluster was no slouch either. And it is stunning how much more color the stars have through binos.

There is so much to be witnessed and learned in that vast area between naked eye and telescopic views. You can really learn a lot about the sky with a pair of binos. I find that I am getting a feel for distances, and for getting around the sky. I found them a helpful aid in star hop-

ping with the 'scope, as you can scout out your target ahead of time, and get familiar with the star patterns on the way from the brightest nearby star.

It didn't take long for me to construct a parallelogram mount for my new toy, and this vastly improved what I was able to see. Of course, some of the first "challenges" I made myself was for some double stars. After a quick check, I came up with some suitable doubles. (If you'd like a list, I'd be happy to provide a link to the website.)

21+22 Tau (03 46.1 +24 32) 5.6/6.4 168": Inside the Pleiades, this pair is fainter than the brighter stars here. This was easy to detect in this wonderful site, and both appear to carry a bluish tinge to them. I noted the PA at about 310*

27+BU Tau (3 49.2 +24 03) 3.7/5.0 300" 180*: The separation appears right, but a mystery with the PA. Is BU really 28 Tau? The PA is noted at nearly 0*, nearly opposite the listed PA. Look this one up kids....

Theta Tau (04 28.7 +15 52) 3.8/3.4 337" 346*: In the same field as Aldebaran, which is a ruddy orange-yellow. The comp. I just slightly fainter and tinged yellow, while the main star is a bluish white.

Eta Tau (03 47.5, +24 06) 2.9/6.3/8.3/8.5 117"/181"/191" 289*/312*/295*: ; I barely saw all 3 components. This was a challenge, but I was happy to learn that I could see such faint stars in binoculars. PA's were estimated at...280* (closest), 290* (furthest), and 283*. I wouldn't have been able to see these if it weren't for the bino mount.

There are so many more, and I'll be covering these from time to time. Meanwhile, I'm going to grab my binos, and head outside. If you'd like to discuss observations, or contribute some, please contact me at: tmrob@primenet.com.

(Continued from page 2)

tions to show only observed messier objects. At a glance, you'll be able to tell if you've gotten all 110 and print out only those observations. Not to mention that an observing log program will have options to store items like favorite observing locations, interments, Eyepieces etc. You input your equipment and sites once and then just select the appropriate items and then fill in the rest.

If you've never recorded your observations, give it a try. It's less bother than you think and will help you get more out of your time at the eyepiece. You'll soon note that you're seeing more and more detail and records of past observations will help you keep track of how much you've progressed as an observer.

March 2001

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 2001

March 2nd	Moon at First Quarter, 1903 mst
March 6th	Full Moon at 1023 mst
March 9th	SAC General Meeting at Grand Canyon University, 1930, Speaker TBA
March 10th	Mercury at greatest Western elongation (27 Deg), 2300 mst
March 16th	Moon at Third Quarter, 1345 mst
March 17th	SAC Star Party at Flat Iron Mountain. Sunset 1841 Ast twilight ends 2004, Moon-rise 0258
March 20th	Vernal Equinox at 0631 mst
March 24th	Moon is New at 1821 mst
March 24th-25th	2001 All Arizona Messier Marathon, Arizona City Site, Contact A.J. Crayon at: acrayon@primnet.com or Jack Jones at: spicastar@mindspring.com for more information.

Future Planning

April 21-22	2001 Sentinel Schwaar Star Gaze
May 25-28	Riverside Telescope Makers Conference
June 16-25	Grand Canyon Star Party

Asteroid 13006/Schwaar

March will always remind SAC members of tragic passing of Pierre Schwaar. Pierre is truly missed by all SAC members. At the time of his passing, many of his friends said they envied him, for he can now look back to us and see the heavens from the other side. This is more true than ever as Brian Skiff of the Lowell Observatory in Flagstaff has named an asteroid he discovered in honor of Pierre. The official announcement from the IAU reads as follows:
 (13006)Schwaar = 1983 AC1: Discovered 1983 Jan. 12 by B. A. Skiff at the Anderson Mesa Station of the Lowell Observatory.
 Pierre-Yves Schwaar (1946-2000) was a well-

regarded amateur optician and telescope maker. He was also an accomplished observer and photographer of the night sky, often making resourceful use of simple apparatus.

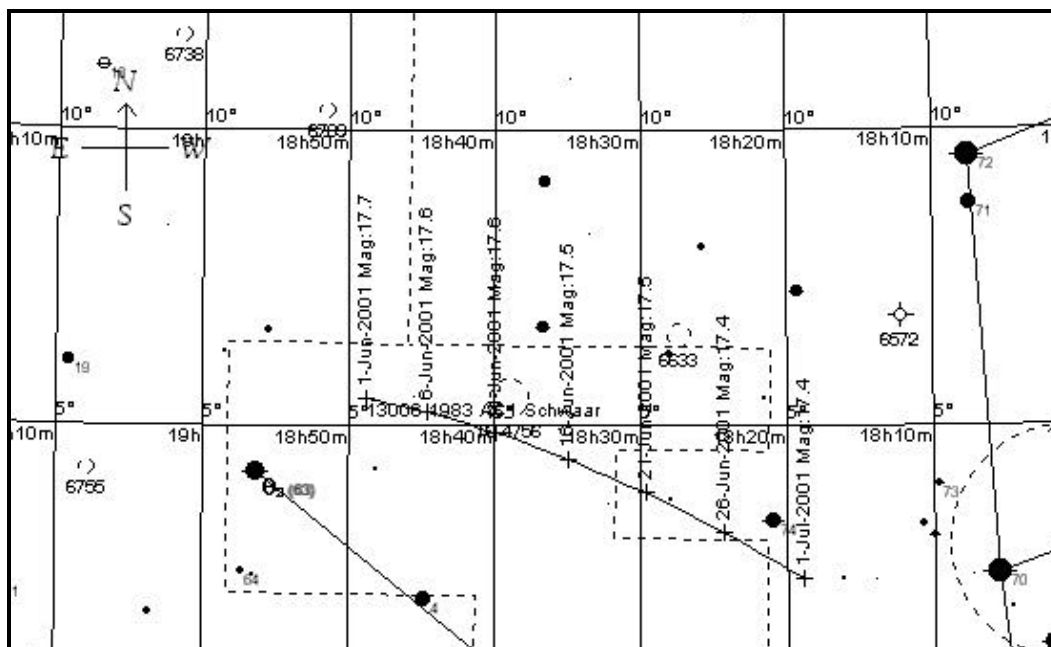
Asteroid Schwaar will be in best position to be observed in June. It is a dim object reaching a maximum brightness of Mag 17.4. You'll need a large aperture (Schwaar made?) to see it. An Ephemeris and star chart with track for June are given below.

SAC wishes to thank Brian Skiff for his thoughtful gesture in honor of Pierre.

Ephemeris of Asteroid 13006/1983 AC1 Schwaar							
Date	R.A.	Dec	Rise	Set	Mag	Altitude	Azimuth
1-Jun-01	18h 48m 46.4s	+05° 26' 46"	20:20:06	8:57:00	17.7	+07° 51' 00"	088° 35' 26"
6-Jun-01	18h 44m 36.6s	+05° 13' 10"	19:56:54	8:32:40	17.6	+12° 39' 07"	092° 05' 58"
11-Jun-01	18h 39m 58.4s	+04° 52' 48"	19:33:33	8:07:34	17.6	+17° 29' 53"	095° 51' 49"
16-Jun-01	18h 34m 57.6s	+04° 25' 30"	19:10:08	7:41:47	17.5	+22° 19' 30"	099° 56' 55"
21-Jun-01	18h 29m 41.6s	+03° 51' 16"	18:46:45	7:15:26	17.5	+27° 04' 00"	104° 25' 46"
26-Jun-01	18h 24m 18.5s	+03° 10' 18"	18:23:33	6:48:38	17.4	+31° 38' 43"	109° 23' 20"

All positions are at 2100LMT

Track of Asteroid 13006/Schwaar
June, 2001



Bits & Pieces

Minutes from the January 12th 2001 General Meeting

By A.J. Crayon

President Jack Jones called the meeting to order at 7:30 pm MST and called for an introduction of visitors. Three came forward.

The treasurer's report followed with a request that dues for this year are now due and payable. If you haven't yet paid you are no longer a club member. For the money aspect there is \$2000.00 in savings and about \$3000.00 in checking, about normal for this time of year where all are renewing membership. There are still some Astronomy calendars available for \$10.00 while they last. On the open market they cost \$12.95 so get yours now while they are available.

Peggy also announced that a committee will be formed to handle bequeaths and gifts to the club. It will also decide on use of expected funds for scholarships for deserving students who are interested in pursuing the advancement of astronomy in some fashion.

Deep Sky Chairman AJ Crayon presented Charles Whiting with an award for observing the 110 Best NGC Objects and Thad Roboson an award for completing the Messier catalogue.

Rick Tejera announced that the Astronomical Journal had not come in - yet - as it wasn't ordered. He hoped to have the order placed soon.

Also, the newsletter was not available as expected as our publisher went out of business and a new one that would not charge us twice what we are already paying has to be found. The question was raised about electronic distribution as this would save on postage and printing charges. Steve Coe and others will take a look at electronic distribution possibility.

Paul Dickson still has some "Astronomical Calendars" available for \$20.00.

Adam Sunshine announced a public star party at a school in Anthem for February 27th. He will have more information for the next meeting but asked for those interested to mark their calendars.

For the beginning of a unusually long Show and Tell segment Rick Tejera showed about 10 slides taken from his new Scotch Mount. He was pleased with them, his first attempt at astrophotography.

Tom Conner showed several pictures taken from his Celestron 8inch using print and CCD formats.

Chris Schur show more slides taken with his CCD using some filters.

Richard Payne showed several slides taken with his 5 1/2" Schmidt camera.

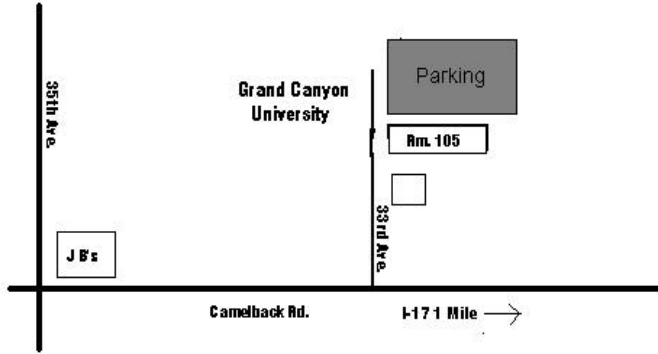
After the break Steve Coe showed a video of his interview with a local TV station, discussing the upcoming Ursid meteor shower and followed it by views of the moon, Jupiter and Saturn.

The main speaker, Vicky Hamilton is a planetary scientist from ASU. Her topic was the latest on the Mars Global Surveyor. It is helping her to understand the geology of Mars. In addition to being an excellent presenter the pictures of the Martian surface had everyone groaning over the stark beauty and wonder of this most fascinating solar system body.

SAC Meeting and Observing Sites

General Meetings

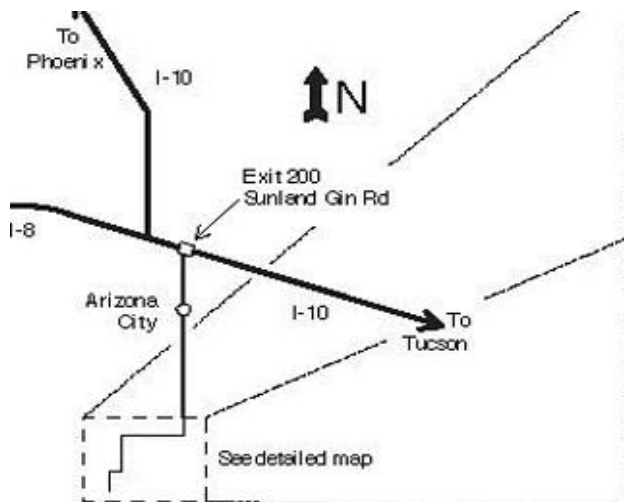
7:30 p.m. at Grand Canyon University, Fleming Building, Room 105: 1 mile west of I-17 on Camelback Rd., North on 33rd Ave., Second building on the right.



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, driving over a fence. The site is to the right.

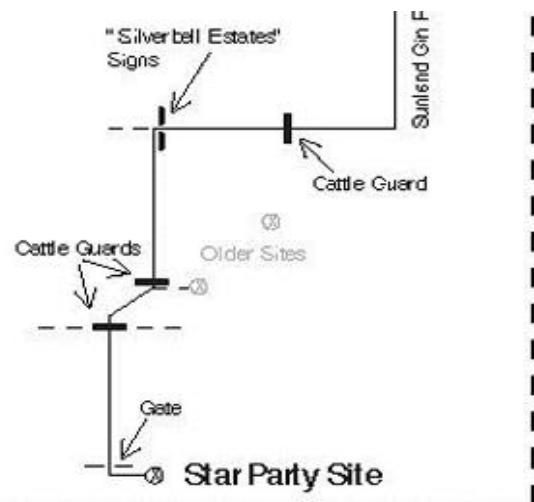
See the map below for details.



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 12 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).



SAC Membership Services Membership

Memberships are for the following calendar year and are pro-rated 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: _____

Make Checks Payable to SAC

Mail Completed form to:

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

(Continued from page 1)

- better than in the printed version. You'll be able to print, limited only by the capability of your printer.
- 3. You'll be able to save the files to disk for future reference.
- 4. With full participation, the club will save money over the long run, allowing us to plan for activities we can enjoy as a club.
- 5. Old issues will be archived on SAC's web site. Forgot to save that issue with

the Fuzzy Spot you wanted? No Problem, go to the web and download it.

Of course if you don't have e-mail or access to the internet, you will still receive your newsletter via regular mail. I encourage everyone with e-mail to take advantage of this new format. We should have the means in place in the near future. Watch for announcements at club meetings, in future issues, and via special mailings.

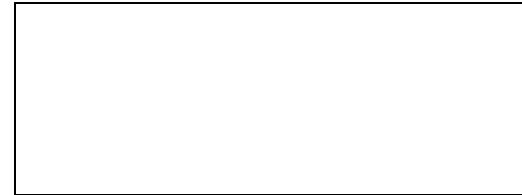
SAGUARO ASTRONOMY CLUB

5643 W. Pontiac Dr
Glendale, AZ 85308-9117

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



Videmus Stellae



This may be your last newsletter.

If you have not yet renewed your membership for 2001, this issue of SACnews will be your last. Please renew now to avoid missing any issues. A renewal form is included on page 11 of this newsletter for your convenience. If have already renewed, Thank you and please disregard this notice.

[www. Saguaroastro.org](http://www.Saguaroastro.org)

SAC Schedule of Events

SAC Meetings

January 12, 2001	July 6, 2001
Feb 9, 2001	August 3, 2001
March 9, 2001	September 28, 2001
April 6, 2001	October 26, 2001
May 4, 2001	November 30, 2001
Jun 8, 2001	December :TBA (Holiday Party)

Deep Sky Group Meetings

February 15, 2001	August 9, 2001
April 12, 2001	November 1, 2001
June 14, 2001	

SAC Star Parties

Date	Sunset	Astronomical Twilight Ends	Moonrise
1/20	1751	1918	0525
2/17	1818	1941	0431
3/17	1841	2004	0258
4/14	1902	2029	0139
5/19	1928	2106	0410
6/16	1944	2127	0239
7/14	1943	2123	0109
8/11	1922	2053	2341
9/15	1837	2001	0513
10/13	1800	1933	0401
11/10	1731	1857	0254
12/8	1723	1852	0151