

# Saguaro Astronomy Club

Metro Phoenix, Arizona

## SACNEWS



March 1996 — Issue #230

v2.20

## A Record-Breaking Crescent Moon Sighting by Pierre Schwaar

The window had just opened. It was 25 minutes after sunset. Six of us, Tom Polakis, Steve Redman, Bernie Sanden, Bill Waltz, Regina Lawless and myself were peering through our telescopes at a spot a couple of degrees above the horizon, just north of where the Sun had set. The atmosphere was remarkably clear, the distant mountains were razor-sharp with none of the haze usually seen across the valley floor. The unusual combination of favorable geometry, timing, and weather was making possible an attempt at spotting the youngest Crescent Moon ever, a little over  $12\frac{1}{2}$  hours from new. The best anyone has done so far was Robert Victor who made an unverified sighting of one about  $13\frac{1}{2}$  hours old some years back in Michigan.

Back in April of 1993, Tom Polakis introduced me to the fun of thin lunar crescent hunting. A few of us gathered half-way up the west side of Tempe Butte, just on the other side of Sun Devil Stadium where the 30th Super Bowl was played. Amid the roar of aircraft on final approach to Sky Harbor, we spotted a 21 hour old crescent that showed as a beautifully delicate hair-thin arc set against an orangish sky. A telescope object at first, it soon became visible in binoculars and just made it to naked-eye visibility before setting behind the radio towers on the White Tank mountains.

In May of the following year a partial solar eclipse occurred right at sunrise and I observed it from the Lake Mead marina near Roosevelt Dam. On the drive back I suddenly wondered if there was a chance of spotting the Moon after sunset on that same day. Never having heard of such a sighting, I decided to try for it. The hunt was on!

Well, in spite of very clear conditions and knowing pretty well where to look, I did not find it in my 8" (a slide taken through the scope *may* have picked it up.) I realized then that a 13 hour-old crescent was going to be quite a challenge! As it turned out, with the Moon closer to apogee and being too much at an angle from the Sun,

### Quick Calendar

#### SAC Meeting

Speaker: Kim Poor, Space Art  
7:30 PM, Friday, March 8

#### SAC Deep Sky Meeting

January and February *What's Up* Columns  
7:30, Thursday, March 14

#### 1996 All-Arizona Messier Marathon

Arizona City  
Saturday, March 16

### See You at the Messier Marathon

the geometry wasn't very favorable.

Precious minutes were now passing. I had already centered the out-of-focus tip of the post that Steve placed 100 yard away to mark the point of moonset,  $6.6^\circ$  north of the sunset point, and was now staring hard through the 10" a couple of degrees up from there.

Staring hard through the 10", I carefully centered the out-of-focus tip of the post that just poked above the horizon north of the sunset point. Steve Redman helped me place two markers, about 100 yards away, one right at the point of sunset, the other  $6.6^\circ$  to the north, marking the point of moonset. Bernie made a plot of the Sun and Moon's positions on his computer using the program "Voyager" to help determine exactly where to look. I did

### SAC Officers

Area Code (602)

President	Gerry Rattley	892-5698
Vice President	Steve Coe	789-7786
	74040.2071@compuserve.com	
Treasurer	Regina Lawless	
Secretary	David Fredericksen	979-0513
Properties	Adam Sunshine	780-1386
	asunshine@netzone.com	
Public Events	Rich Walker	997-0711
Deep-Sky Group	A.J. Crayon	938-3277
	a.crayon@az05.bull.com	
SACNEWS Editor	Paul Dickson	862-4678
	p.dickson@az05.bull.com	

DIM MOMENTS  
IN  
**AMATEUR  
ASTRONOMY**  
by Paul Dickson

**SWAP MEET**  
AT THE  
**MESSIER  
MARATHON**

I SAW M74  
TWICE. WHO  
HAS AN EXTRA  
M30?

On the Saturday morning of the All-Arizona Star Party, Don Wrigley, Robert Kerwin and I drove out to I-10 for breakfast. On the way back to the site, Don was wishing that notices of a swap meet had gone out with the star party notices. As a result, there was likely to be a poor showing for a swap meet that afternoon.

Either Don or Robert brought up the idea of holding a swap meet at the next major star party. The next major event at the time was the Messier Marathon and Don wondered how A.J. Crayon, the Messier Marathon's coordinator, would feel about a swap meet. When spon-

taneously, each of us thought of swapping of observations at the swap meet. I believe it was Robert Kerwin who uttered words similar to those above a fraction of second before either Don or I. The thought of a swap meet at the Messier Marathon was humorously laid to rest.

It was two weeks later that I started doing "Dim Moments in Amateur Astronomy." This one was my first idea. Not wanting to do just one, I thought of other sad, but humorous events I have been told or overheard as an astronomy club member. I currently have one for each month of this year, but I'm always willing to hear more.

not want to scan a lot of sky! I then rocked the scope back and forth slightly to take advantage of the eye's sensitivity to motion: and all of a sudden, the field was full of virtual crescents!

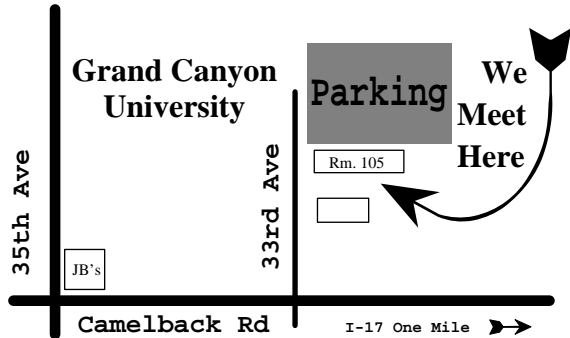
"Please don't do this to me!" I remember thinking and nearly panicked. I was trying too hard! Looking away from the eyepiece I managed to relax, then resumed the search. The time was 6:23 P.M., halfway through the 10 minute window.

About a dozen times since 1992 I tried to find lunar

crescents less than 20 hours old. I practiced on two day old crescents in broad daylight whenever I could, learning how and what to look for. I even managed to spot just over a day old with the Sun near the meridian! After several cloud-outs, three of us came up with a 13 hour 42 minute old crescent as we observed from near Alamogordo, N.M. in really awful conditions. The trip was justified by a visit to the VLA, which was nearby and on our list of must-see astronomical sites. Anyways, we saw the fragile arc through an 8" for about 4 minutes going in and out of

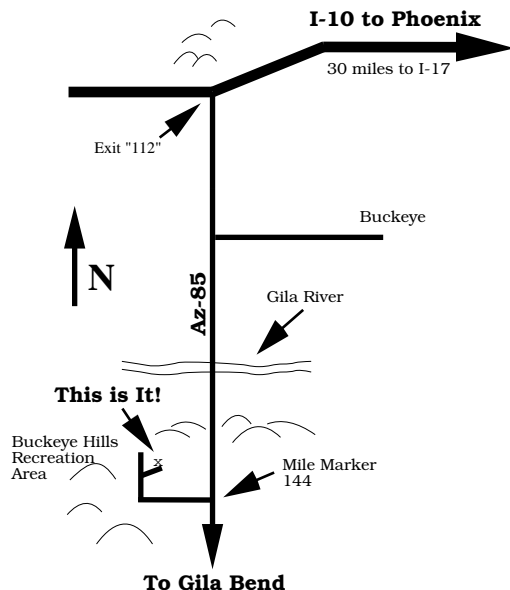
## Directions to SAC Events

**SAC General Meetings 7:30 PM at Grand Canyon University, Fleming Building, Room 105** — 1 mile west of Interstate 17 on Camelback Rd., north on 33rd Ave., second building on the right.



**SAC Deep Sky Subgroup Meeting at John & Tom McGrath's, 11239 N. 75th St., Scottsdale, 998-4661** — Scottsdale Rd. north, Cholla St. east to 75th St., southeast corner.

**SAC Star Parties at Buckeye Hills Recreation Area Interstate 10 west to Exit 112 (30 miles west of Interstate 17), then south for 10.5 miles, right at entrance to recreation area, one-half mile, on the right. No water and only pit toilets. Please arrive before sunset; allow one hour from central Phoenix.**



cloud bands. Video and photos taken through the scope clearly show it, perhaps making it the youngest one captured on film. A respectable accomplishment considering the clouds, but still not good enough for a record. Tom helped me write an article for *Sky & Tel.* but it remains unpublished.

Last December and January offered us Young/Old Moon chasers a remarkable set of opportunities. Coinciding with the closest perigee of the year with near-vertical placement above the Sun, the Moon would allow us two chances to beat the record without having to travel! On Dec. 21, an Old Moon,  $12\frac{1}{2}$  hours from New crescent could be spotted rising 35 minutes before the Sun. Optimum visibility was from parts of Mexico and West Texas but what the heck, we'll try it from here. Set up with Steve near Ajo, AZ., this attempt was foiled by a narrow cloud layer in just the wrong place. The next evening, a 22 hour-old Cheshire crescent glowered at us in the sunset sky over Phoenix, complete with Earthshine and several craters already visible along its arc. I could almost hear it snickering!

One month later, on Jan. 19 of this year, a 22 hour from New Old Moon rose as I observed from Sentinel, Ari-

zona, about 80 miles east of Yuma. The idea there was to see how long it could be tracked into daylight. As an afterthought, I took an equatorially mounted 10" along with my Alt-Az 8". As if on cue, high clouds started arriving at sunrise, causing me to lose it in the 8". Fortunately, the 10" was tracking so I was able to follow it in & out of the clouds until 8:01 A.M., when the cirrus clouds swallowed it for good. Since the 10" did noticeably better than the 8", showing the tenuous image as it was fading into bright sky, the decision was made to use it for the next evening's challenge. I would need all the help I could get!

"There it was!" Quite suddenly, the thinnest imaginable silvery arc of light popped out of the background sky! It was exactly 6:23:04 P.M. on Jan. 20 and success at last. I had a hard time concealing my excitement as I called out the find and ask for confirmation. Everyone came over for a look and share in the excitement. The record was finally broken, and by quite a margin at that: almost an hour!

During the next five minutes of its apparition, we took quick turns at the eyepiece and watched it sink rapidly towards the horizon. Unfortunately, Regina, our new SAC treasurer, was unable to see it. For a brief mo-

# Comet Comments

by Don Machholz

(916) 346-8963 CC211.WPS February 7, 1996  
DonM353259@aol.com

Three new comets have been discovered in the past month, one of them is expected to become a naked eye object in March and April. Meanwhile, Comet Hale-Bopp has now reappeared in our morning sky, it's a little brighter than expected. We now have the luxury of having four comets visible in binoculars. All four comets have been discovered in the past eight months by American and Japanese amateur astronomers.

1995 Y1 (Hyakutake)					
Date	RA-2000-Dec	Elong	Sky	Mag	
02-22	18h47.5m +05°23'	55°	M	8.2	
02-27	19h12.4m +09°05'	54°	M	8.3	
03-03	19h36.5m +12°33'	53°	M	8.3	
03-08	19h59.8m +15°44'	53°	M	8.5	
03-13	20h22.0m +18°35'	52°	M	8.6	
03-18	20h43.1m +21°07'	51°	M	8.8	
03-23	21h03.1m +23°20'	50°	M	9.0	
03-28	21h21.9m +25°17'	51°	M	9.2	
04-02	21h39.5m +26°58'	50°	M	9.4	
04-07	21h55.9m +28°27'	49°	M	9.6	
04-12	22h11.3m +29°44'	49°	M	9.9	

**C/1996 A1 (Jedicke):** Robert and Victoria Jedicke discovered this comet using the 36" Spacewatch (with a CCD) from Kitt Peak on Jan. 14. The comet was magnitude 17 in Hydra. We now know that it is over 5 Astronomical Units (AU) away from the sun and over a year away from perihelion. When it reaches perihelion in April

1997 at 2.5 AU it will attain eleventh magnitude.

**C/1996 B1 (Szczepanski):** Edward Szczepanski was photographing M 101 on the evening of Jan. 27 from the Houston Astronomical Society in southern Texas. It was his last exposure of the night. After a couple of hours of sleep, he awoke and developed his film. Upon close examination he noticed a fuzzy patch near M 101. Confirming that it wasn't on an earlier film, and learning that it wasn't a known comet, he called the Smithsonian Astrophysical Observatory. On the following night confirmation came from several quarters. The magnitude was about 8.6.

C/1996 B1 (Szczepanski)					
Date	RA-2000-Dec	Elong	Sky	Mag	
02-22	11h56.5m +41°31'	142°	M	7.9	
02-27	11h25.2m +35°51'	151°	M	7.8	
03-03	10h56.7m +29°11'	158°	M	7.9	
03-08	10h32.0m +22°04'	160°	M	8.0	
03-13	10h11.8m +15°08'	157°	E	8.1	
03-18	09h55.8m +08°51'	150°	E	8.4	
03-23	09h43.6m +03°24'	143°	E	8.6	
03-28	09h34.5m -01°10'	137°	E	8.9	
04-02	09h28.1m -04°58'	131°	E	9.2	
04-07	09h23.9m -08°07'	125°	E	9.5	
04-12	09h21.5m -10°45'	121°	E	9.8	

Comet Szczepanski was closest to the sun on Feb. 7 at 1.45 AU. Over the next few weeks it will be heading south through Leo, passing near Regulus in mid-March. It is closest to us in early March at 0.54 AU.

**C/1996 B2 (Hyakutake):** Yuji Hyakutake discovered his second comet in five weeks on the morning of Jan. 30. He was using the same 25x100 binoculars and this comet was found about three degrees away from the discovery location of his other find.

*Continued on next page...*

ment, almost 60° of arc could be glimpsed as it actually got a little easier to see. By the time it set it had turned a golden yellow. Surprisingly, the curved thread of light appeared continuous with evenly tapered tips or “horns”. I got the impression that were it not for the bright sky, a still younger and thinner crescent could be detected. There was no Earthshine visible at all.

After our apparition vanished behind distant mountains, we loaded our scopes and drove back down the hillside to join the others who were preparing for some exquisite deep sky observing. I wondered if anyone further east tried for it, realizing that Kitt Peak was not too far away, and maybe even as far away as Tucson, where among the large population of amateur and professional astronomers, surely a few of them would look for it. From that location 150 miles further east, an eagle-eyed observer looking through a good 8” or 10” scope might have had a chance from an elevated site and a near 0° horizon.

As it came to pass, Tom called me the following Monday to give me the news: someone in Tucson did claim a sighting! There goes our record I thought, but as I learned more of the report, several facets about it seemed quite

odd: Having found it 11 minutes after sunset, nearly a 1/2 hour before we did, he tracked it for 17 minutes before losing it in a tree! Were we really that blind? Right away I felt certain that something funny was going on. A couple of weeks later, after a trip to Tucson to hear the report first hand at the TAAA “Member’s Night” meeting and some sky brightness measurements. I concluded that it’s impossible to pick a 12 hour-old Moon so soon after sunset. I also found out that some other group in Tucson trying to upstage him were claiming a sighting at sunset! Then I had my answer.

- Moon’s Age at First Sighting      12h33m
- Time at First Sighting              1h23m04s U.T.
- Opposing Crescents Time          34h22m

*Continued from previous page...*

An early orbit suggests that the comet is approaching the earth and will pass 10 million miles from us in late March. This passage will take place outside and above our orbit, so the comet will be seen against the dark background of the north polar region. Its magnitude will be about 1, and should appear at least a half-degree in size. Through April it should dim slightly at it moves away

1996 B2 (Hyakutake)					
Date	RA-2000-Dec	Elong	Sky	Mag	
02-22	14h47.3m	-24°06'	106°	M	7.9
02-27	14h50.1m	-23°22'	111°	M	7.3
03-03	14h52.5m	-22°10'	115°	M	6.6
03-08	14h54.4m	-20°09'	121°	M	5.8
03-13	14h55.4m	-16°21'	127°	M	4.7
03-18	14h54.7m	-07°39'	134°	M	3.4
03-23	14h48.1m	+22°34'	135°	M	1.4
03-28	04h05.3m	+78°50'	81°	E	1.1
04-02	03h11.3m	+52°00'	55°	E	2.1
04-07	03h05.2m	+43°28'	45°	E	2.5
04-12	03h00.6m	+39°03'	37°	E	2.4

from us and continues toward the sun. It slips into our evening sky and heads southward brightening through the last half of April. By April 27 it will be low in our WNW sky after sunset and magnitude 1.5. The tail, and it will

probably have one at that distance from the sun, ought to be rather interesting.

You or your astronomy club may consider a public star party to show your neighbors this comet. Astronomy Day is April 20, the moon will be three days past New and Comet Hyakutake should be about second magnitude near RA 2h 50m, +34 degrees. Your neighbors may ask: “Is this that Comet Hale-Bopp that I have been hearing about?” And you can say, “No, that will be by next year at this time...same part of the sky, and even brighter than this comet.” After late April we will lose Comet Hyakutake as it moves south of the sun and is seen much better from the Southern Hemisphere.

1995 O1 (Hale-Bopp)					
Date	RA-2000-Dec	Elong	Sky	Mag	
02-22	19h26.1m	-22°14'	43°	M	9.0
02-27	19h28.8m	-21°55'	47°	M	9.0
03-03	19h31.4m	-21°36'	52°	M	8.9
03-08	19h33.9m	-21°16'	56°	M	8.8
03-13	19h36.1m	-20°56'	60°	M	8.7
03-18	19h38.2m	-20°36'	65°	M	8.6
03-23	19h40.0m	-20°15'	69°	M	8.5
03-28	19h41.6m	-19°54'	74°	M	8.4
04-02	19h42.9m	-19°33'	78°	M	8.3
04-07	19h44.0m	-19°11'	83°	M	8.2
04-12	19h44.7m	-18°48'	88°	M	8.1

**Orbital Elements**

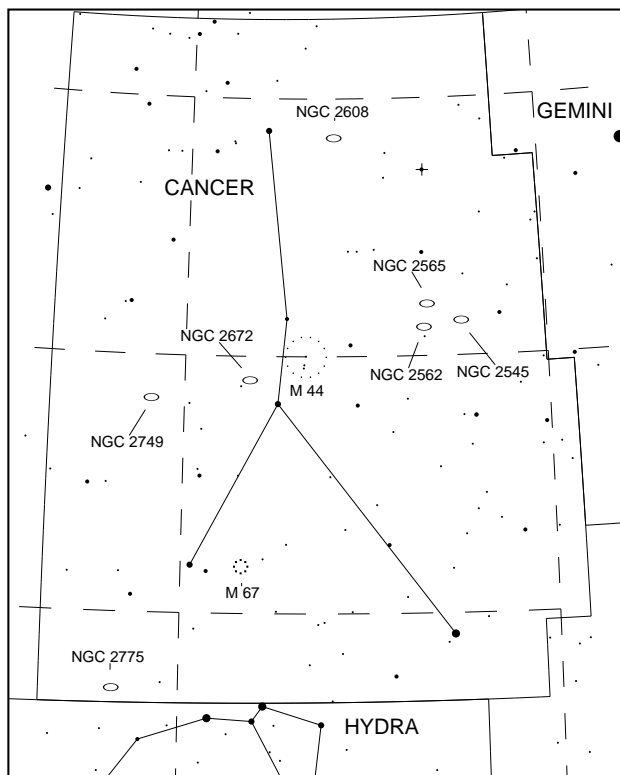
Object:	Hyakutake (95Y1)	Szczenpanski	Hyakutake (96B2)	Hale-Bopp
Peri Date:	1996 02 24.2909	1996 02 07.12974	1996 05 01.41096	1997 04 01.09192
Peri Dist:	1.05456 AU	1.4507841 AU	0.2301558 AU	0.913959 AU
Arg/Peri (2000)	046.353 °	151.44985°	130.18477°	130.59470°
Asc Node (2000)	195.7592°	345.41073°	188.06084°	282.47161°
Incl (2000):	054.4667°	052.07280°	124.88601°	089.42447°
Eccentricity:	1.0	1.0	0.9999735	0.9950751
Orbital Period:	Long Period	Long Period	Long Period	Long Period
Reference:	MPC 26543	MPEC 1996-C02	MPEC 1996-C06	MPC 26374

# What's Up by Steve Coe

Cancer

March 1996

I have been using Position Angle (PA) to mark the angle of elongation of deep sky objects for several years. I find it useful to make certain that I am observing the same object seen by Herschel or other observers. It



is also useful for objects which generally do not have an angle of elongation given in the data. For instance, gaseous nebulae and open clusters rarely have a value of PA given if they are elongated. So, the system works like this: mark North as 0 degrees and move clockwise through 360 degrees to provide a value for the PA of that object. Therefore, a galaxy which is elongated from NE to SW is at a PA of 45 degrees. If the angle is just a little South of East, then the PA will be approximately

100 degrees. If you use an equatorial mount, move the scope to the North and then to the East a little bit and the stars will enter the field of view from the direction you are moving the scope. So that as you move the tube to the North, stars appear on the North or 0 PA side and you move East, stars enter from the East or 90 degree PA side of the view. Now, let's use this system on some elongated galaxies in Cancer, the Crab.

**NGC 2545** is faint, small, elongated 1.5 X 1 in PA 165 degrees and is brighter in the middle at 100X in my 13" scope. It is located at 8 hr 14.2 min and +21 21.

**NGC 2562** shows up as pretty faint, pretty small, elongated 1.5 X 1 in PA 135 and has a bright middle at 165X. This little galaxy is at 8 hr 20.4 min and +21 08.

**NGC 2565** is faint, small, elongated 2 X 1 in PA 0 and much brighter in the nucleus at 100X. Going to 220X will split a bizarre double nucleus in this galaxy, the two nuclei are about 12 th mag and separated by 2 arc seconds. See if you can see the twin nucleus in this galaxy at 8 hr 19.8 min and +22 02.

**NGC 2608** is pretty faint, pretty small, somewhat elongated (1.5 X 1) in PA 60 and much brighter in the middle at 100X. It is located at 8 hr 35.3 min +28 28.

**NGC 2672** seems pretty bright, pretty large, elongated 2 X 1 in PA 45 and much brighter in the middle at 220X. There is a companion galaxy superimposed on the east side of NGC 2672, it is NGC 2673 and it is pretty faint, small and round. This interacting galaxy pair can be seen at 8 hr 49.4 min +19 04.

**NGC 2749** is pretty bright, pretty small, much brighter in the middle, elongated 1.5 X 1 in PA 90. Two very faint companions in the field of view at 100X, both at small and round. See if you can spot them at 9 hr 05.4 min and +18 19.

**NGC 2775** is bright, large, elongated 1.8 X 1 in PA 165 and much brighter in the middle at 220X. The arms of this galaxy are nicely mottled and the central core is elongated 2 X 1 in the same PA as the main body of the galaxy. See if you agree at 9 hr 10.3 min and +7 02.

## Red Stars

$\chi$  **CNC** Medium Orange star in a fairly rich field at 8 hr 20min and +27 13.

# Crop Circles at the Okie-Tex Star Party by Christopher B. Randall

*I found this in February, 1996, issue of the Reflector, the Astronomical League's Newsletter. I found it humorous and relevant. I saw similar features each morning in*

*the dirt at the All-Arizona Star Party last fall.*

Ever wonder about crop circles, where they come from, or who made them? Well, several amateur astronomers in Oklahoma did.

Some of these questions were raised as astronomers started disappearing from the Okie-Tex Star Party. Circular patterns were seen in the grassy observing field after the astronomers had disappeared. Could these patterns be crop circles similar to the famous ones in England?

The first victim was noted missing on Saturday afternoon. Early that morning, before the sun came up, he

was seen taking astrophotos on the field. Now, he and his equipment are missing, yet there was one more observing night left. What could have happened to him? We wondered, could aliens have abducted him for something he photographed? After all, he was generally photographing in the northeast, where most people were not looking.

The pattern left behind this first victim was a circular ring of matted grass with an outside diameter of eight feet, and an inside diameter of three feet. There was a two-foot triangular spike of unmatted grass pointing to the North out of the central unmatted area. The grass was matted in random directions, but primarily in a circular direction around the center, but in both clockwise and counterclockwise directions.

The next morning, I awoke to find many astronomers packing for the trip home, and many more observers were missing. The only evidence of them being here was the circular patterns left in the grass. I counted between fifteen and twenty of these patterns. The outside diameters of some circles were large, twenty feet, while others were small, five feet. There was even a joined pair of circles. A couple were even worn down to dirt. Again, the grass was matted down, with no sign of human intervention. There were human foot prints and vehicle tracks from other astronomers packing and looking at the circles.

These circles are more evidence of the strange happenings on our planet. However, the real question is, what made these patterns and why? Are they really from aliens,

## The 1996 All-Arizona Messier Marathon March 16, 1996

The 1996 All-Arizona Messier Marathon is a one night—all night—observing session held during the new moon of March. The goal is to observe as many entries in Charles Messier’s magnificent catalogue as possible; limited only by your observing skills, stamina, and the weather.

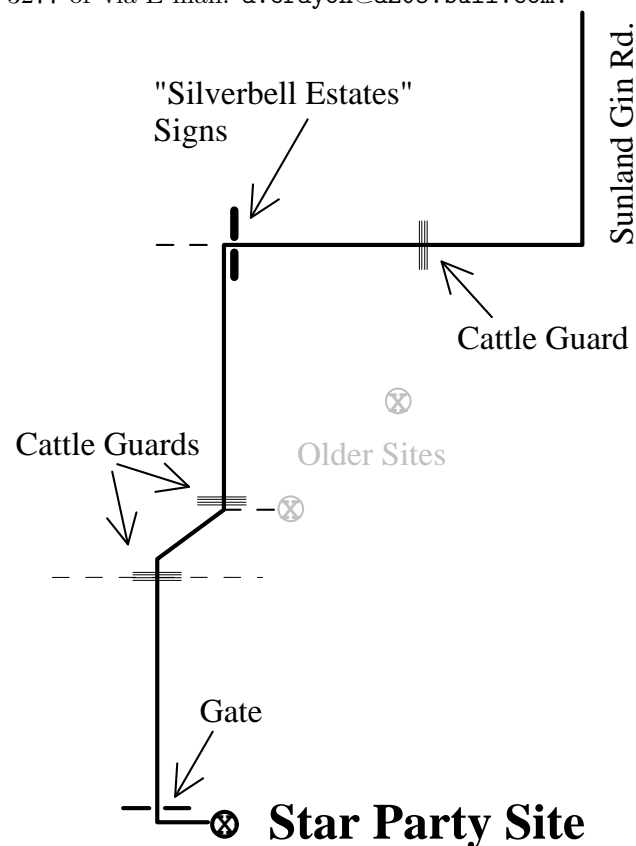
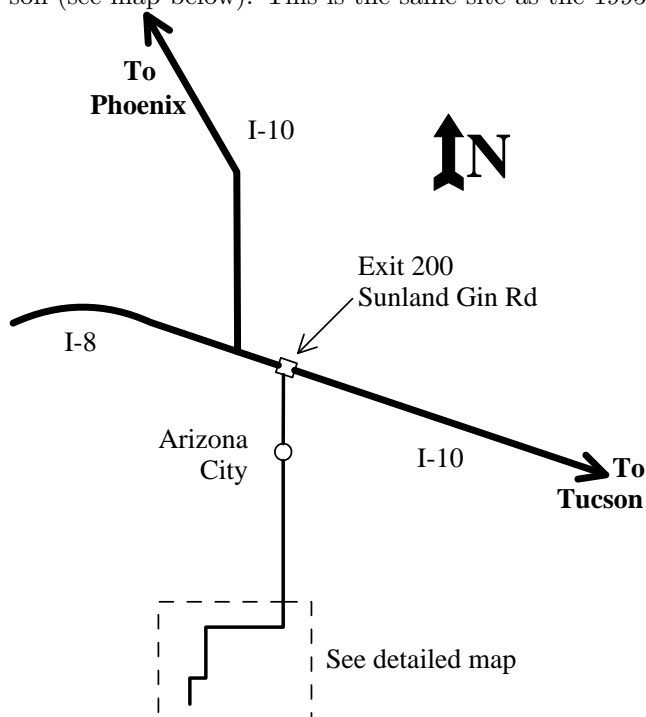
Certificates will be awarded to participants observing 50 or more objects. A plaque, suitable for mounting on your telescope, will be awarded for first, second, and third highest totals achieved, with duplicate awards for ties.

The marathon is held at a new site near Arizona City, which is nearly equidistant from Phoenix and Tucson (see map below). This is the same site as the 1995

All-Arizona Star Party last October.

Invitations have been sent to all known Arizona astronomy clubs and a large turnout is expected. Even if you don’t plan on taking part in the marathon, this will be good star party to attend. There will be a lot of people there all night long. Last year was the largest turnout so far, let’s see if we can top it.

For more information, contact A.J. Crayon at 938-3277 or via E-mail: [a.crayon@az05.bull.com](mailto:a.crayon@az05.bull.com).



Take I-10 to exit 200 (Sunland Gin Road.) Turn right (south) after exiting the freeway. After about 15 miles, the pavement ends and about one mile further, the road turns sharply to the west. 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 after the gate and continue for another 1/4 mile to the site.

or did many strangely obsessed people stand in a field and randomly walk in circles all night? If they were created by people, why would people do this?

## A Spectacular Space Shuttle Re-Entry

*When the Space Shuttle occasionally lands at Cape Canaveral at night or at dawn, the shuttle's re-entry path goes by Arizona at night. When such conditions occur, I get a notification from the Tucson Amateur Astronomical Association via E-mail. This time I forwarded this fact to SAC members via E-mail. Paul Lind replied about the E-mail, wondering about the visibility from Phoenix. I told him it might not be visible from Phoenix but suggested the Vekol Rd. site as good place to observe this event. I have two reports, the first from Paul Lind and another from Tom Polakis. — Paul Dickson, SACNEWS Editor*

Paul Lind: Tom Polakis and I witnessed a spectacular shuttle re-entry "Friday night" at about 12:20 A.M. Saturday morning. I arrived at Vekol Rd. at about 12 to find that Paul Knauth and others had left because of clouds. The clouds had moved off to the East by midnight, and as I was getting some equipment out of the truck Tom said something like "Wow, look at this!" I spun around thinking he was seeing a fireball, and there was the shuttle slowly blazing across the southern sky about 10 degrees up. It left an ion trail which lasted at least 15 minutes, and showed a lot of turbulence through Tom's 13 inch. This was almost as good as a solar eclipse, and lasted a little longer. Both Tom and I were sorry we didn't bring camcorders because this event was probably bright enough to be recorded. Well, there's always a next time!

Tom Polakis: I have to admit that I wasn't that enthused about the shuttle re-entry this morning, even after reading your notes. Paul Lind arrived at Vekol Ranch, 50 miles south of Phoenix, at around 11:30 P.M., and had to

## The 1996 Sentinel Star Gaze April 13, 1996

This is the fifth annual Sentinel Star Gaze, sponsored by SAC's Deep Sky Group. Sentinel is a remote site situated between Gila Bend and Yuma (about 100 miles southwest of Phoenix) making for a very dark sky. On the day of the event sunset is just after 7 PM, with twilight ending at 8:30. Those staying the entire night can expect the Moon to rise at 4 AM, twilight starting at 4:40, and sunrise at 6:04 AM. For those of you with computers, the Sentinel site is at 32° 49.7' North by 113° 12' West, at 625 feet above sea level.

Although this is officially a one night event, frequently observers get a head-start by arriving the night before, to get an extra night of observing.

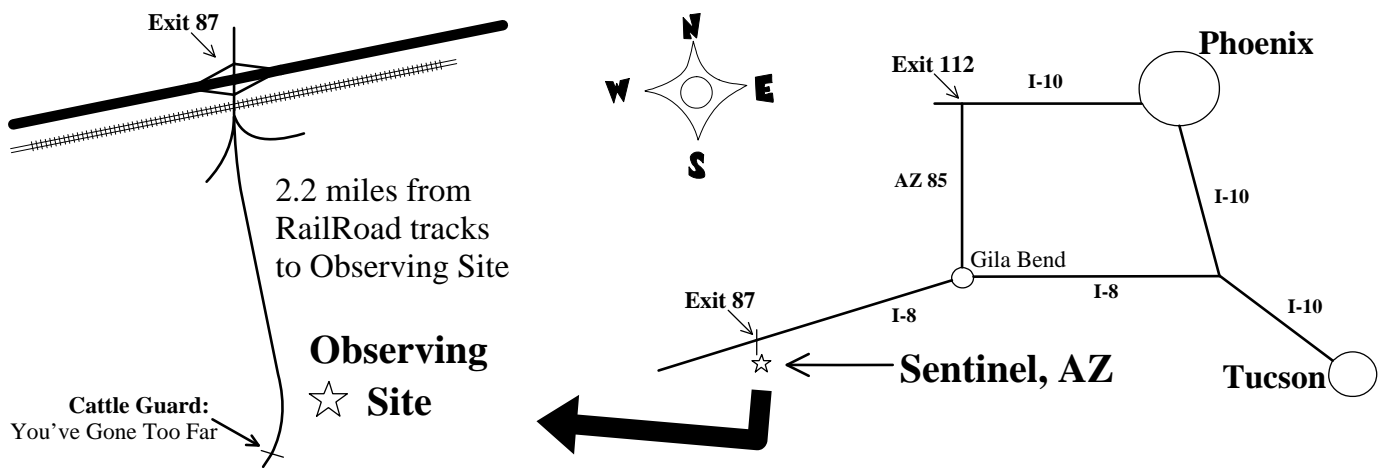
Sentinel is a good two hours drive southwest from down-town Phoenix. Please try to arrive before sunset. A Port-a-Pottie will be provided, but there are no other

facilities. Expect cold weather and hungry flying insects during twilight — let's hope we get neither.

For more information, contact Steve Coe at 789-7786 or via E-mail: 74040@compuserve.com.

### Star Party Etiquette

1. **Do Not Litter!** If you bring it with you, please take it when you leave.
2. **No White Lights after Dark!** Use only dim red lights after sundown.
3. **Park Based on Your Observing Plan. Plan Your Departure.** Park facing towards the exit to avoid using your backup lights.
4. **Bring Observers Only.** Please leave small children and pets at home.
5. **Keep Noise to a Minimum.**



# Such-A-Deal

**SUCH-A-DEAL** is a place to advertise equipment, supplies, and services related to amateur astronomy. This is a free service for SAC members and friends. SAC is not responsible for the quality of advertised items or services. All insertions must be submitted in writing.

**For Sale**—Celestron C-8+, fork mounted, wedge, tripod. Special coatings. Like New. \$975 O.B.O. Bill, 546-8137.

remind me that it was going to happen.

Turning to the southwest at 12:30 A.M., there was this yellow-orange fireball as bright as Sirius! Absolutely beautiful. The “contrail” had a bright, eerie glow, and stayed visible to the unaided eye for at least ten minutes after the departure of the craft from the sky. I looked at the trail through the 13-inch, and it showed twisted vortex structure. It’s upper boundary was well-defined, but it’s lower boundary resembled cumulus clouds. It was visible in the scope for at least a half-hour after 12:30. The altitude of the trail was about 10°, and it’s azimuth spanned about 90° before disappearing into the Tucson glow.

Really a spectacular show.

## Bits and Pieces

### Coming Events

#### Star Parties

Messier Marathon	Mar. 16
Sentinel Star Gaze	Apr. 13
Texas Star Party	May 12-19
RTMC	May 24-26
Grand Canyon	Jun. 8-15

#### Public Star Parties

Thunderbird Park	Apr. 27
Reach 11	Jun. 22

## Minutes from the February Meeting

Gerry Rattley opened the February meeting. He asked any visitors to introduce themselves and to sign the guest book.

Adam Sunshine gave the Treasurer’s report for Regina Lawless who was out of town.

A.J. Crayon discussed the Deep Sky Group meeting at the McGrath’s house. They will talk about Tauris and Puppis on March 14. A.J. also mentioned that the Messier Marathon on March 16.

Rich Walker talked about a Public Star party on April 27 at Thunderbird Park and another at Reach-11 on June 22.

Tom Polakis talked about searching for the young Moon. Pierre saw the Moon when it was 12 hours 33 minutes old, but supposedly someone in Tucson saw a younger one.

Steve Coe discussed the Sentinel Star Gaze on April 13.

At the break there were 38 people present.

After the break, Steve introduced the main speaker, Chris Schur. He talked about Arizona astrophotography; what he did in the past, what he did last year, and what he has been doing recently. Nice to have you back, Chris!

We adjourned to JB’s.

—David Fredericksen, SAC Secretary

## Grand Canyon Star Party '96

### South and North Rim June 8-15

Observing conditions are excellent. The nearest town, Flagstaff—population 45,000, is 80 miles away, while Las Vegas and Phoenix are both about 170 air miles away making for very dark skies. Elevation at the South Rim is about 7,000 feet with the North about 8,000 feet. Seeing conditions are usually very good with the exception of very still nights when pockets of cold air move through slowly disrupting the seeing. Early June is Arizona’s clearest time. We have not had a night lost to clouds in over three years!

If you need a room to stay in, you had best start NOW. Even in March you will likely have to search around for a room. If you can stand the 7 mile drive to Tusayan, there are also a number of motels there. Campsites are generally available a day or two ahead of time (\$10/night). RV parking with a full hookup is available in Trailer Village (\$17/night). Again, early reservations are advised.

If you need further information, or to let us know you would like to volunteer by bringing a telescope, PLEASE let us know at the address below. The space in the observing field is limited and we need to know how many folks we have coming that are bringing scopes. Be sure to have some housing plans before you let us know you are coming!

For **South Rim information**, write: Dean Ketelsen, 1122 East Greenlee Pl., Tucson, AZ 85719, (520) 293-2855 [ketelsen@as.arizona.edu](mailto:ketelsen@as.arizona.edu)

For **North Rim information**, write: Delyo Pierce, P.O. Box 674, Farmington, UT, (801) 451-8215

**South Rim Lodging:** (all area code 520) All rim lodging or Trailer Village (Fred Harvey, Inc) 638-2401 Campsites (MISTIX—no more than 8 weeks in advance) (800) 365-2267. Housing in Tusayan (7 miles south of Grand Canyon): Squire Inn 638-2681, Moqui Lodge 638-2424, Quality Inn 638-2673, Red Feather Lodge 638-2414, and Seven Mile Lodge 638-2291.

**North Rim Lodging**—(801) 586-7686 North Rim Camping (MISTIX—no more than 8 weeks in advance) (800) 365-2267.

# March 1996

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<div style="border: 1px solid black; padding: 5px; display: inline-block;">                     All Times are Mountain Standard Time                 </div>					<b>TAAA Meeting</b> (Tucson)  1	2
3	Mar in conjunction with Sun  4	Full Moon 2:24 A.M.  5	6	7	<b>SAC Meeting</b> Grand Canyon University, Fleming Rm. 105  8	9
10	Sun enters Pisces 6 A.M.  11	Last Quarter Moon 10:16 A.M.  12	<b>EVAC Meeting</b> (SCC: Rm. PS172)  13	<b>SAC Deep Sky Meeting</b> 7:30 P.M.  14	15	<b>Messier Marathon</b> Arizona City  16
Saturn in conjunction with Sun  17	18	New Moon 3:47 A.M.  19	Spring (Vernal) Equinox 1:08 A.M.  20	21	Moon 5.3° of Venus (evening)  22	23
Venus at greatest elongation 46° (evening)  24/31	25	First Quarter Moon 6:31 P.M.  26	27	Mercury at superior conjunction (moves into evening sky)  28	29	30

## Magazines & Discounts

Club members may subscribe to astronomical magazines at reduced rates through the club Treasurer. See the Member Services Form on the back page of this newsletter. Furthermore, club members are encouraged to align their subscriptions with the Jan.–Dec. calendar year. This eases the burden both on the Treasurer and the Publisher by permitting a single Group Renewal to be placed in the autumn for the upcoming calendar year.

Those members who experience problems with their subscriptions to *Astronomy* magazine may call Kalmbach Publishing Customer Service at (800) 446-5489.

Those members who experience problems with their subscriptions to *Sky & Telescope* magazine may call Sky

Publishing at (800) 253-0245.

Besides the club discount on *Sky & Telescope* magazine, Sky Publishing offers club members a 10% discount on all other Sky publications. This means books, star atlases, observing aids, Spotlight prints, videos, globes, computer software, and more.

Club members who subscribe to *Sky & Telescope* through the Club Discount Plan may order Sky publications directly, at the above toll-free number, without going through the club Treasurer. Simply mention the Club Discount Plan and give the Saguaro Astronomy Club name to receive the discount. Sky Publishing will check their records to verify that you are eligible to receive the discount.

## Saguaro Astronomy Club Member Services Form

### Membership

Memberships are for the calendar year and are prorated as follows: Jan - Mar 100%, Apr - Jun 75%, Jul - Sep 50%, Oct - Dec 25%.

- \$28.....Individual Membership
- \$42.....Family Membership (one newsletter)
- \$100.....Business Membership (includes advertising)
- \$4.....Nametag for members
- \$14.....Newsletter Only

### Subscriptions

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.

- Sky & Telescope.....\$24.00 for one year
- Astronomy.....\$20.00 for one year

Write your name, address, and phone number in the space below.

Make checks payable to SAC.  
Mail the completed form to:

Regina Lawless  
SAC Treasurer  
5808 E Turquoise,  
Scottsdale AZ 85253

## SAC and SAC Meetings

Saguaro Astronomy Club (SAC) was formed in 1977 to promote fellowship and the exchange of scientific information among its members—amateur astronomers. SAC meets monthly for both general meetings and star parties, and regularly conducts and supports public programs on astronomy.

SAC meetings are usually held on the Friday nearest the full moon. This means that over the course of the year, meetings are not held on same week of the month. The same is true of the club's star parties. Star parties at Buckeye Hills are mostly held on the Saturday of the third quarter moon.

### 1996 SAC Meetings

Jan. 5  
Feb. 2  
Mar. 8  
Apr. 5  
May 31  
Jun. 28  
Jul. 26  
Aug. 30  
Sep. 27  
Oct. 25  
Nov. 22  
Dec. 14 Party

### 1996 SAC Star Parties

Date	Sunset	Moonrise
Jan. 20	5:48pm	8:50am
Feb. 10	6:08pm	12:10am
Mar. 16	6:36pm	5:16am
Apr. 13	7:02pm	4:00am
May 11	7:16pm	2:34am
Jun. 8	7:33pm	1:15am
Jul. 6	7:43pm	11:57pm
Aug. 10	7:16pm	4:46am
Sep. 7	6:43pm	2:26am
Oct. 5	6:06pm	1:11am
Nov. 2	5:35pm	11:54pm
Dec. 7	5:21pm	5:02am

**SAC General Meetings** 7:30 PM at Grand Canyon University, Fleming Building, Room 105 — one mile west of Interstate 17 on Camelback Rd., north on 33rd Ave., second building on the right.

## SACNEWS

c/o Paul Dickson  
7714 N 36th Avenue  
Phoenix AZ 85051

Stamp

First Class Mail

### Inside:

- A Record-Breaking Crescent Moon Sighting by Pierre Schwaar
- Dim Moments by Paul Dickson
- Comet Comments by Don Machholz  
*A Naked-Eye Comet!*
- Crop Circles at the Okie-Tex Star Party by Christopher Randall
- What's Up by Steve Coe
- 1996 Messier Marathon
- A Spectacular Space Shuttle Re-Entry
- 1996 Sentinel Star Gaze
- 1996 Grand Canyon Star Party