The San Jose Astronomical Association

Predictions

FEBRUARY IN THE YEAR 1979

Jan. 27	Club star party at Sanborn Canyon
Feb. 3	General Meeting, Rosicrucian Planetarium, 7:30 pm. Park & Naglee, San Jose. Jack Borde will give a talk on the Moonwatch program of the 50's and 60's.
Feb. 9	Board of Directors meeting at Gerry Rattley's fishes house. 185 Homestead #2, Sunnyvale. 8:00 (we hope).
Feb. 10	Indoor star party, Los Gatos Red Cross, 7:00 pm.
Feb. 15	Kevin Medlock's birthday.
Feb. 17	Indoor star party, Los Gatos Red Cross, 7:00 pm.
Feb. 24	Star party at Henry Coe Park. Dusk 'till dawn.
Feb. 26	Solar eclipse during the morning.
Mar. 2	Wolfgang Hanisch's birthday.
Mar. 3	Indoor star party, Los Gatos Red Cross, 7:00 pm.
Mar. 4 - 5	Lunar Graze Occultation of Aldebaran near Dixon, CA. See notice from Calico Observatory inside.
Mar. 10	General Meeting, Rosicrucian Planetarium, 7:30. Park & Naglee, San Jose. Gerry's working on a possible speaker from NASA to talk on the Venus Probe.
Mar. 16	Board of Directors meeting at Cathy Pinheiro's. 1787 Lancaster Dr. #14 San Jose, 8:00. Bring your own chair and/or pillows.
Mar. 17	Indoor star party, Los Gatos Red Cross, 7:00. The program for the night will be "What did you do on the morning of February 26?" See blurb page.
Mar. 17	Gerry Rattley's birthday.
Mar. 23 - 24	The First Annual Don Machholz Messier Marathon. Loma Prieta Mountain. Information inside or call Don at 356-7727.
Mar. 23	Ed Schell's 27th birthday.
Mar. 30 - 31	The First Annual Don Machholz Messier Marathon Part II.
Mar. 30	Bruce DeGraaf's birthday.

"Maybe space is flat." Ed Schell

"I was never once a screaming little girl." Jack Zeiders

"I don't know if I can handle this." Bob Schalck

Gerry Rattley, President 732-0202 Penny Pinschmidt, Editor 356-4330

COMET COMMENTS 1-18-79

As we move into a new year, we find no new known observable comets brighter than magnitude 12. However, in March, Comet Meier should be far enough away from the Sun, and far enough north to be visable to us as a 10th mag. object. More about that mext month.

Let's take this opportunity to re-cap the past year. In 1978, there were 18 comets labeled: 7 discovered by amateur astronomers (a large number for this group), 4 comets discovered by professional astronomers (mainly while working on other programs) and 7 previously discovered comets recovered by the professional astronomers. A listing follows:

Discoveries made by Amateurs

Comet	Name	Country	Date	Mag.
1978c	William Bradfield	Australia	Feb. 4	8
1978f	Rolf Meier	Canada	Apr. 27	10.6
1978j	Toshio Haneda	Japan	Sept. 1.5	10
	Jose da Silva Campos	S. Africa	Sept. 1.9	9
1978l	Don Machhloz	U.S.A.	Sept. 12	10.7
1978m	Dave Seargent	New South Wales	Oct. 1	5
1978n*	Shigehisa Fujikawa	Japan	Oct. 10	11
1978o	William Bradfield	Australia	Oct. 9	8

Discoveries made by Professionals

1978a	Richard M. West	Switzerland/Chile	Jan. 12	17
1978b	Paul Wild	Switzerland	Jan. 6	14
1978d	Keith Tritton	United Kingdom	Feb. 11	20
1978k	Henry L. Giclas	U.S.A.	Sept. 8	15.6

Recoveries of Returning Comets

Comet	Comet Name	Recoverer's Name	Country	Date	Mag.
1978e	Tsuchinshan 1	Bulger, Schwartz & Shao	U.S.A.	Feb. 4	20 (nucleus)
1978g	Clark	Seki	Japan	Apr. 13	18
1978h	Giacobini-Zinner	Schwartz & Shao	U.S.A.	Apr. 30	20 (nucleus)
1978i	Shajn-Schaldach	Schwartz & Shao	U.S.A.	Jul. 2	20 (nucleus)
1978p	Tsuchinshan 2	Kozai	Japan	Oct. 29	18
1978q	Jackson-Neujmin	Kowal	U.S.A.	Nov. 28	19
1978r	Tuttle-Giacobini-Kresak	Kozai	Japan	Nov. 8	17

* This comet is now identified as Periodic Comet Denneng 1 (1881 V)

Comet Tails: Since around 100 B.C., four comets have been positively identified during total solar eclipses. The best known is the Tewfik comet (named after the ruler of Egypt), seen only during the eclipse of 1882. Then, in 1948, a comet was first observed as a -3 mag. object only 1 degree S. of the Sun. It later became a fairly bright Southern Hemisphere night-time object.

Don Machholz
356-7727

"Space is what is between two things!" Ed Schell

"Burpbpbpbpbp....." Bob Schalck's calculator

EDITORIAL

Recently there have been numerous problems which have slightly dampened my enthusiasm as editor. Complaints have been coming my way, but never directly to me, about the Bulletin only representing the same group of people. These people are the active club members who are doing things in and for the club. I cannot represent the views of people who rarely or never participate. I cannot ask a person who did not go to a star party to write an article about it. Nor can I jeopardize my efforts by asking for articles from people I don't know well or never see. Even with good intentions, there are some who are unreliable about doing what they have promised. That only makes trouble for me.

I have been trying to get the club's so-called "armchair astronomers" involved. Gerry's phone calling about the question of the month is one example. Submitting or solving puzzles and quizzes which do not pertain to club activities could be another example. Personal interviews, although mostly about the "involved", lets those who aren't get better acquainted with active members. I try to produce a bulletin that has something in it for everyone who takes the time to read it. If anyone has any suggestions on how I can expand this idea, my number is on the front page of each Bulletin.

Let it be mentioned that never have I said that I do not want articles. Never have I turned down anyone who is willing to help unless I honestly didn't need them. Never have I restricted anyone from voicing their opinions in this Bulletin. Mostly it's been the problem of people simply not wanting to do anything or say anything to be published. Never have I not given anyone the chance.

I would like to continue writing and producing this Bulletin, doing the best job I can, for many months ahead. If you have criticism, please direct it to me or in the form of a guest editorial. If it is something I can correct, I will try to do so. If you do not say anything, or tell someone else, then you are only wasting your breath.

Penny E. Pinschmidt

Blurbs

The Messier Marathon is now going to be known as "The First Annual Messier Marathon" sponsored by the SJAA and endorsed by the AANC Messier Club.

There's a new astronomy magazine, Star and Sky. If anyone would like to preview a copy of it, come to a Red Cross meeting.

The above blurbs were written by Gerry Rattley

THANK YOU Bruce DeGraaf!!! You have freed me and my stampling **party** participants from writer's cramp for a whole year! Heaven truly is TWELVE sets of typed mailing labels! Thank you, thank you, THANK YOU!

Ed Schell would like it to be known that he is actually painting his well-known old jalopy. It has in the past been called the Gray Ghost. It will now be known as the Light Gray Ghost.

The other day I received a letter from the California Academy of Sciences at Golden Gate Park in San Francisco. There is a job opening for the position of Artist-Photographer at the Morrison Planetarium. A brief description of responsibilities includes: "to design and execute art work for sky shows, to handle all photography, to work with the technicians in the creation of special effects, to design and illustrate brochures, and to assist in the design of exhibits." If you are interested, contact me so you can read the letter which has more information on it. Do it quickly, because their deadline for applications is Feb. 9.

Vehrenberg's Atlas of Deep Sky Splendors is now available. It can be ordered through the club at a reduced price of $31.90 + shipping. Contact Bob Fingerhut at 263-4455.

The March 17 indoor star party will be a kind of show-and-tell about what your eclipse experiences were. So be prepared to give a good show.

If you want information about how to view and/or photograph the eclipse, come to the Feb. 10 or 17 Red Cross.

At the last board meeting, Don Machholz was nominated for the G. Bruce Blair Award.

This bulletin is a little late. I had finals last week that kind of messed things up. The March bulletin will be earlier because I want to get it out before I leave for the eclipse. And it may be short, also.

Pete Manly made a suggestion to me a week or so ago. He said it wasn't always clear exactly who writes bulletin articles because of my policy of never putting my own name to whatever I write. I have always kept my great literary works unsigned. Henceforth, that will be changed.

Penny

Perils of Penny's Petty Publishing Problems

Because of being cramped for space and because I've already written a lot in this bulletin, I'm keeping my PPPPP's a little short.

We had a stampling party last month. I don't remember the date, but I know it was a Saturday. Anyway, Wolf, Kevin and Denni, Jack Z., Gerry and I all sat, stood, and leaned around the kitchen table of Ed's apartment and ate taco chips dipped in hot sauce. Deciding things were a bit too cramped, we all packed up and took off for the Red Cross.

Wolf brought us dinner - four delicious Magoo's pizzas, and we feasted. Word leaked out about the gathering, and Pete Manly, Jack Petersen and one or two others dropped in. By that time it was a regular indoor star party, even if it wasn't scheduled. And I got all my addressing and stamping done, which was the purpose of all of it.

A few nights before the big shebang, I had Gerry call up mostly non-active members and ask them the question of the month. It gets never-heard-from-people involved and it's good PR for the president. Gerry did the same thing for this month's bulletin, also.

"You'll have to get used to me **f**lashing in the dark." Wolfgang Hanisch

"She didn't die. Maybe I'm ok**ay**." Gerry R.

"I have found my calling." Norm Neinchel

Question of the Month: Why do you like astronomy? What do you want out of it?

"I like the humble feeling I get when viewing Island Universes (FFNs) and would like to some day see the Milky Way from far out in space."
Gerry Rattley

"I like meeting astronomers and stars and would like about 50 weekends in a row with 10 out of 10 seeing and not cooler than 70 degrees."
John Rhodes

"Astronomy is intriguing to me; there's a lot to learn from it. I like applying all my electrons' knowledge to it."
Bruno Benassai

"I would like to see my proposal for and 8-day week, 30-month calendar with an intercolation period of 5 or 6 days between June and July adopted by the world." Ralph Bridge

"I like finding things with a telescope and looking at them and the mathematics of astronomy. I want more of the same."
Robert Caldwell

"I like the star parties and the many different facets - theoretical, beauty, telescope construction, etc." George Cook

"I like being with those who are involved with it and enjoy star parties. I don't expect to get anything wonderful out of it; I just like being around it." Tom Edwards

"I like contact with the Universe beyond our own spheres of influence here; looking at things from a different perspective. I desire to spread the interest among others and help them communicate with space so they, too, won't be awed by ignorance."
Dr. A. B. Gregory

"I like associating with people and want to get good pictures to hang on my wall." Bob Fingerhut

"It's the first time I can use a sense (sight) to its limit and I get a good feeling out of that." Bruce DeGraaf

"What do I like about astronomy? All the wild women. What do I want out of it? -------CENSORED---------." Wolfgang Hanisch

"Clear skies and no headlights." Anonymous

Next month's Question of the Month is: Why do we do all our observing in the visible light spectrum?

"Should I leave it on or take it off?" Ed Schell

"Sure, take it off." Jim Van Nuland

"The trouble with you astronomers is that you never know when to go home and go to bed." Jay Freeman

"That's not true. We do know when to go home and go to bed, we don't though."
Pete Manly

SPECIAL MENTION

I've spent many hours trying to write this article. It hasn't been an easy one. I want to explain about someone who has helped me tremendously, helped me to do something I very much wanted to do. Somehow, I don't really know just how to go about it. But I'll try, so here goes.

The name of the person is unknown to many, but for those involved in Bay Area telescope making, Bob Schalck is as common as Gerry Rattley is to SJAA. Back in Sept. of 1976, when I first began my 6" mirror, Bob was my official-unofficial instructor. He showed me the ropes, explaining all about such unheard of things as grits, focal lengths, grinding strokes, care and maintenance of mirror and tool and all the things involved in mirror making.

Throughout the months, as I ground away hour after hour, Bob was quick to compliment my most modest achievements and fairly rapid progress. He was eager to help, give advice and reassurance. He often told me I was his best student. And I think he wanted my mirror to be as good. So did I.

A year or so went by. A lot of delays, but finally I was close to the end. In late Nov., early Dec., I spent two hours at the Chabot Telescope Makers' Workshop polishing on my mirror. After a total of 12 hours polishing time, I had hoped to finish soon. After testing it, Paul Zurakowski said it still wasn't polished out and needed more work. Bob took a look at it and discovered the surface was covered with small little scratches. A contaminated pitch lap or abrasive particles in the air left me with a mirror that would need six or more hours of polishing to smooth out. Bob, seeing my disappointment and wanting to help, volunteered to put another pitch lap on during the week so it would be ready for polishing the next time I came to Chabot. That cheered me, knowing I wouldn't have the delay of making another lap added on to everything else.

Two weeks later, Bob arrived at the indoor star party at the Red Cross for the Dec. 16 Christmas party. He had my mirror, a pitch lap, and two pieces of broken glass that once was my tool. It was the first time he had ever been to a SJAA meeting and the first time in six years he had ever broken a piece of glass. It was only an accident, but still, I think he felt half embarrassed about it. As a kind of an unspoken gift and peace offering, he had used another tool and pitch lap and had polished away all my scratches and handed me a smooth, spherically surfaced mirror ready to parabolize.

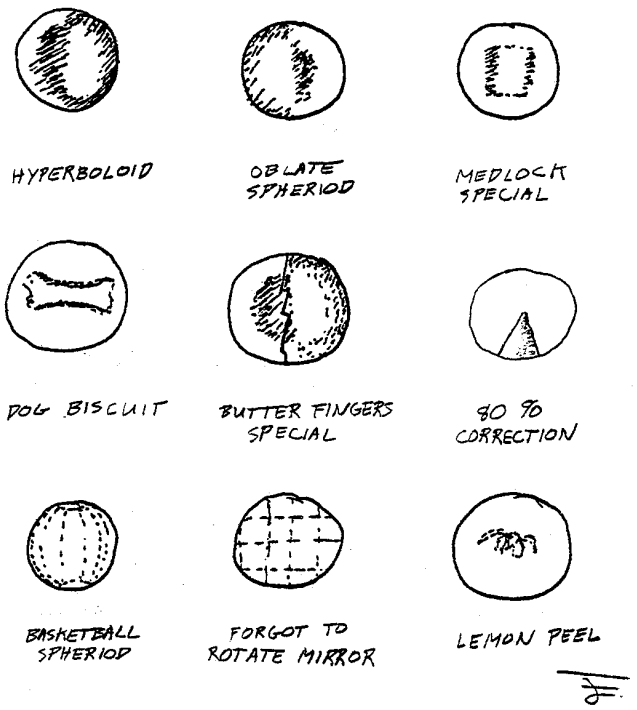
For over three hours, until 1:00 A.M., we worked on parabolizing the mirror in the kitchen of the Red Cross. Out of scrap wood found in the garage, Bob made a board to polish on so the mirror wouldn't slide. He used his Swiss army knife saw to cut the wood. He rigged up a tester using a penlight taped to a chair and just generally turned the kitchen into a temporary Chabot. The night was long, my arms ached from all the polishing, but, thanks to Bob and his coaching, my mirror was parabolized.

A trip to Chabot later in the month confirmed a very smooth, even parabola to an eighth of a wave. Bob acted like a father with a new baby! He was SO proud. Likewise, so was I, because this was my very first mirror. To top it all off, Bob took my mirror away from me once again and brought it back to the Jan. 20 Red Cross fully aluminized. And he did it free of charg

Bob, I can't thank you enough for all you've done. I know I've taken up too much space in this Bulletin just to thank you. But, like al the work spent on the mirror, it was worth it if I've made you realize how much I appreciated your help.

Oh, and by the way, are ya gonna help with my next one? I'll warn ya, it won't be a 6"!

Penny



"Women should be obscene and not heard."
Doug Berger

"Some of us do things better than others."
Ed Schell

"Some of us don't do anything well at all."
Jack Zeiders

"We seem to be propagating, arn't we?"
Denni Medlock

"What are you trying to tell us?" Pete Manly

SJFAA - San Jose Future Amateur Astronomers

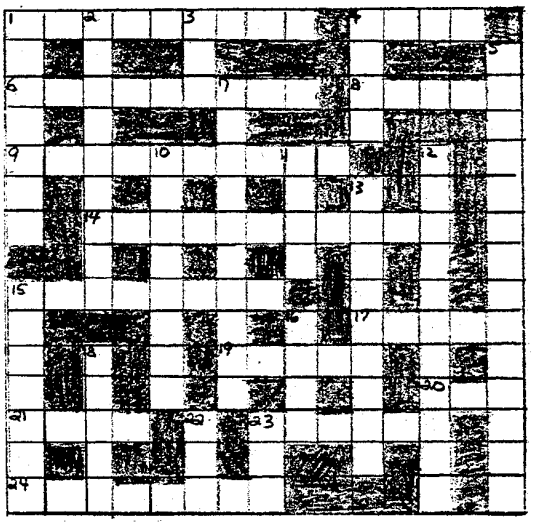
Jeremy Andrew Lowd
8 lbs, 9 oz.
20"
1:50 P.M.
January 7, 1979

Patrick Robert Manly
3.95 kilograms
49.53 centimeters
1 hr, 17 min. coordinated universal time
January 26, 1979

Great Red Spot on Meridian PST

da	mo	d	h	m	
Th	2	1	0	2	AM
Th	2	1	7	45	PM
Sa	2	3	1	33	AM
Sa	2	3	9	28	PM
M	2	5	3	14	AM
M	2	5	11	3	PM
Tu	2	6	6	54	PM
Th	2	8	0	46	AM
Th	2	8	8	31	PM
Sa	2	10	2	19	AM
Sa	2	10	10	9	PM
M	2	12	4	3	AM
M	2	12	11	54	PM
Tu	2	13	7	39	PM
Th	2	15	1	27	AM
Th	2	15	9	23	PM
Sa	2	17	3	9	AM
Sa	2	17	11	2	PM
Su	2	18	6	50	PM
Tu	2	20	0	32	AM
Tu	2	20	8	23	PM
Th	2	22	2	15	AM
Th	2	22	10	8	PM
Sa	2	24	11	42	PM
Su	2	25	7	37	PM
Tu	2	27	1	19	AM
Tu	2	27	9	10	PM

The Red Spot by
Jim Van Nuland
for more info
call 371-1307



SKY WATCH by Fred Braniff

Clues Down

1. Yellow & blue double
2. Optical instrument
3. Reticulum
4. Musical instrument
5. Groups of stars
7. The rotation of Venus
10. Lines - parallel to equator
11. A number of times
12. Celestial latitude
13. Book of tables
15. Star in Pegasus
16. Light band on Jupiter
18. A moon with an atmosphere
22. X
23. Not solid or liquid

Clues Across

1. The subject
2. Converges or diverges a light beam
6. Gamma Orionis
8. F - number
9. Dawes limit
14. Ocular type
15. Effective diameter of a mirror or object lens
17. Faint constellation near celestial South Pole
19. A satellite of Saturn
21. +2835 0524
23. The Twins
24. Double stars

I do not find a conflict between science and religion. Science is not anti-God. I can believe in God and still understand scientific knowledge.

I do not accept the "random chance" theory of some evolutionists or the Christian fundamentalist "first chapter of Genesis" account of the beginning of the universe. This does not say that I reject the Bible. It is one of the wisest and best guides to living there is. That is why it is still with us - unchanged - after all these years. I, also, do not accept that science has all the answers.

My God has the wisdom and power to create the universe, institute natural law, including evolution, and then start it all off with a "big bang".

I see very little conflict between my God and our current ideas of the universe. My God put it all there for me to investigate, to know, and to understand. That is why I like to look out at all the universe - marveling at "what my God hath wrought".

Ed Schell

General Meeting

The first general meeting of '79 was a good one. On Jan. 6, fifty-four people (I counted them) assembled in front of the Rosicrucian Planetarium to attend the meeting. At first, we were locked out of the building, but AASJ members can gather anywhere and carry on meaningful b.s. sessions. Slightly chilled and somewhat irritated, the membership was finally let into the building by the guard at exactly 7:30.

Gerry Rattley started the meeting while Pete Manly played doorman for latecomers. Gerry discussed a new magazine, "Star and Sky", a new book, "Messier Album" (I think we all have one by now, Bobby was selling them like hot cakes, and it also should become standard with each Celestron), and he also discussed sign ups for the Messier Marathon.

Ed Schell then announced possible plans to charter a bus to the eclipse, while Bobby Fingerhut came forty minutes late.

Dr. Gregory then gave his excellent talk on Copernicus and his far-ranging effects on Western man. Jim Van Nuland followed with his "superb" expertise on the ephemeris.

Jack Zeiders was really late and too embarrassed to even come into the building. Maybe he didn't come in because he went fishing all day - you know what all that bait does to you.... Just as the meeting adjourned Jim Van Nuland was observed holding and studying, with a knowing smile, a certain ballpoint pen....

As the membership left the building, they stumbled on a small and unruly group already in session on the sidewalk. The group obviously consisted of Jack, Kevin, Pete, and Wolf (that's me).

Wolfgang Hanisch

Secretary's Library

Here is, at last, the final list of the books and pamphlets which are available to all club members in the club library. I have in past bulletins, starting in July '78, from time to time listed some of the various books, pamphlets, and magazines which the club library possesses. If you would like further information on any of these, and/or would like to check one of them out, feel free to talk to me at any of the club meetings to make arrangements.

Proceedings - Western Satellite Research Network
Publications of the Astronomical Society of the Pacific
Science
The Sky Observers Guide
The Strolling Astronomer, Assoc. of Lunar and Planetary Observers
Technical Report of the African Solar Eclipse, by Ernie Piini
Technical Report of the Colombian Solar Eclipse by Ernie Piini
Visual Capabilities in Manned Space Flight
Visual Observing of Double Stars, by Charles E. Worley
What You Should Know About Meteors and Meteorites, by R. S. Dodson, Jr.
Smithsonian Treasury of 20th Century Science
The Universe, by Otto Struve

Cathy Pinheiro
265-4824

I would like to mention that the Jan. 19 board meeting was actually successful for once. The Board finally made a few decisions and is planning to do something. Non-board members present were Wolf Hanisch, Pete Manly, Norm Neinchel, Debrah Moore, Ed Schell and myself. Jack Zeiders was absent and Phil Hermsmeyer was late.

The meeting, shock of all shocks, started on time at 8:00 and actually ended at 10:30. A short list of subjects includes: treasurer's report, paying me for photo albums, public star party locations, picnic vs banquet for July meeting, purple bedrooms, AANC Conference, Univ. of Santa Clara, Messier Marathon, Astronomy Day, and the calender was reviewed. All in all, it was a good meeting. The Board actually can be of some use.

As many know, Jim Van Nuland is official Calender Keeper. Well, now Norm Neinchel is our official Time Keeper. He did a good job at the meeting keeping many discussions down to three nimutes.

Maybe we need to urge more non-board members to attend the board meetings. It seems to improve the quality of them.

Penny

CALICO OBSERVATORY

Graze Announcement - Aldebaran grazes the 1st quarter moon just after midnight, Sunday- Monday, March 4-5. Despite the 5° elevation, the 1.1 mag. star should be visible with binoculars if the sky is clear. The IOTA/SJAA site is 110 miles north of San Jose off I-80, near Dixon, Calif. Potential graze chasers call Jim Van Nuland, 408-371-1307. More info will be available next month.

Jim Van Nuland

ADS ADS ADS ADS

For Sale: Celestron 90 spotting scope. Excellent condition, like new, case and all accessories - $200. Robert Setzer - 415-457-2808

For Sale: Celestron 8. Wedge, tripod, coatings - $900 or best offer.
Bob Wallis - 408-866-1911 / work
415-851-8640 / home

Seeking ride to solar eclipse. Will share with gas expenses. Clifford Livermore, 4 Howard Ave Apt. #1, Burlingame, Calif. 94010. 415-347-3907

"I am not hollow." Denni Medlock

"Oh, yuck!" Jack Petersen

"Boy, does she have fat hair."
Norm Neinchel to Penny

"Ed always raises a lot of cane, anyway."
Jim Van Nuland

"I drank some of my fish water." Gerry Rattley

"I don't think I would like to do it unless we had the bus." Penny to Jack Zeiders

"I may look short and fat, but I'm one of the meanest people I know." Wolfgang Hanisch

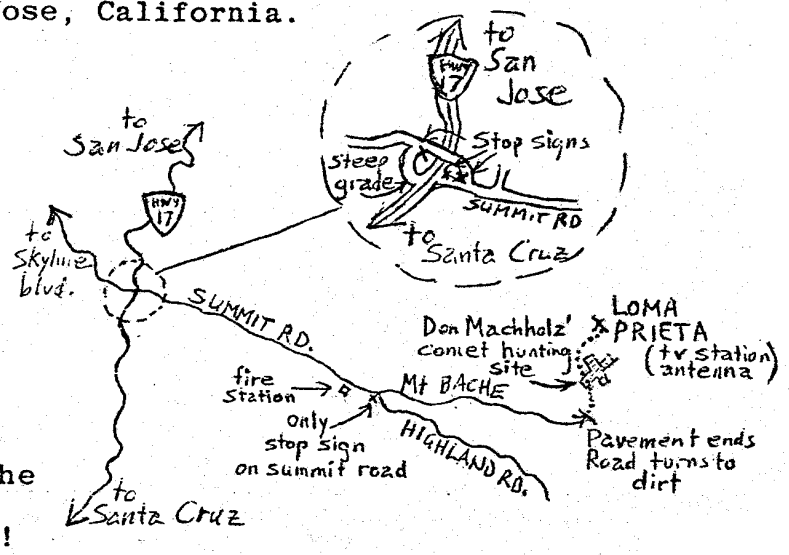
"There's a lot of philosophy tied up in science." Tom Bullock

THE MESSIER MARATHON - Sponsored Yearly by the AANC/SJAA

1979 marks the first year in which this late-March/early-April attempt at viewing all of the Messier objects (or nearly all of them) in a single night. During this time of year the Sun is in Eastern Pisces and is only obscuring two of the Messier objects (M.74 & M.77) making it at least possible to view each of the rest of these celestial showpieces at sometime during the night. The idea for this marathon was suggested to the San Jose Astronomical Association by Don Machhloz, one of its members and an avid comet hunter. The idea has taken hold and is now being planned as a yearly event indorsed by the AANC Messier Club.

Anyone who is interested in participating in this Messier Marathon is invited to come, noone who shows up will be turned away unless he is terribly distracting to those who are trying to do the marathon! Persons with Messier experience are welcome to attend to either do the marathon or help less experienced observers who are having problems. You must find these objects on your own though. You can have someone tell you how to look and where to look and even look through someone else's scope to see what to look for, but you must find it for yourself!

Time and Place: from dusk to dawn (show up early enough to set-up before it gets dark) on the Friday and Saturday evenings in late-March/early April that fall before-on-or-after the New Moon (some years there will be two weekends available, we'll use both, and some years only one). The place will be at Don Machholz' comet hunting site on Loma Prieta Mt., a 45 minute drive south from San Jose, California.
To get there:
take Hwy 17 south to Summit Rd, halfway between San Jose and Santa Cruz. Go east for 5.3 miles, here you will come to a stop sign (the only one you'll find on this road!), take the left branch, Mt Bache Rd. At 2.8 miles the pavement ends and the road continues as a dirt road. Don's site is another 1.2 miles along this road, but observing may be done anywhere along it! Look for the people, you're there! Horizons are generally good, and the general elevation is just over 3200 feet. Sky is reasonably dark!



If you wish to use the marathon to find Messier objects towards the AANC Messier Award you must register in advance with the AANC Messier Club (a sign-up sheet is attached in this packet or will be available at the marathon). Debbie Moore from San Jose is in charge of the AANC Messier Awards program and should be there for the marathon.

For further information contact:

Gerry Rattley
185 Homestead Road #2
Sunnyvale, Calif. 94087
(408) 732-0202

Debbie Moore
See attached AANC
Messier Award sign-up
sheet.

The MESSIER MARATHON - Notes about the Catalogue

The catalogue contains a listing for each of the 110 Messier objects, including the ones that are considered missing (M.91 and M.102) and those that are not true objects (M.40 and M.73) as well as the addition of M.110 (NGC 205) as suggested by Glen Jones in his book listed below. The AANC award will <u>not</u> require the following 3 objects of the 110 listed in the catalogue, M.40, M.91 and M.110. These objects have been added to satisfy my own Gestalt and possibly yours also. Of all the 110 Messier objects only two, M.74 and M.77, will probably not be possible to view at the Marathon.

The catalogue has the sky broken into 13 zones which should make this one night attempt project a little easier. The areas and objects have been arranged in a close order as to the sequence in which they should be attempted, however, this order can be broken if necessary. All co-ordinates given in the catalogue are for Epoch 1980 to aid those with setting circles and the following list of stars may be useful for setting sidereal time on your R.A. circle:

Area	Skalnate Pleso Chart	Star	RA (1980)	dec
1	II	Almach (γ And)	2 3	+42 14
2	VII,VIII	Rigel (β Ori)	5 14	- 8 13
3	II,III	Capella (α Aur)	5 15	+45 59
1,2,3		Aldebaran (α Tau)	4 35	+16 28
4	VIII	Regulus (α Leo)	10 7	+12 4
5	I,III	Dubhe (α UMa)	11 3	+61 52
6	IV	Cor Caroli (α CVn)	12 55	+38 26
7	IX,XIV	Spica (α Vir)	13 24	-11 3
8	IV,IX,X	Arcturus (α Boo)	14 15	+19 17
9	X,XIV	Antares (α Sco)	16 28	-26 23
10	X	Antares (α Sco)	16 28	-26 23
11	XV	Nunki (σ Sgr)	18 54	-26 19
12	X,V	Altair (α Aql)	19 50	+ 8 49
13	XI,XV	Enif (ε Peg)	21 43	+ 9 48

The catalogue/check-list may not contain enough space for you to make adequate notes to satisfy the AANC requirements, so I would suggest that you bring a note pad and pencil along to note date, time, place, etc. for each object, plus maybe a brief personal description or impression (like "Wow" or "turkey").

The following bibliography lists those books that I have found useful in my own Messier studies. It is not a list of all sources, but only those that are relatively complete and that I would personally recommend:

"MESSIER's Nebulae and Star Clusters" by Kenneth Glyn Jones
"The Messier Album" by John H. Mallas and Evered Kreimer
"The Telescope Handbook and Star Atlas" by Neale E. Howard
"Atlas Coeli II - Catalogue" by Antonín Bečvář
"Atlas of Deep Sky Splendors" by Hans Vehrenberg

Good Luck and Dark Skies!!!

Astronomically Yours;

Gerry Rattley, SJAA/AANC

MESSIER MARATHON

M	NGC	RA(1980)	Dec	Con	Mg	Size	Type	Notes/Description
						Area I		
52	7654	23 23	+61 29	Cas	7	12'	Cl	120 stars; Triangular shape; Orange star
103	581	1 32	+60 35	Cas	7	5	Cl	50 stars; Fan shape; Σ131
76	650-1	1 41	+51 28	Per	11	2 x 1	Pl	"Junior Dumbbell"; Double nebula
34	1039	2 41	+42 43	Per	6	18	Cl	80 stars; Regular shape; Several doubles
31	224	0 42	+41 9	And	4	160x40	Sp	"Great Andromeda Galaxy"; Splindid object
32	221	0 42	+40 45	And	9	3	El	Companion to M.31; Like fuzzy star
110	205	0 39	+41 35	And	10	8 x 3	El	Companion to M.31; Not bright
33	598	1 33	+30 33	Tri	7	60x40	Sp	Large broadside spiral; Mottled & diffuse
74	628	1 36	+15 41	Psc	10	10	Sp	Broadside spiral; Not bright
77	1068	2 42	- 0 4	Cet	9	6	Sp	Tight spiral; Rather bright
						Area II		
78	2068	5 46	+ 0 2	Ori	10	7	Di	10th mag. star in nebulosity
42	1976	5 34	- 5 24	Ori	5	65	Di	"Great Orion Nebula"; Includes the Trapezium
43	1982	5 35	- 5 18	Ori	9	20	Di	Detached part of M.42; Star in center
79	1904	5 23	-24 32	Lep	8	3	Gb	Only winter Messier globular; Resolvable?
41	2287	6 46	-20 43	CMa	6	30	Cl	50 stars; Red star; Chains of stars
93	2447	7 44	-23 49	Pup	6	25	Cl	60 stars; Triangular shape
47	2422	7 36	-14 27	Pup	5	25	Cl	50 stars; Fine, bright region
46	2437	7 41	-14 46	Pup	9	24	Cl	150 faint stars; Planetary involved
50	2323	7 2	- 8 19	Mon	7	16	Cl	100 stars; Regular shape
						Area III		
45	Mel 22	3 46	+24 3	Tau	2	100	Cl	"Pleiades"; 130 stars; w/Nebulosity
1	1952	5 33	+22 1	Tau	9	6 x 4	Pl	"Crab Nebula"; Remnent of 1054 AD Supernova
38	1912	5 27	+35 48	Aur	7	20	Cl	100 stars; Cruciform shape; Small Cl to S
36	1960	5 35	+34 5	Aur	7	12	Cl	60 stars; Star shape
37	2099	5 51	+32 33	Aur	7	20	Cl	150 faint stars; Red star in center
35	2168	6 8	+24 21	Gem	6	40	Cl	120 stars; Regular shape; Small Cl imbedded SE
						Area IV		
48	2548	8 13	- 5 43	Hya	7	30	Cl	80 stars; Streams of stars
67	2682	8 50	+11 54	Cnc	7	15	Cl	65 stars; Famous old cluster
44	2632	8 39	+20 0	Cnc	4	95	Cl	"Praesepe"/"Beehive"; 75 stars
95	3351	10 43	+11 49	Leo	10	4	Sp	Barred spiral; Low brightness
96	3368	10 46	+11 56	Leo	9	6 x 3	Sp	Broadside spiral; E of M.95
105	3379	10 47	+12 42	Leo	9	2	El	Brightest of galaxy trio
65	3623	11 18	+13 13	Leo	9	7 x 2	Sp	Tilted spiral; W of M.66
66	3627	11 19	+13 7	Leo	9	7 x 2	Sp	Tilted spiral; Slightly brighter than M.65
						Area V		
81	3031	9 54	+69 9	UMa	8	20x10	Sp	Tilted spiral; S of M.82; Thin bright arms
82	3034	9 54	+69 47	UMa	9	8 x 2	Sp	Exploding edge-on galaxy; Mottled
108	3556	11 10	+55 47	UMa	10	8 x 2	Sp	Edge-on w/no ctrl dark lane; NW of M.97
97	3587	11 14	+55 8	UMa	11	3	Pl	"Owl Nebula"; ?see the eyes!?!?
109	3992	11 57	+53 29	UMa	11	6 x 4	Sp	Barred spiral; Not bright
40	Wnc 4	12 21	+58 11	UMa	9	-	D*	2 9th mag. yellow stars; 49" sep in P.A. 85°
106	4258	12 18	+47 25	CVn	8	18 x 6	Sp	Tilted spiral; Pear shaped central region
						Area VI		
102	5866	15 6	+55 49	Dra	10	3 x 1	El	Football shape; Star attached on NW
101	5457	14 3	+54 27	UMa	9	22	Sp	Broadside spiral; Low brightness
51	5194-5	13 29	+47 18	CVn	9	12 x 6	Sp	"Whirlpool Galaxy"; Companion attached N
63	5055	13 15	+42 8	CVn	10	8 x 3	Sp	Tilted spiral; Bright center
94	4736	12 50	+41 14	CVn	8	5	Sp	Tight spiral; Quite bright
64	4826	12 56	+21 48	Com	8	8 x 4	Sp	"Black-eye Galaxy"; Bright
53	5024	13 12	+18 17	Com	8	3	Gb	Large; Resolvable; E of α Com
						Area VII		
85	4382	12 24	+18 18	Com	9	3 x 2	El	Fuzzy star; Fainter companion to E
100	4321	12 22	+15 56	Com	10	5	Sp	Broadside spiral; Not bright
99	4254	12 18	+14 32	Com	10	4	Sp	Broadside spiral; Bright center
98	4192	12 13	+15 1	Com	11	8 x 2	Sp	Tilted spiral; Bright center
84	4374	12 24	+13 0	Vir	9	2	El	Like fuzzy star; W of M.86
86	4406	12 25	+13 3	Vir	9	2	El	Like fuzzy star; E of M.84
87	4486	12 30	+12 30	Vir	9	3	El	Giant El galaxy; Radio and Xray source
88	4501	12 31	+14 32	Com	10	6 x 3	Sp	Tilted spiral; Bright center
91	4548	12 34	+14 29	Com	11	3	Sp	Barred spiral; E of M.88
90	4569	12 36	+13 16	Vir	10	6 x 3	Sp	Tilted spiral; Not bright
89	4552	12 35	+12 40	Vir	10	2	El	Like fuzzy star; Btwn. M.58 & M.90
58	4579	12 37	+11 56	Vir	9	4 x 3	Sp	Barred spiral; Bright center & bars
59	4621	12 41	+11 47	Vir	10	2	El	Round; Fuzzy; Bright
60	4649	12 43	+11 41	Vir	9	3	El	Like fuzzy star; Companion to NW
49	4472	12 29	+ 8 7	Vir	9	3	El	Round fuzzy disc; Like a Pearl
61	4303	12 21	+ 4 36	Vir	10	5	Sp	Broadside spiral; Not very bright
104	4594	12 39	-11 31	Vir	9	6 x 2	Sp	"Sombrero Galaxy"; Central dust lane
68	4590	12 38	-26 38	Hya	8	3	Gb	Small globular; Resolvable?
83	5236	13 36	-29 46	Hya	10	10 x 8	Sp	Broadside spiral; Bright center & arms

MESSIER MARATHON

M	NGC	RA(1980)	Dec	Con	Mg	Size	Type	Notes/Descriptions
						Area VIII		
3	5272	13 41	+28 29	CVn	6	10	Gb	Large; Bright; Compressed; Resolvable
5	5904	15 17	+ 2 11	Ser	6	13	Gb	Large; Bright; Compressed; Resolvable
13	6205	16 41	+36 30	Her	6	10	Gb	"Great Hercules Cluster"; Resolvable
92	6341	17 16	+43 10	Her	6	8	Gb	Large; Bright; Compressed; Resolvable
12	6218	16 46	- 1 55	Oph	7	9	Gb	Large; Bright; Resolvable
10	6254	16 56	- 4 5	Oph	7	8	Gb	Large; Bright; Resolvable
14	6402	17 36	- 3 14	Oph	8	3	Gb	Small; Not bright; Resolvable?
						Area IX		
107	6171	16 31	-12 59	Oph	9	2	Gb	Small; Dim; Resolvable?
9	6333	17 18	-18 30	Oph	7	2	Gb	Small; Dim: Resolvable?
80	6093	16 16	-22 56	Sco	8	3	Gb	Small; Very compressed; Bright; Resolvable?
4	6121	16 22	-26 27	Sco	7	14	Gb	Large; Not compressed; Resolvable; W of Antares
19	6273	17 1	-26 14	Oph	7	4	Gb	Small; Resolvable?
62	6266	17 0	-30 5	Oph	7	4	Gb	Small: Resolvable?
6	6405	17 39	-32 11	Sco	6	25	Cl	50 stars; Butterfly shape
7	6475	17 53	-34 48	Sco	4	60	Cl	50 stars; Regular shape
						Area X		
8	6523	18 2	-24 23	Sgr	5	60x40	Di	"Lagoon Nebula"; Cluster on E
20	6514	18 1	-23 2	Sgr	8	28	Di	"Trifid Nebula"; Double star in center
21	6531	18 3	-22 30	Sgr	7	10	Cl	50 stars; NE from M.20
23	6494	17 56	-19 0	Sgr	7	25	Cl	120 stars; Oval patch
24	6603	18 17	-18 27	Sgr	11	4	Cl	50 stars; Small fuzzy in rich field
18	6613	18 19	-17 9	Sgr	8	12	Cl	12 stars; Irregular shape
17	6618	18 20	-16 12	Sgr	8	40	Di	"Swan"/"Horseshoe"/"Omega" Nebula
16	6611	18 18	-13 48	Ser	7	25	Cl	"Eagle Nebula"; 55 stars; w/Nebulosity
25	I.4725	18 30	-19 16	Sgr	7	40	Cl	50 stars; Large and coarse
						Area XI		
22	6656	18 35	-23 55	Sgr	6	17	Gb	Large, Bright; Compressed; Resolvable
28	6626	18 23	-24 52	Sgr	7	5	Gb	Small; Bright; Compressed; Resolvable?
69	6637	18 30	-32 23	Sgr	9	3	Gb	Small; Dim; Resolvable?
70	6681	18 42	-32 18	Sgr	10	2	Gb	Small; Dim; Resolvable?
54	6715	18 54	-30 30	Sgr	8	2	Gb	Saml1; Dim; Resolvable?
55	6809	19 39	-31 0	Sgr	7	10	Gb	Large; Not compressed; Resolvable
75	6864	20 5	-21 59	Sgr	8	2	Gb	Small; Dim; Resolvable?
						Area XII		
26	6694	18 44	- 9 25	Sct	9	9	Cl	>20 stars; Fan shape
11	6705	18 50	- 6 18	Sct	6	10	Cl	"Wild Duck Cluster"; 200 stars; One bright star
71	6838	19 53	+18 44	Sge	9	6	Gb	Small; Dim; Resolvable?
27	6853	19 59	+22 40	Vul	7	8 x 4	Pl	"Dumbbell Nebula"; Look for ctl. star
57	6720	18 53	+33 1	Lyr	9	1	Pl	"Ring Nebula"; Very dim ctl. star
56	6779	19 16	+30 8	Lyr	9	2	Gb	Small; Dim; Resolvable?
29	6913	20 23	+38 27	Cyg	7	12	Cl	20 stars; Rich region; Dipper shape
39	7092	21 31	+48 21	Cyg	5	30	Cl	25 stars Triangular shape
						Area XIII		
15	7078	21 29	+12 5	Peg	6	7	Gb	Large; Bright; Compressed; Resolvable
2	7089	21 32	- 0 54	Aqr	6	8	Gb	Large; Bright; Compressed; Resolvable
72	6981	20 52	-12 39	Aqr	10	2	Gb	Small; Dim; Resolvable?
73	6994	20 58	-12 44	Aqr	10	1	-	4 star asterism; Mags=10,10,10&11
30	7099	21 39	-23 15	Cap	8	5	Gb	Small; Compressed; Resolvable?
						Finis		

Credits: Gerry Rattley
Don Machholz
Jim Van Nuland
Bruce DeGraff

Key to abrieviations used in catalogue:

M = Messier number
RA = Right ascension (hr min)
Con = Constellation
NGC = New General Catalogue
Dec = Declination (deg min)
Mg = Magnitude

Other Notes:

Sizes are given in minutes of arc.
Types are abrieviated as follows:
Cl = Cluster (open)
Gb = Globular cluster
Di = Difuse/Gaseous nebula
Pl = Planetary nebula
Sp = Spiral galaxy
El = Elliptical galaxy

AANC ASTRONOMICAL ASSOCIATION OF NORTHERN CALIFORNIA

AANC Messier Club

Initiated with the idea of encouraging observational astronomy among amateurs, the AANC will provide recognition to the observer who goes beyond the celestial show objects to find each of the Messier clusters, nebulae, and galaxies.

A plaque suitable for mounting on the telescope will be presented to any individual who observes all 107 Messier objects. A parchment will be given as an intermediate award to those who spot 75 or more.

RULES:

1) Before starting the program, each observer must first register with the AANC using the attached form, indicating the beginning date and the telescope to be used.

2) Two years are allowed to see the objects.

3) All observing must be done using the individual's own instrument.

4) The observer is expected to make a record fo the time, date, and place at which each object is viewed. This should be presented to the AANC board at the completion of the project.

cut here

NAME _____
last first

ADDRESS _____
street city state zip

TELEPHONE (___)_____

STARTING DATE _____

CLUB AFFILIATION_____

INSTRUMENT TO BE USED _____

MAIL TO:

AANC Messier Club
c/o Debrah Moore
5336 Harwood Road
San Jose, Cal. 95124

GOOD LUCK!