

Predictions

JUNE IN THE YEAR 1978

- May 27 Indoor star party, Los Gatos Red Cross, 7:00 pm.
- May 27-29 Riverside Telescope Makers Conference, Big Bear.
- Jun. 2&3 Club and AANC sponsored star party at Fremont Peak.
- Jun. 10 Indoor star party, Los Gatos Red Cross, 7:00 pm.
- Jun. 17 General Meeting, Rosicrucian Planetarium, 7:30 pm. Park & Naglee, San Jose. Ken Wilson, Asst. Director of the Morrison Planetarium will talk on "What do you do after you've looked at The Moon," contributions amateur astronomers can make to the science of astronomy. Election night.
- Jun. 23 Board of Directors Meeting, 8:00 pm. Jack Zeiders' house, 725 Minnesota Av. San Jose. (sorry Jack, we don't have space to include a map to your house.)
- Jun. 24 Indoor star party, Los Gatos Red Cross, 7:00 pm.
- Jun. 30 & AANC sponsored star party at Fremont Peak.
Jul. 1
- Jul. 2 Lunar Graze Occultation of Aldebaran. A major Club expedition is planned to a site north of Stockton. See the Occulting Zone page.
- Jul. 8 Close-in star party at Sanborn Canyon with the Astrophotographers going out on their own.
- Jul. 14 Board of Directors Meeting, 8:00 pm. Douglas H. Buettner's, 6659 Mt Pakron Dr. San Jose.
- Jul. 16 Banquet and Annual Meeting, Michaels at 830 East El Camino in Sunnyvale. 2 - 6 pm. Tom Gates, Director of the Space Science Center at Foothill College will present "The Peter Principle in Astronomy." Cost \$7.50 per person.
- Jul. 22 Indoor star party, Los Gatos Red Cross, 7:00 pm.
- Jul. 29 Indoor star party, Los Gatos Red Cross, 7:00 pm.

"The Hubble Constant has always been known to $\pm 15\%$ in spite of the fact that it has decreased by a factor of 10 over the years."

Quoted from a book review
in Sky & Telescope

The San Jose Astronomical Association

OCCULTING ZONE

Circumstances:

Dark side of southern cusp. The sun will be 4 deg. up, the moon 22 deg up, south of the sun. Readily observed telescopically.

Date: July 2, 1978, Sunday morning

Local date. All times are local times, AM, PDT.

Probable location: NE of Galt, along Alta Mesa Rd. or other nearby.

Take I-5 north out of Stockton for 23 miles. Exit east on Twin Cities Road, (rt. E13). East on E13 for 4.5 miles. Turn north onto Alta Mesa Rd. for 3 miles. I will have laid out stations on the chosen road(s), and will assign sites as people arrive.

Time: Start continuous record at 6:00.

Be ready by 5:30 AM, PDT. Allow time to search for station, and plenty for setting up, testing equipment, finding star, trying eyepieces, etc. Central graze time is 6:11.

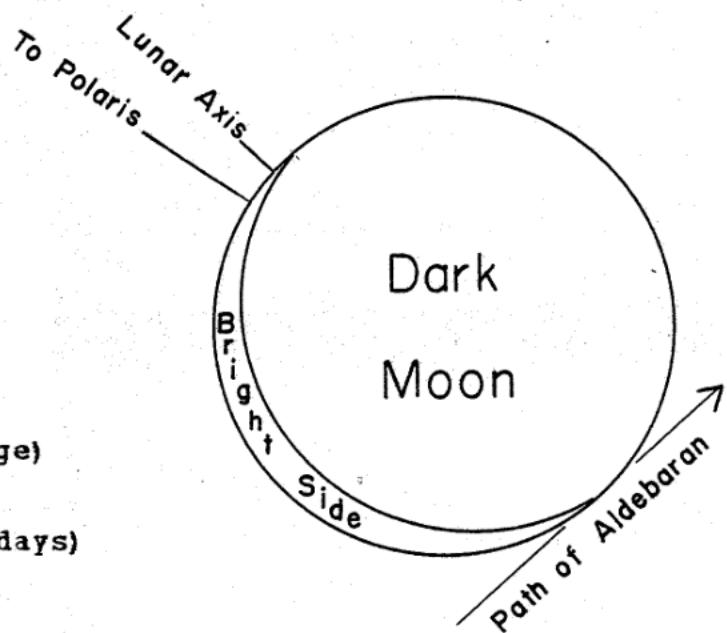
You may wish to come up Saturday evening, and enjoy the dark sky for some viewing. I'll be up early Sat. A.M.

CB: Channel 14.

The group handle is "Graze Chasers"; answer any such calls with your own handle. My handle is "Sunspot". I'll call you by your station ID when one is assigned. Handy-talkies can talk to car radios over about a half-mile. WWV can be retransmitted too.

Some handy numbers and stuff

Graze Position Angle,	166 deg
Vertex angle,	222
Cusp Angle,	+3S
Watts Angle	175
Moon North pole PA	351 deg
North Cusp PA	344
South Cusp PA	164
Astro. Twilight	3:45 AMS.
Moonrise:	3:56 PST
Civil Twilight:	5:04 "
Sunrise:	5:45 "
Star mag:	1.1
Spectrum	K5 (Orange)
Moon elevation,	22 deg
Azimuth,	87
Illum'd,	7% (-4 days)
Moon RA	4h29m
Dec	+17.1 deg
for time:	5 am.
Epoch:	1978
Constellation Taurus	



Rattley rattles

The Finest Deep Sky Objects on the Skalnate Pleso Atlas of the Heavens
Chart IV

- NGC RA (1950) dec Con SP:mag,size,type,dist
 4111 12 04.5 +43 21 UMa eg:10:3!3x0!6:E8:8½Mpc
 H.I 195: very Bright, pretty Small, much Elongated in P.A. 151°: very high surface brightness, use moderate power, bright wide double star following.
 4214 12 13.1 +36 36 CVn eg:10½:6!6x5!8:Irr:4½Mpc
 H.I 95: considerably Bright, considerably Large, irregularly Elongated, biNuclear: use low and moderate power; large amorphous blob!
 4244 12 15.0 +38 05 CVn eg:11½:14!5x1!0:S:4½Mpc
 H.V 41: pretty Bright, very Large, extremely Elongated in P.A. 43°, very gradually brighter in the Middle: use low and moderate power.
 4251 12 15.7 +28 27 Com eg:10½:2!3x0!8:Sa:8½Mpc
 H.I 89: very Bright, Small, Elongated, very suddenly very much brighter in the Middle, Nucleus, 6½ mag star following: use moderate power.
 4258 12 16.5 +47 35 CVn eg:8½:19!5x7!0:Sbp:4½Mpc
 M.106: H.V 43: very Bright, very Large, very much Elongated in P.A. 0°, suddenly brighter in the Middle, Bright Nucleus: use low and moderate powers; binocular object!; pear-shape structure visable in large scopes!
 4274 12 17.4 +29 53 Com eg:11:6!7x1!3:Sb:8½Mpc
 H.I 75: very Bright, very Large, Elongated in P.A. 90°, much brighter in the Middle, Nucleus: use moderate power.
 4278 12 17.7 +29 34 Com eg:10½:1!4x1!3:E1:8½Mpc
 H.I 90: H.II 322: very Bright, pretty Large, Round, much brighter in the Middle, mottled, 2 fainter galaxies following: use moderate power.
 4314 12 20.0 +30 10 Com eg:11:3!1x2!9:SBa:8½Mpc
 H.I 76: considerably Bright, Large, Elongated in P.A. 150°±, suddenly brighter in the Middle, star north preceding: use moderate power.
 ... 12 22.6 +26 24 Com oc:2½:275'-30*:c:83pc
 Melotte 111: Coma Berenices Cluster; extremely large naked-eye star cluster; fine binocular object; shaped like a glockenspiel; there are several galaxies in and around this cluster, 6 are listed in this article.
 4414 12 24.0 +31 30 CVn eg:10:3!2x1!5:Sc:8½Mpc
 H.I 77: very Bright, Large, Elongated, gradual then very suddenly much brighter in the Middle, Stellar Nucleus: use moderate power.
 4449 12 25.8 +44 22 CVn eg:9½:4!1x3!4:Irr:4½Mpc
 H.I 213: very Bright, considerably Large, much Elongated, Double or bifid, extremely mottled, 9 mag star 5' following: use moderate power!
 4490 12 28.3 +41 55 CVn eg:9½:5!6x2!1:Sc:4½Mpc
 H.I 198: very Bright, very Large-much Elongated in P.A. 130°, mottled, Bright companion galaxy (4485) north preceding: use moderate power.
 4494 12 28.9 +26 03 Com eg:9½:1!3x1!2:E1:13Mpc
 H.I 83: very Bright, pretty Large, Round, very suddenly much brighter in the Middle, Nucleus: use moderate power.
 4559 12 33.5 +28 14 Com eg:10½:11!0x4!5:Sc:8½Mpc
 H.I 92: very Bright, very Large, much Elongated in P.A. 150°, gradually brighter in the Middle, 3 stars following: use moderate power.
 4565 12 33.9 +26 16 Com eg:10:14!4x1!2:Sb:12Mpc
 H.V 24: Bright, extremely Large, extremely Elongated in P.A. 135°, very suddenly brighter in the Middle, Nucleus = star of 10½ mag: use moderate power; large, bright edge-on galaxy!; equatorial dark lane is easy!!!

Rattley Rattles On . . .

Finest Skalnate Pleso Objects - Chart IV, continued

NGC RA (1950) dec Con SP:mag,size,type,dist

4631 12 39.8 +32 49 CVn eg:9½:12!6x1!4:Sc:4½Mpc

H.V 42: Remarkable, very Bright, very Large, extremely Elongated in P.A. $70^{\circ}\pm$, brighter in the Middle, Nucleus, 12 mag star attached on north edge: use moderate power; large, bright edge-on; mottled with no equatorial dark lane.

4656 12 41.6 +32 26 CVn eg:11:19!5x2!0:Sc:7½Mpc

H.I 176: Remarkable, pretty Bright, Large, very much Elongated in P.A. 34° , companion galaxy(4657) north following: use moderate power; dark lane?

4725 12 48.1 +25 46 Com eg:9:10!0x5!5:Sb:11Mpc

H.I 84: very Bright, very Large, Elongated, very gradual then very suddenly very much brighter in the Middle, extremely Bright Nucleus: moderate power.

4736 12 48.6 +41 23 CVn eg:8:5!0x3!5:Sbp:4½Mpc

M.94: very Bright, Large, irregularly Round, very suddenly very much brighter in the Middle, Bright Nucleus, mottled: use moderate power.

4826 12 54.3 +21 57 Com eg:9:6!5x3!2:Sb:3½Mpc

M.64: Remarkable, very Bright, very Large, very much Elongated in P.A. $120^{\circ}\pm$, brighter in the Middle, Bright Stellar Nucleus: use moderate power; the "Black-eye Galaxy"!!!

5005 13 08.5 +37 19 CVn eg:10:4!4x1!7:Sb:11Mpc

H.I 96: very Bright, very Large, very much Elongated in P.A. 66° , very suddenly brighter in the Middle, Nucleus: use moderate power.

5033 13 11.2 +36 51 CVn eg:10½:9!9x4!8:Sb:10Mpc

H.I 97: very Bright, pretty Large, Elongated in P.A. 167° , suddenly much brighter in the Middle, very Bright Nucleus, star north preceding: use moderate power.

5055 13 13.5 +42 17 CVn eg:9½:10!0x5!0:Sb:4½Mpc

M.63: very Bright, Large, pretty much Elongated in P.A. $120^{\circ}\pm$, very suddenly much brighter in the Middle, Bright Nucleus: use moderate power.

5194 13 27.8 +47 27 CVn eg:8:10!0x5!5:Sc:4½Mpc

M.51: very Remarkable, Great Spiral Nebula: the "Whirlpool Galaxy"!!!; moderate power and dark skies will reveal fine spiral detail in large telescopes; companion galaxy(5195) attached to north following arm!

5195 13 27.9 +47 31 CVn eg:8½:2!0x1!5:Pec:4½Mpc

H.I 186: Bright, pretty Small, a little Elongated, very gradually brighter in the Middle, involved in M.51: use moderate power; bright nucleus.

5272 13 39.9 +28 38 CVn gc:6½:9!8:VI:14kpc

M.3: Remarkable, Globular, extremely Bright, very Large, very suddenly much brighter in the Middle, stars from 11 mag down: use moderate power; easy to resolve; binocular object!

5457 14 01.4 +54 35 UMa eg:9½:22!0x22!0:Sc:4½Mpc

M.101: pretty Bright, very Large, irregularly Round, gradual then very suddenly much brighter in the Middle, Bright Stellar Nucleus: use low and moderate power; large broad-side spiral galaxy; easiest with low power!

5466 14 03.2 +28 46 Boo gc:9½:5!0:XII:14½kpc

H.VI 9: Cluster Large, very Rich, very much Compressed, stars from 11 mag down: use low power; very difficult object; easily resolved.

5866 15 05.1 +55 57 Dra eg:10½:2!8x1!0:E6p:10Mpc

M.102: H.I 215: very Bright, considerably Large, pretty much Elongated in P.A. 146° , gradually brighter in the Middle: use moderate power; Bright star north preceding.

5907 15 14.6 +56 31 Dra eg:11½:11!1x0!7:Sb:7Mpc

H.II 759: considerably Bright, very Large, very much Elongated in P.A. 155° , very gradual then pretty suddenly brighter in the Middle, Nucleus: use moderate power; edge-on galaxy; like a splinter; equatorial dark lane!

Chart IV Objects to be continued next month . . .

COMET COMMENTS

(5-20-78)

The year 1978 has been a productive year for comets - 8 so far; 3 recoveries, 3 discoveries on the professionals' photographic plates, and 2 discoveries by amateurs.

The first 1978 amateur discovery was Comet Bradfield, by William Bradfield of South Australia. This, his seventh discovery in seven years, came 360 hours since his previous discovery, 23 months earlier. He now has a total of 1276 hours with his 6" f/5.5 26x refractor.

Discovered Feb. 4, as a 8 magnitude object in the morning sky and only 51 degrees from the sun, Comet 1978c traveled northward and became visible to U.S. observers several weeks later. At that time it was a 4.4 magnitude object in the morning twilight sky. It is now in the evening twilight, and dimming rapidly, it will remain beyond the reach of our amateur telescopes.

This year's second amateur discovery is Comet Meier (1978f), discovered on the evening of April 26, by Rolf Meier, of Ottawa, Ontario. Rolf works with an electronics firm there, but he also enjoys comet hunting on a casual basis - some 50 hours in the past 3 years. Using a 15.7" f/5 reflector at 56x, he discovered this 10.6 magnitude comet in the evening sky, at 7h 18.7m, 53° 47'N. Moving slowly southward, 1978f may attain naked-eye visibility in November, when it will, unfortunately, be near the sun.

I observed the comet on the evening of April 27, less than 30 hours after discovery. At that time it was a very diffuse (spread-out) 10.6 mag. object. The next night it was much more condensed. Some reports now indicate a short tail on it. At discovery, the comet was 3.2 AU. from the Earth, and 3.0 AU. from the sun. These are some of the largest distances for an amateur discovery ever to be recorded. An ephemeris for 1978f follows.

On Jan. 6, Paul Wild, a professional astronomer, discovered Comet 1978b on his photographic plates. Then at mag. 14, Comet Wild is now mag. 11 in the evening sky. The comet has a period of 6.15 years, and will reach perihelion on June 14. I have yet to observe this comet, but I understand the coma to be small (1.5' across) and some sources report a small tail. An ephemeris for Periodic Comet Wild 2, as it is now known, follows.

Comet Meier (1978f)

1978 UT.	R.A.	Dec.	Mag.
Jun. 1	8h05.1m	+45°16'	10.1
Jun. 11	8 20.1	42 37	
Jun. 21	8 37.4	39 51	9.7
Jul. 1	8 54.5	36 56	
Jul. 11	9 12.1	33 49	9.2

(from IAUC 3220)

Comet Wild 2 (1978b)

1978 UT.	R.A.	Dec.	Mag.
Jun. 1	8h51.3	+19°07'	10.9
Jun. 11	9 21.4	17 12	
Jun. 21	9 51.6	14 58	11.0
Jul. 1	10 21.6	12 25	
Jul. 11	10 51.4	9 39	11.2

(from IAUC 3177)

Don Machholz (356-7727)

DON MACHHOLZ' NIGHTTIME ACTIVITIES

by Jeff Lo

If you ever happen to drive up to Loma Prieta Mountain after dusk, be sure to turn off your headlights because there is a good chance you will find Don Machholz at the telescope. With his ten inch scope at 36x, he searches the sky for comets.

In 1974, after having astronomy as a hobby for 10 years, he took up comet hunting. At first, he wanted a comet named after him, but later found that he just plain liked searching through the skies. Don has been searching now for between 1400 and 1500 hours at a rate of about 40 hours a month with 2/3 of his hours in the morning, taking about 35 hours to cover the entire sky. Because of clouds earlier this year, he hasn't been able to log as many hours as he has wanted to up to now, but he is looking forward to better weather from now on.

Don communicates with other comet hunters such as Bradfield and Bennett to find out what they are doing in their comet hunting. Covering so much of the sky for so long, Don sees many satellites and meteors. He sees about twice as many in the morning as in the evening. Don spots about 1200 meteors a year on the average. He hasn't discovered a comet yet, but he says he is bound to eventually.

The May general meeting was a get-acquainted-with-the-Rosicrucian-Planetarium-meeting. Many people explored the lobby and its exhibits when they arrived. About 7:45, Gerry Rattley got the meeting under way. Lori Warren presented a program entitled "Our Brilliant Universe". It included a variety of astronomical topics and planetarium effects. Thanks!

Afterwards, there were several announcements. Most of them will probably appear elsewhere in the Bulletin. But anyway..... Next month's program will be "What Do You Do After You've Looked at the Moon?" by Ken Wilson of the Morrison Planetarium, San Francisco. The location of July's banquet had not yet been decided. But for August, the program will be Stonehenge. Dues are due by next meeting. Also, there will be the election next month for the four board positions that are expiring. Gerry Rattley, John Rhodes, Dr. Gregory, and Allan Meyer fill these positions.

Suzanne Lowd, Staff Reporter

Blurbz

Be prepared for election night on June 17th. If you have someone in mind you want to nominate for a board position, tell one of the nominating committee members listed in last month's Bulletin.

There are no ads this month. For next, can't someone sell something? Give it away? Please???

At the last board meeting there were just barely enough board members to have a quorum. Consequently, not a whole lot went on. Mainly discussion about the banquet.

Douglas H. Buettner has been appointed by the Board to fill John Gleason's position. John had to drop from the board for personal reasons.

Editorial

I want to thank all the people who helped me out this month in response to my last editorial. Especially Phil Hermsmeyer, Jim Van Nuland, Don Machholz, and Jeff Lo. Also Cathy Pinheiro for her help in hand addressing 130 labels. Everything contributed was very well done and very much appreciated. But don't get your heads too big - I still have next month with nothing extra to put in it. I need another interview done like the one on Don, and if someone is good at puzzles of some sort, I'd like to try that. In short, keep up the good work! I really needed the help this month, because, right now, I'm rushing like crazy to get ready for Riverside.

Penny G. Pinheiro

GUEST EDITORIAL

At the last general meeting, Gerry Rattley announced the Board had changed the club meeting place to the Rosicrucian Planetarium, and the time to Saturday night. I understand why. (It's a nice place and there is a time conflict on Fridays.) He then refused to let anyone comment on or discuss the action.

I think that was improper. Granted, the Board has the authority to act, and that if we were running out of time, it would be okay to postpone the discussion. But we were not short of time (it was one of the shortest club meetings I have been to). With something this big, it would make the membership feel better to have an opportunity to comment and express opinions. The attitude behind the blatant statement that the President and Vice-President had decided not to open the floor for discussion on the matter bothers me. I'm sure that both officers had good intentions, but ...

ED Schell

If you disagree with the above, please feel free to express your thoughts for next month. The Bulletin is always open for opinions and comments either as a guest editorial or a letter to the Editor.

Penny

MISTAKES

Well, folks, even your Bulletin is not perfect. Last month's edition had a few minor errors. 1. Sun Day was not May 2nd. It was May 3rd. My Rosicrucian Planetarium informant, Gerry Rattley, got the dates mixed up. To make things more confusing, the Rosicrucian didn't have a Sun Day - either day, at all! 2. I have always had a problem getting the times straight for all the meetings. Every one is different. To solve everything, so to speak, I forgot to put any time for the general meetings at the Rosicrucian. It was on the map, so all was not totally lost. 3. The May 13th general meeting at the Rosicrucian didn't have a planetarium show on Ancient Egypt. Poor Gerry again got the wrong information! 4. For the June AANC-sponsored star party at the Peak, the date again was wrong. I had June 30-31. There is no such thing as June 31st. It's July 1st. That's all, I think!

LECTURE
by Phil Hermsmeyer

"Black Holes and Einstein's Theory of Relativity, a Lecture by Dr. Wm. Kaufman" sounded too intriguing to miss. Clutching a few dollars and a road map, I embarked upon a journey that was to lead me to the main gym of San Jose City College, a quonset hut affair that looked more like a small blimp hanger than a gym. Inside, Gerry Rattley, our valiant V.P. and unofficial record holder of cap-wearing, greeted me and commented that apparently we were the only representatives of SJAA. (A few Red Crossers that said they would be there, weren't. Probably at the beach!)

With the dimming of the lights and the activation of a slide projector, Dr. Kaufman popped out from behind the projection screen, and the lecture began. Speaking in his usual dynamic and engaging manner, Kaufman presented a capsulized history of ancient astronomy that led to the days of Einstein. As Kaufman progressed through time into the present, he spoke in laymen's terms of the various theories of relativity, which we in the audience discovered to be of vital importance in the understanding of Black Holes.

It was at this point that the talk accelerated as Kaufman presented the three types of Black Holes. He described their physical characteristics, and the effect that these holes had upon their neighbors in space. Dr. Kaufman wrapped up his talk with a somewhat unsettling idea of what would happen to a person should he be unlucky enough to fall into a Black Hole. The lights came up and the good Doctor answered questions until he croakingly proclaimed that he was hoarse. All in all, a very good talk; I'd give it four stars if I had any. I wish more of the club could have attended....Now, how do I get out of the parking lot?

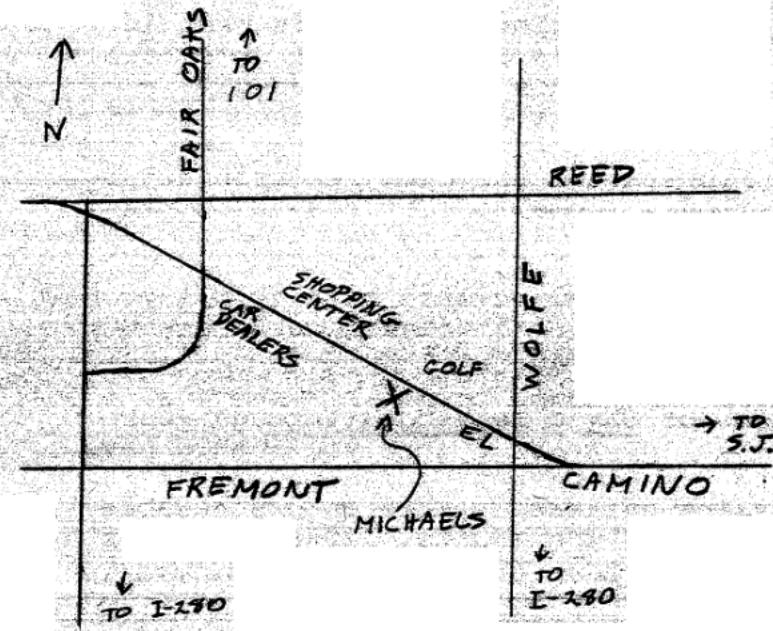
HENRY COE
by Phil Hermsmeyer

As the sun was about to set May 6th, a flurry of activity was going on at Henry Coe State Park, site of the club-sponsored star party. Unfortunately, most of the club was at another event, the AANC-sponsored star party at Fremont Peak. We had fun anyway.

Sharing a battery with me was Pete Manly, a new member, who was conducting a faint object search with a C-8. Next door was Jim Van Nuland with the ever present superb eight. Across the way were several other scopes including a sixteen inch open tube reflector that seemed to be made entirely out of cast iron. Boy, was that heavy! Despite what seemed to be a fairly light sky, the Milky Way was prominent, and twelfth magnitude galaxies were visible in Jim's 8 inch Newtonian.

FREMONT PEAK
by Penny Pinschmidt

At the AANC star party May 5th & 6th, nothing much happened that I know of. Friday night was windy and cold. Saturday, it was much warmer; so warm that I only had on four layers of clothes! West Valley behaved themselves very well, and, for the big event, Gerry Rattley was the first to find Comet Meier. Kevin and Denni Medlock were there because the swap meet down in Monterey Park was postponed. Kevin and Tom Bullock, West Valley instructor, worked out quite a deal on a 6" refractor.



BETWEEN FAIR OAKS &
WOLFE ROAD ON SOUTH
SIDE OF EL CAMINO

RESERVATION REQUIRED
TO BOB FINGERHUT BY
FRIDAY, JULY 14 — INFO
INCLUDING WHO IS GOING
NUMBER OF GUESTS AND
AMOUNT OF MONEY.
CHECKS SHOULD BE MADE
PAYABLE TO "SAN JOSE
ASTRONOMICAL ASSOC."

OR TALK TO BOB AT
ANY MEETING

MORE INFO - 263-4455

CUT OR CLIP ? — SEND TO →

ANNUAL MEETING BANQUET

JULY 16
FROM 2 TILL 6 pm.

AT
"MICHAEL'S"
830 E. EL CAMINO REAL
SUNNYVALE

EVERY ONE IN THE CLUB
INVITED
GUESTS WELCOME
COST + \$7.50 PER PERSON
TOTAL

— — — — —
MENU
— LONDON BROIL
OR
— SALMON STEAK
— 2 VEGETABLES
— BAKED POTATO
— SALAD
— DESSERT
— — — — —

BOB FINGERHUT
304 RIO VERDE #4
MILPITAS, CA 95035

RESERVATIONS FOR SJAA ANNUAL MEETING AND BANQUET

NAME —

PHONE —

ADDRESS —

NUMBER OF ATTENDING (INCLUDING GUESTS) —
TOTAL AMOUNT OF CHECK (AT \$7.50 / PERSON) —

Blurbz 11

You can thank Phil Hermsmeyer for the funny green card attached to your Bulletin. He works over at Foothill and has connections.....

John Rhodes has spent a considerable amount of time flat on his back in bed these last few months. When you receive this Bulletin, if he's still there, give him a call. The phone is right by his bed. Supposedly, a weak back implies a strong mind - but you'll have to ask him about that!

Next month be sure to read about Bob Fingerhut's and Jack Petersen's two-week astronomical trip down around Arizona. Come to Red Crosses and see Bob's 400 slides!

We have information about the February '78 total eclipse both from Astronomy Magazine and a write-up from Allan Meyer. If there will be a club expedition, we are already late to start planning.

Club dues are due now. Your last issue of Sky & Telescope through your membership will be June. So get your yellow renewal card you should have received in the mail and your money to Bob Fingerhut before or at the June meeting if you want to avoid missing an issue. Make checks payable to San Jose Astronomical Assn. Dues are \$17 for adults, \$10 for Juniors under 18.

SAN JOSE AMATEUR ASTRONOMERS, INC.
185 HOMESTEAD RD. #2
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