

Saguaro Astronomy Club

Metro Phoenix, Arizona

SACNEWS



May 1996 — Issue #232

v4.21

1996 All-Arizona Messier Marathon by A.J. Crayon

This years Marathon was held on March 16th at a new location south of an older observing site south of Arizona City. This is a very dark and secluded location about 20 miles past Arizona City.

1996 Messier Marathon Results

Count	Name	Optics	Club
110	David Fredericksen	12.5" f/6Dob	SAC
109	A.J. Crayon	8" f/6N	SAC
	Tom McGowan	20" f/5Dob	MA
	Tony Ortega	10" f/5.6Dob	EVAC
	Don Wrigley	16" f/5 Dob	EVAC
108	Carl V. Anderson	8" f/6N	UofA
	Adam Block	12.5" Dob	UofA
	M. Aaron McNeely	8" Dob	EVAC
	Ken Reeves	10" f/4.5Dob	SAC
	Wade Holguin	8" SCT	?
	Jack Jones	10" f/4.5N	SAC
107	Paul Dickson	8" f/4.5Dob	SAC
	Bob Gardner	10" f/4.5N	SAC
	Manfred/Diane Alber	13.1" f/4.5Dob	EVAC
	Rick Rotramel	16" f/4.4N	SAC
106	Steve Bell	10" f/5.6N	EVAC
	Flynn Haase	4.5" N	UofA
	Steve White	12.5" Dob	UofA
102	Hazel Lawler	17.5" f/4.5Dob	TAAA
101	Rob Smalley	8" SCT	EVAC
97	Bob Birket	?	?
96	Rod Lowe	6" f/4.5N	SAC
94	Glenn Nishimoto	8" f/4.5N	TAAA
89	Mike Lerch	4" Refractor	SAC
84	John Kannarr	13.1" Dob	SAC
82	Adam Sunshine	12.5" Dob	SAC
60	Regina Lawless	6" f/3.6	SAC
56	Angelle Tanner	10X70Binos	UofA
55	Charles Whiting	?	SAC
22	Matthew Spinelli	8" SCT	?

We, Steve Coe and David Fredericksen and myself, left my house about 2:30 PM. I wanted an early start in order for the organizer to arrive at the site at a respectably early time. I also wanted some extra time to see old friends and make some new ones.

Quick Calendar

SAC Board Meeting
Contact Gerry Rattley for Location
7:30 PM, Friday, May 3

SAC Deep Sky Meeting
Comet Hyakutake Observations
7:30, Thursday, May 9

SAC Star Party
Buckeye Hills Recreation Area
Saturday, May 11

SAC Meeting
Speaker: John Spenser, *The Great Comet Crash*
7:30 PM, Friday, May 31

On the way we chatted on the CB radio to help pass the time away. Before getting there we took a poll amongst ourselves to determine how many scopes would be there when we arrived and how many would be there by sunset. Steve got the number right for our arrival at 12 and I was closest for sunset at 58.

After passing through Arizona City and getting towards the site we came upon SAC signs pointing the way. They were placed there by Adam Sunshine. Pulling into the site we saw flashing red lights marking the way from the road well into the observing field. This would be a great help for those departing before morning twilight!

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

DEFINITIONS
CAR-BE-QUE

TRANSPORTING
AN UNCOVERED
MIRROR
IN FULL
SUNLIGHT

In the middle of the observing field was the much expected port-a-john. This was initially requested by ladies; but was also well used by men. Mainly because the observing site was so large the port-a-john was closer than any tree or bush! It to was marked by flashing red lights. After darkness the lights proved to be too much of a distraction to observers. So they were placed inside. You could still see the flashing through the side vents near the roof.

But, before it got dark I had a chance to chat with Ray Farnsworth. He is the owner of the land we were using for the site. He is a very pleasant person to talk with. Some of the rain damage to the road was cleaned up by him. We owe him a thanks, a big thanks!!! Not just for the site, but also for maintaining the road.

I also had a chance to see old friends and make new

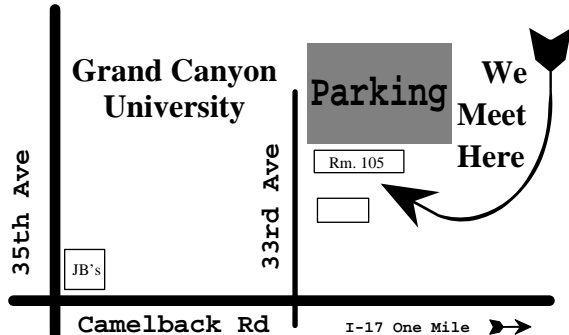
ones. Space doesn't permit mentioning all. But I had chance to speak with Glen Nishimoto who let me use his camera — loaded with film — and Hazel Lawler; both belong to TAAA. I can't forget new friends Tom McGowan, all the way from Massachusetts, and Tom Bopp of Comet Hale-Bopp fame! Also well represented was EVAC with Tony Ortege, Don Wrigley and the Albers! Thanks to these and all who attended. You made the event a success!

By sunset there was much expectation about the marathon and Comet Hyakutake. A good thing the marathon wasn't a week later as this comet turned out to be a spectacular treat! By this time the number of scopes had grown to 65.

As darkness descended the marathon, general observing and astrophotography began! By 11 PM I had com-

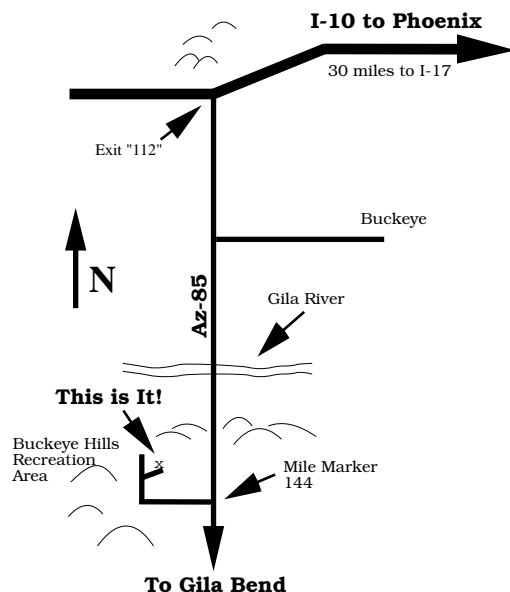
Directions to SAC Events

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.



pleted the Realm of the Galaxies and decided to take a well deserved break.

After midnight I noticed some clouds covering a large area to the north and east. Well away from that part of the sky I needed to observe.

Fortunately the clouds weren't a problem for me. As morning approached the clouds became a dreadful problem for others because the covered parts of Pegasus and Aquarius. They caused a number of observers to miss objects in these constellations.

Finally it came to the final object, M30! In the minutes before morning twilight I was able to locate the two bright stars to the west of the globular in my 8X50 finder. They were just above a mountain top to the southeast. When I thought M30 was just above the horizon I walked over to David's telescope to have a look. I didn't see it in his telescope either. I scurried back to my telescope, hoping.

A few moments later I heard Dave call for me to come confirm his observation of M30. While I head the call, it was ignored for two reasons; 1) the 200 feet distance between us was too far to get there in time to see it before disappearing and 2) I was hoping to see it in my scope.

As time passed and daylight began descending upon the observing field, 41 Capricorni appeared in the finder for a few fleeting moments. But, alas, M30 never showed up in my scope.

When it was all over, David came by to deliver his

check off list and to discuss his fleeting view of M30. While viewing it he jiggled the telescope; the fuzzy blob moved accordingly. After discussing whether his glimpse was enough to qualify for being observed or not he decided it was.

SAC Board Meeting May 3

There will be a meeting of SAC officers on May 3. Contact Gerry Rattley for meeting location. Although the meeting is mandatory for officers, interested club members are welcome.

Swap Meet at June Meeting

There will be a swap meet at the June SAC meeting. If you have astronomical stuff lying around, no longer of interest to you, bring it to the meeting. Maybe you can sell or trade it with someone else.

Newsletter Deadline

Mail items for Such-a-Deal at least two weeks before the end of the month. Articles that need to be published in a timely fashion must be submitted or the newsletter editor notified of the article at least 6 weeks before month they are published. Items arriving too late for an issue will be included in the next newsletter.

Comet Comments

by Don Machholz

(916) 346-8963 CC213.WPS April 9, 1996
DonM353259@aol.com

Comet Hyakutake (C/1996 B2) performed well as it passed by Earth in late March. Not only did it shine brightly, but bits of material were blown off the nucleus while the tail stretched for over 70 degrees. It has been a most memorable comet! It will reach its closest point to the sun on May 1, then becoming an exclusively Southern Hemisphere object, with two possible exceptions. First, it may be visible in daylight through a telescope to experienced observers who take the proper precautions to avoid pointing their instrument at the sun. Secondly, the comet's tail may be seen rising at morning twilight between roughly April 28 and May 7. A long tail will point toward the northern part of the constellation Triangulum on April 28, swinging southward during the next week until it points toward the planet Saturn (due east) by May 7.

Comet Hale-Bopp passes behind the moon on the morning of May 8. This rare lunar occultation will be visible at roughly 09hr UT from the western United States, Mexico and Central America. Meanwhile, several other comets are visible, including the faint **Comet Chiron**,

which has just reached perihelion in its 50-year orbit. It will appear nearly stellar since it is 7 AU away and rather inactive. It was once thought to be an asteroid.

C/1996 E1 (NEAT): This comet was discovered at magnitude 16. on March 15 by the Near Earth Asteroid Tracking Team. It reaches perihelion in July at 1.35 AU. It may brighten to magnitude 14 by then.

C/1995 Y1 (Hyakutake)					
Date	RA-2000-Dec	Elong	Sky	Mag	
04-27	22h51.1m	+32°47'	51°	M	10.5
05-02	23h02.5m	+33°35'	52°	M	10.7
05-07	23h13.1m	+34°18'	53°	M	10.9
05-12	23h22.8m	+34°57'	54°	M	11.1
05-17	23h31.6m	+35°33'	56°	M	11.3
05-22	23h39.7m	+36°05'	58°	M	11.5
05-27	23h47.0m	+36°34'	60°	M	11.7
06-01	23h53.6m	+37°00'	62°	M	11.8
06-06	23h59.4m	+37°24'	65°	M	12.0

C/1996 B1 (Szecepanski)					
Date	RA-2000-Dec	Elong	Sky	Mag	
04-27	09h22.3m	-16°31'	109°	E	10.6
05-02	09h24.5m	-17°59'	106°	E	10.8
05-07	09h27.5m	-19°19'	102°	E	11.1
05-12	09h31.0m	-20°32'	100°	E	11.3
05-17	09h35.1m	-21°39'	97°	E	11.5
05-22	09h39.7m	-22°43'	94°	E	11.8
05-27	09h44.6m	-23°43'	92°	E	12.0
06-01	09h49.9m	-24°42'	89°	E	12.2
06-06	09h55.6m	-25°38'	87°	E	12.4

Continued on next page...

1996 Sentinel Star Gaze

A BIG SUCCESS

by Steve Coe

There where 42 telescopes and about 60 folks ready to observe with them as darkness approached for this year's Sentinel Star Gaze. Once twilight faded there where even more photos of Comet Hyakutake taken and overhead Leo, Virgo and The Big Dipper invited everyone to visit far-away galaxies by the hundreds. For those who stayed late, the Summer Milky Way was up nicely by 2:00.

The usual group of eager observers had come out for the Friday night before the official Star Gaze and these dozen or so observers had a breezy night with some dust in the air. So, it was difficult to say "you should have been here last night" to the arriving crowd on Saturday afternoon. I rated Friday at 5/10 for seeing and 6/10 for transparency; while Saturday was 6/10 for seeing and 8/10 for transparency.

I shot piks of Comet Hyakutake on both nights, but I don't have the prints back as I write this, so I can't tell if I had a good time or not. Just a quick trip around the observing field and I saw Paul Knauth checking out a list of galaxies in which he expected to see detail in the big metal 12". Chris Schur was looking at objects in Ursa

Major in his 16" scope and Bob Gardner was doing the same in his ten incher. Kevin Gill, Bernie Sanden, Tom Polakis and I observed lots of fine detail in the Siamese Twins galaxies in Corvus, NGC 4038 and 4039. Once the Milky Way was up, Paul Dickson and I finished off some rolls of film shooting fields in the Milky Way.

All in all, a fine star party. People where especially considerate about white light, so a big thank you to all those who attended. Next years Sentinel Star Gaze will be on May 3, let's have it be just as great.

Satellite Reentry

by Adam Sunshine

I believe I've identified the piece of space junk that reentered just after midnight at the Sentinel Star Gaze that made everyone say "WOW!!" I believe that it was object #23844, named 96-21C, a component of the rocket that launched a European communications satellite (Astra 1F). It was predicted to decay about April 14.3 (Sentinel midnight was April 14.29). I plugged it's orbital elements into a satellite tracking program and there it was, appearing in the southwest at 00:03:00 and disappearing in the northeast at 00:05:30.

I'll bring an overhead transparency of the sky-plot to the next meeting.

Continued from previous page...

1995 O1 (Hale-Bopp)					
Date	RA-2000-Dec	Elong	Sky	Mag	
04-27	19h44.7m	-17°40'	102°	M	7.8
05-02	19h43.8m	-17°16'	107°	M	7.7
05-07	19h42.6m	-16°52'	112°	M	7.5
05-12	19h40.8m	-16°28'	117°	M	7.4
05-17	19h38.6m	-16°03'	123°	M	7.3
05-22	19h35.8m	-15°37'	128°	M	7.2
05-27	19h32.5m	-15°11'	133°	M	7.1
06-01	19h28.6m	-14°44'	139°	M	6.9
06-06	19h24.2m	-14°17'	144°	M	6.8

22P/Kopff					
Date	RA-2000-Dec	Elong	Sky	Mag	
04-27	18h21.5m	-16°19'	122°	M	9.0
05-02	18h29.5m	-16°10'	125°	M	8.7
05-07	18h37.2m	-16°02'	127°	M	8.5
05-12	18h44.3m	-15°55'	131°	M	8.3
05-17	18h51.0m	-15°49'	134°	M	8.1
05-22	18h57.2m	-15°46'	137°	M	7.9
05-27	19h02.4m	-15°46'	140°	M	7.7
06-01	19h07.2m	-15°51'	144°	M	7.5
06-06	19h11.2m	-16°00'	148°	M	7.2

C/1996 B2 (Hyakutake)					
Date	RA-2000-Dec	Elong	Sky	Mag	
04-27	02h37.0m	+27°59'	15°	E	0.1
05-02	02h25.9m	+20°52'	6°	E	-0.3
05-07	02h21.7m	+12°19'	10°	M	0.8
05-12	02h24.8m	+04°33'	19°	M	2.2
05-17	02h31.9m	-02°29'	27°	M	3.3
05-22	02h41.5m	-09°12'	35°	M	4.1
05-27	02h53.2m	-15°47'	42°	M	4.8
06-01	03h06.7m	-22°21'	50°	M	5.3
06-06	03h22.2m	-28°55'	57°	M	5.8

95P/Chiron					
Date	RA-2000-Dec	Elong	Sky	Mag	
04-27	12h30.5m	-05°46'	152°	E	15.5
05-02	12h29.5m	-05°36'	147°	E	15.5
05-07	12h28.5m	-05°27'	142°	E	15.5
05-12	12h27.8m	-05°20'	137°	E	15.5
05-17	12h27.1m	-05°13'	132°	E	15.5
05-22	12h26.6m	-05°06'	127°	E	15.5
05-27	12h26.3m	-05°01'	122°	E	15.6
06-01	12h26.2m	-04°57'	117°	E	15.6
06-06	12h26.2m	-04°55'	112°	E	15.6

Orbital Elements

	Hyakutake (95Y1)	Szczepanski	Hyakutake (96B2)	Hale-Bopp	Kopff	Chiron
Object:	Hyakutake (95Y1)	Szczepanski	Hyakutake (96B2)	Hale-Bopp	Kopff	Chiron
Peri Date:	1996 02 24.28973	1996 02 06.89903	1996 05 01.40305	1997 04 01.14561	1996 07 02.19980	1996 02 14.95655
Peri Dist:	1.054576 AU	1.4486192 AU	0.23014060 AU	0.9140971 AU	1.5795617 AU	8.4539538 AU
Arg/Peri (2000)	046.35126°	151.27225°	130.18992°	130.59227°	162.83487°	339.56390°
Asc Node (2000)	195.75924°	345.44413°	188.05114°	282.47087°	120.91329°	209.38406°
Incl (2000):	054.46584°	051.90616°	124.90012°	089.42807°	004.72143°	006.93041°
Eccentricity:	1.0	0.9899357	0.9998449	0.9950784	0.5440739	0.3828750
Orbital Period:	Long Period	1727 yrs.	57,000 yrs.	3000 yrs.	6.45 yrs.	50.70 yrs.
Reference:	MPC 26543	MPEC 1996-C02 (2-26)	MPC 26724 (02-27)	MPC 26879 (3-26)	MPC 22032 (1991)	MPC 22797 (1993)

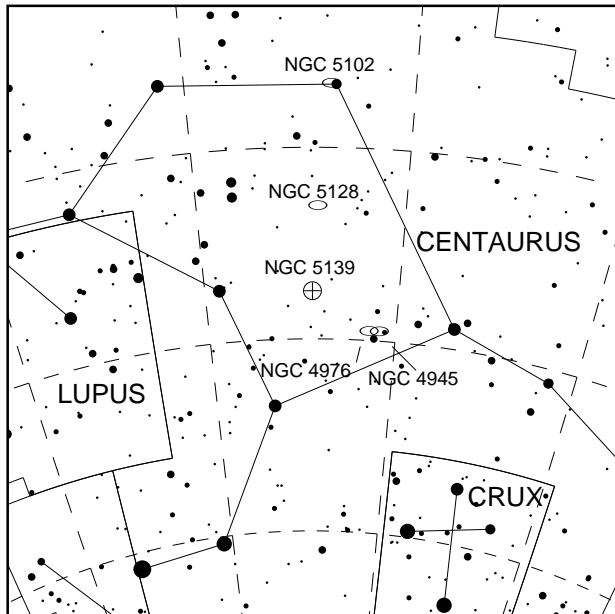
What's Up

by Steve Coe

Centaurus

May 1996

I have always loved a good view of a globular cluster. No other object for me seems so three dimensional as a these beautiful globes of stars. They are also somewhat an enigma for modern studies of galaxy forma-



tion. This is because they are known to contain the oldest stars, those that formed first as the huge galaxies congealed out of the dust and gas that formed most everything in the Universe. Therefore, any theory of formation must take this into account.

Obviously, the reason I am mentioning these clusters is because this month's constellation, Centaurus, contains the best of the globular clusters—Omega Centauri. Unlike any other deep sky object, it is so obvious with the naked eye it was given a Greek letter designation by celestial map makers from hundreds of years ago.

These observations are from one of my best observing nights ever. On the 27th of April, 1984; my observing buddies, Bill Anderson, A.J. Crayon and I went to visit the MMT on Mt. Hopkins and set up at about 6000 ft. The lights of Tucson were to the north, so I observed the southern constellations of Centaurus and Scorpius until I dropped from exhaustion. I rated the night 9/10 for seeing and transparency, a rare and beautiful combination. A.J., was it really over ten years

ago?

NGC 4945 is at 13 hr 05.4 min and $-49^{\circ} 28'$. I saw it as pretty bright, very large, elongated and much brighter in the middle at 100X in my gone, but not forgotten, 17.5" $f/4.5$ Dobsonian.

NGC 4976 is pretty bright, pretty large, little elongated at 100X. It is located at 13 hr 08.6 and $-49^{\circ} 30'$.

NGC 5102 shows up as pretty bright, pretty large, much brighter in the middle and elongated at 100X. This galaxy reminds me of a miniature version of M 31 in Andromeda. See if you agree by looking at 13 hr 22.0 and $-36^{\circ} 38'$.

NGC 5128 is bright, large, round and has a bright middle at 100X. The dark band across this galaxy is easy at 135X. There are several stars superimposed across the face of this object. This bizarre galaxy has been photographed many times because of the tormented shape of the dark lane across the bright body of this object. On that clear, sharp night so long ago, I was able to pick out some of that structure in moments of good seeing at 135X and 165X. You might hear this galaxy spoken of as Centaurus A, because of it is also a strong radio source and it got that designation from a radio survey done in the 1950s at Cambridge University in Britain. Wait for a great night then see if you can observe some of that fine detail at 13 hr 25.5 min and $-43^{\circ} 01'$.

NGC 5139 is **Omega Centauri**, I saw it as very bright, very, very large, extremely rich and very compressed at 100X. What can be said about the KING of the Globulars? This fantastic object was overwhelming from Australia when I went to visit Jim Barclay while Halley's Comet was at its best in 1986. The globular filled the field at 140X in his 12.5" $f/6$. There were chains of stars that meandered outward in all directions from a blazing core. A dark area was seen on the south side of the central section. It can be seen from even mediocre skies, but if you need to dial it up then go to 13 hr 26.8 and $-47^{\circ} 29'$.

Double Stars

Alpha Centauri does not come above our horizon in Arizona and that is too bad. This is a unique object in the entire sky, two easily separated first magnitude stars blazing in the eyepiece. This view cannot be found by observing any other binary I know about. I was mesmerized by our nearest stellar neighbor in Jim Barclay's 12.5" using 200X. If you ever get a chance to observe this spectacular binary, don't pass it up. Located at 14 hr 39.6 and $-60^{\circ} 50'$.

Grand Canyon Star Party '96

South and North Rim

June 8–15

If you need a room to stay in, you had best start NOW. 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

For **North Rim information**, write: Deloy 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.

Bits and Pieces

Coming Events

Star Parties

Texas Star Party May 12–19

RTMC May 24–26

Grand Canyon Jun. 8–15

Public Star Parties

Reach 11 Jun. 22

Minutes from the April Meeting

Gerry Rattley opened the April Meeting at 7:33. This is the month of the Comet.

Regina Lawless gave the treasurers report.

A.J. Crayon discussed the Messier Marathon. He handed out the certificates and the awards to all of the participants that achieved them. People that observed at least 50 objects got a certificate. A.J. said that there would be an article about the Marathon in the upcoming newsletter. Next month the Deep Sky Group will make an exception and focus on the comet.

Paul Dickson discussed the constitution updates that need to be discussed at an upcoming meeting. He also

discussed the packet of finder charts for the SAC observing list: 110 Best of the NGC. It is \$5 a packet with the money raised going to the club.

Rich Walker talked about the star party at the Black Mountain school. Members of SAC and EVAC set up telescopes for the students. April 27 is the spring public star party at Thunderbird Park. The Summer Bake Off Star Party will be on June 22 at Reach 11 park.

Steve Coe got up and opened the discussion about comets. He gave a short talk about comets and Charles Messier. He then showed his slides of comets. He then turned it over to a number of different people to enlighten us with their magnificent pictures. Thanks to you all.

At the break there was 52 people at the meeting.

After the break Gene Lucas talked about some pictures that he had. Afterward he introduced Peter Wehinger from ASU who talked about comets in general and specifically Comet Hyakutake and a little about Hale-Bopp.

After the meeting we adjourned to JB's for further discussion.

—David Fredericksen, SAC Secretary

SAC's 110 Best of the NGC

At the April SAC meeting, copies of the book *SAC's 110 Best of the NGC* was shown and all copies sold out. A second printing of Paul Dickson's 126 page book has been made, so copies will be available at the May SAC meeting. The price is \$5 if purchased at the SAC meeting. It is three dollars extra if you want a copy mailed to you. If you write a check, please make it payable to SAC.

This book provides finder charts for all of SAC's Observing List: 110 Best of the NGC. If you use this book to take notes about each object, you can turn it in to receive the 110 Best of the NGC plaque. Each object is presented in a field six degrees on a side. This book also provides you with a little information about each object, including references to other book for pictures and data.

This observing list is a list of Deep-Sky objects to observe after finishing the Messier Catalog. A lot of these objects are good enough that they should have been in Messier's Catalog. For a comparison, the Caldwell Catalog, recently published in *Sky & Telescope*, has 33 objects in common with this list.

If you can take your copy of the book and some order forms to the Texas Star Party or the Riverside Telescope Makers' Conference (RTMC), please do so. Paul Dickson can provide you with extra copies of the order forms.

All money collected after paying expenses goes to the club.

May 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>			Mercury 2.2° of Pleiades (evening) 1	PAS Meeting Brophy Prep. Physics Lab 2	TAAA Meeting (Tucson) 3	Yesterday Full Moon 4:50 A.M. 4		
5	Eta Aquarid Meteors Peak: Dawn Z.H.R. 60 6	Tomorrow Asteroid Vesta at opposition Mag. 5.6 7	EVAC Meeting (SCC: Rm. PS172) 8	SAC Deep Sky Meeting 7:30 P.M. 9	Yesterday Last Quarter Moon 10:05 P.M. 10	SAC Star Party Buckeye Hills (members&guests) 11		
12	Sun enters Taurus 9 A.M. 13	Mercury at inferior conjunction (moves into morning sky) 14	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Wednesday, May 8: Comet Hale-Bopp occulted by Moon (morning) </div>		New Moon 4:49 A.M. 17	Asteroid Ceres at opposition Mag. 7.0 18		
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> May 12 – May 18: Texas Star Party May 24 – May 26: Riverside Telescope Makers' Conference (RTMC) </div>		19	20	21	22	23	24	25
26	Memorial Day 27	Mercury 3.4° of Mars (morning) 28	29	30	SAC Meeting Grand Canyon University, Fleming Rm. 105 31			

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:

- 1996 All-Arizona Messier Marathon by A.J. Crayon
- Dim Moments by Paul Dickson
- Comet Comments by Don Machholz
- 1996 Sentinel Star Gaze by Steve Coe
- Satellite Reentry by Adam Sunshine
- What's Up by Steve Coe
- 1996 Grand Canyon Star Party
- 110 Best of the NGC