



THE SHORELINE OBSERVER



*Newsletter for the
Shoreline Amateur Astronomical Association*

President- Peter Burkey

Vice President- Steve Tuls

Secretary/Treasurer- Rob Tuls

Robert Wade, Editor

June 1991

June Meeting

The June meeting of the Shoreline Amateur Astronomical Association will be held on Thursday, June 20th, beginning at 7:00 PM in the West Ottawa Middle School Planetarium in Holland, Michigan. The agenda will be as follows:

- 7:00-7:15 Socializing. Refreshments will be provided by Pete Burkey.
- 7:15-7:30 The June Night Sky will be presented by Jim Hotchkiss filling in for Sandy Flakke. The Constellation of the Month will be by Pete Burkey.
- 7:30-7:45 Old Business: topics for discussion include LibertyFest and our annual dues (see below for more information).
- 7:45- Pete will also give a slide presentation of the current Jupiter-Venus-Mars triple conjunction, followed by a StarBowl Quiz.

Executive Board Meeting

The June meeting was held on June 25th with Pete Burkey, Tuls, Steve Tuls, and Arlin Ten Kley present. The main topic of discussion was our plans for a booth at LibertyFest on Saturday,

3882 62nd Street
Holland, Michigan 49423



June 29th. Arlin reported that everything is in place for us to sponsor a booth and now we need volunteers to man it. Ideas for the booth include a demonstration where kids make craters, information for safe eclipse viewing (including a pin-hole viewer), and the construction of sundials for kids. Steve, Mark, and Phil have indicated a willingness to help. We still need 3-5 more to enable everyone to work 2 hour shifts from 10 AM to 4 PM. Any other ideas and/or volunteers will be welcome at our June meeting.

The question of lowering our annual dues was again raised, but since our Secretary/Treasurer wasn't present, we didn't have access to treasurer's records and could not therefore arrive

at a specific number to recommend to the membership. However, we are in agreement that the dues should be lowered approximately \$10 to make membership more accessible to everyone. Hopefully we will have the necessary information to make a recommendation at our June meeting, so please plan to attend to help with this important decision.

Respectfully submitted by Peter Burkey

June Star Party - Success!

On Friday, June 7, SAAA members and guests gathered at Bob's house for an evening of deep-sky viewing. The turnout was the best in recent memory, with the "regulars" and several newcomers. We welcomed Kim Herrick and son as well as Steve De Young to their first club star party. Both Steve and Kim had some pretty impressive equipment set up.

Fearing that haze would soon inhibit our quest for club observing program objects, both Mark and Bob knocked off some double stars and a very impressive planetary nebula in Draco. Mark soon wandered through the realm of the galaxies while Bob acquired the spring/summer favorites M13 in Hercules, M57 in Lyra, and M65 and M66 in Leo. Pete meanwhile concentrated on photographing the planets Venus, Mars, and Jupiter. He started this project in early May to illustrate the relative motions of these planets. He tried several apertures and exposure times, so we should have something to see....

Overall, we had a good time and we hope to have a similar turnout on July 12th or 13th.

THE ASTRONOMICAL LEAGUE'S BINOCULAR MESSIER CLUB

John Wagoner

Texas Astronomical Society of Dallas

INTRODUCTION

The Astronomical League is pleased to introduce its new Binocular Messier Club. The Binocular Messier Club is for beginning observers as well as experienced amateurs. Beginning observers will find that it doesn't take an expensive telescope but only a simple pair of binoculars, no matter what size, cost or condition, to do serious astronomy. On the other hand, experienced amateurs,

even though they may already have the A.L.'s telescopic Messier and Herschel certificates, will enjoy the new perspective binocular observing gives them as they pull back from an object and observe the area around that object as well as the object itself. Seeing the object and its relationship to the sky around it will put that object in its proper context in the sky.

RULES AND REGULATIONS

To qualify for the A.L.'s Binocular Messier Certificate, you need only be a member of the Astronomical League, through either an affiliated club or as a member-at-large, and observe 50 or more Messier objects using only binoculars. Any 50 of the 110 recognized Messier objects may be observed. Any pair of binoculars may be used, but those with objectives between 20MM and 80MM in diameter are recommended. To record your observations, you may use the log sheets found in the back of the Astronomical League's manual *Observe: A Guide to the Messier Objects*, or any similar log sheet. To receive your Binocular Messier Certificate, simply send your observations along with your name, address, phone number, and club affiliation to:

John Wagoner
A.L. Binocular Coordinator
1409 Sequoia Dr.
Plano, Tx. 75023

Upon verification of your observations, your certificate will be forwarded to either you or your club's "Awards Coordinator", whomever you choose.

APPENDICES

For those of you who are uncertain as to which Messier objects to observe, or who need a formal program to follow, we have included Appendix A and Appendix B for your use. Appendix A is for binoculars between 20MM and 50MM in diameter. Appendix B is for binoculars between 56MM and 80MM in diameter. Each appendix lists the appropriate Messier objects that can be observed with that size instrument, and is divided into three categories: Easy, Tough, and Challenge objects. Easy objects are those that appear large and bright in the field of view, and are easily located. Tougher objects are small and dim in the field of view and require identifying the fields around them with the help of some sort of star chart to

verify their location. Challenge objects are those that are small and faint, sometimes requiring averted vision, and need to be pinpointed exactly a good star atlas to identify.

You'll notice that in the small binocular category (Appendix A), 42 objects are classified as easy. You need only choose 8 of the objects in the tougher category to receive your certificate. For larger binoculars (Appendix B), all 50 objects needed to receive the certificate can be chosen out of the easy category. The point is that anyone, with any pair of binoculars, no matter what their size, shape, condition, or cost, can do serious astronomy, and acquire a Binocular Messier Club certificate. To prove that point, all 76 objects in Appendix A (Easy, Tough, and Challenge objects) were observed with a pair of 7x35 Tasco binoculars purchased at Wal-Mart for \$19.00.

Appendix C is for reference purposes, listing all 110 of the Messier objects at the times when they are best observed, and in constellation sequence. So, if you are wondering what is the best time of the year to observe a Messier object, refer to Appendix C. Appendix C tells you which season to observe each object, each object's coordinates, their NGC numbers, the constellation they are located in, and their sizes and magnitudes. Also, Appendix C lists all of the Messier objects in the exact same order as the Astronomical League's Observe manual "Observe: A Guide to the Messier Objects", in case you are using that as an observing aide.

I look forward to your sharing your binocular Messier observations with me. I think you will find that this is a worthwhile program that will not only give you a whole new perspective on the universe in which we live, but a more comfortable feeling for the night sky that we all enjoy so much. Good luck.

Clear skies, and good observing.

APPENDIX A: 7x35, 7x50, AND 10x50 BINOCULARS

EASY MESSIER OBJECTS: 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 16, 17, 18, 22, 23, 24, 25, 27, 29, 31, 34, 35, 36, 37, 38, 39, 41, 42, 44, 45, 46, 47, 48, 50, 52, 55, 67, 92, 103. TOTAL = 42.

TOUGHER MESSIER OBJECTS: 14, 19, 28, 30, 33, 40, 49, 53, 62, 63, 64, 78, 79, 80, 81, 82, 83, 94. TOTAL = 18.

CHALLENGE MESSIER OBJECTS: 1, 9, 26, 32, 51, 54, 56, 65, 66, 68, 71, 75, 97, 101, 104, 106. TOTAL = 16.

GRAND TOTAL = 76.

APPENDIX B: 11x80 BINOCULARS

EASY MESSIER OBJECTS: 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 34, 35, 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 48, 50, 52, 53, 55, 62, 67, 71, 78, 79, 80, 81, 82, 92, 93, 94, 103. TOTAL = 58.

TOUGHER MESSIER OBJECTS: 1, 9, 33, 49, 51, 54, 56, 60, 61, 63, 64, 65, 66, 68, 75, 77, 83, 87, 97, 101, 102, 104, 106. TOTAL = 23.

CHALLENGE MESSIER OBJECTS: 20, 58, 59, 69, 70, 72, 84, 85, 86, 88, 89, 90, 95, 96, 99, 100, 105, 107, 108, 109, 110. TOTAL = 21.

GRAND TOTAL = 102.

APPENDIX C: THE MESSIER LIST

THE WINTER GROUP

NGC#	R.A.	Dec.	Mag.	Type	Con	Size	Messier
224	0 42.8	41 16	4.5	Gal	And	178'	31
221	0 42.8	40 52	10.0	Gal	And	8' X 6'	32
205	0 40.4	41 41	10.0	Gal	And	17' X 10'	110
598	1 33.9	30 40	7.0	Gal	Tri	73' X 45'	33
7654	23 24.2	61 35	8.0	OCL	Cas	13.0'	52
581	1 33.2	60 42	7.0	OCL	Cas	6.0'	103
1039	2 42.0	42 47	6.0	OCL	Per	35.0'	34
650	1 42.4	51 34	12.0	PIN	Per	163" X 107"	76
1952	5 34.5	22 1	9.0	PIN	Tau	6' X 4'	1
1432	3 47.0	24 7	1.4	OCL	Tau	110.0'	45
1960	5 36.1	34 8	6.5	OCL	Aur	12.0'	36
2099	5 52.4	32 33	6.0	OCL	Aur	24.0'	37
1912	5 28.7	35 50	7.0	OCL	Aur	21.0'	38
1976	5 35.3	-5 23	5.0	DFN	Ori	85' X 60'	42
1982	5 35.5	-5 16	7.0	DFN	Ori	20' X 15'	43
2068	5 46.8	0 4	8.0	DFN	Ori	8' X 6'	78
1904	5 24.5	-24 33	8.5	GCL	Lep	8.7'	79
2168	6 8.9	24 20	5.5	OCL	Gem	28.0'	35
2323	7 3.2	-8 20	7.0	OCL	Mon	16.0'	50
2287	6 47.0	-20 44	5.0	OCL	CMA	38.0'	41
2437	7 41.8	-14 49	6.5	OCL	Pup	27.0'	46
2422	7 36.6	-14 30	4.5	OCL	Pup	30.0'	47
2447	7 44.6	-23 52	6.5	OCL	Pup	22.0'	93

THE EARLY SPRING GROUP

2632	8 40.1	19 59	4.0	OCL	Cnc	95.0'	44
2682	8 50.4	11 49	7.5	OCL	Cnc	30.0'	67
2548	8 13.8	-5 48	5.5	OCL	Hya	54.0'	48
3031	9 55.6	69 4	8.5	Gal	UMa	21' X 10'	81
3034	9 55.9	69 41	9.5	Gal	UMa	9' X 4'	82
3587	11 14.8	55 1	12.0	PIN	UMa	202" X 196"	97
3556	11 11.6	55 41	11.0	Gal	UMa	8' X 1'	108
3992	11 57.6	53 23	11.0	Gal	UMa	7' X 4'	109
5457	14 3.3	54 22	8.5	Gal	UMa	22.0'	101
WIN4	12 20.0	58 22	9.0	Dbl	UMa	49"	40
3623	11 18.9	13 6	10.5	Gal	Leo	8' X 1.5'	65
3627	11 20.2	13 0	10.0	Gal	Leo	8' X 2.5'	66
3351	10 43.9	11 42	11.0	Gal	Leo	4.4' X 3.3'	95
3368	10 46.7	11 49	10.5	Gal	Leo	6' X 4'	96
3379	10 47.8	12 35	11.0	Gal	Leo	2.0'	105
5272	13 42.2	28 23	7.0	GCL	CVn	16.2'	3
5194	13 30.0	47 11	8.0	Gal	CVn	11' X 7'	51
5055	13 15.8	42 2	8.5	Gal	CVn	10' X 6'	63
4736	12 50.9	41 8	9.5	Gal	CVn	7' X 3'	94
4258	12 18.9	47 19	9.5	Gal	CVn	19' X 8'	106

THE LATE SPRING GROUP

4472	12	29.8	8	1	10.0	Gal	Vir	9' X 7.5'	49
4579	12	37.8	11	50	11.0	Gal	Vir	5.5' X 4.5'	58
4621	12	42.1	11	39	11.5	Gal	Vir	5' X 3.5'	59
4649	12	43.7	11	34	10.5	Gal	Vir	7' X 6'	60
4374	12	25.1	12	54	11.0	Gal	Vir	5.0'	84
4406	12	26.3	12	57	11.0	Gal	Vir	7.5' X 5.5'	86
4486	12	30.9	12	24	11.0	Gal	Vir	7.0'	87
4552	12	35.7	12	34	11.5	Gal	Vir	4.0'	89
4569	12	36.9	13	10	11.0	Gal	Vir	9.5' X 4.5'	90
4303	12	22.0	4	29	10.5	Gal	Vir	6' X 5.5'	61
4594	12	39.9	-11	37	9.5	Gal	Vir	9' X 4'	104
5024	13	12.9	18	10	8.5	GCl	Com	12.6'	53
4826	12	56.7	21	41	9.0	Gal	Com	9.3' X 5.4'	64
4382	12	25.5	18	12	10.5	Gal	Com	7.1' X 5.2'	85
4501	12	32.1	14	26	11.0	Gal	Com	7' X 4'	88
4192	12	13.9	14	55	11.0	Gal	Com	9.5' X 3.2'	98
4254	12	18.9	14	26	10.5	Gal	Com	5.4' X 4.8'	99
4321	12	23.0	15	50	10.5	Gal	Com	7' X 6'	100
4548	12	35.5	14	30	11.5	Gal	Com	5.4' X 4.4'	91
4590	12	39.5	-26	45	9.0	GCl	Hya	12.0'	68

THE MID-SUMMER GROUP

5236	13	37.1	-29	52	8.5	Gal	Hya	11' X 10'	83
5904	15	18.6	2	5	7.0	GCl	Ser	17.4'	5
5866	15	6.5	55	45	10.5	Gal	Dra	5.2' X 2.3'	102
6205	16	41.7	36	28	7.0	GCl	Her	16.6'	13
6341	17	17.1	43	8	7.5	GCl	Her	11.2'	92
6333	17	19.2	-18	31	9.0	GCl	Oph	9.3'	9
6254	16	57.1	-4	6	7.5	GCl	Oph	15.1'	10
6218	16	47.2	-1	57	8.0	GCl	Oph	14.5'	12
6402	17	37.6	-3	15	9.5	GCl	Oph	11.7'	14
6273	17	2.6	-26	16	8.5	GCl	Oph	13.5'	19
6266	17	1.2	-30	7	8.0	GCl	Oph	14.1'	62
6171	16	32.5	-13	3	10.0	GCl	Oph	10.0'	107
6121	16	23.6	-26	32	7.5	GCl	Sco	26.3'	4
6093	16	17.0	-22	59	8.5	GCl	Sco	8.9'	80
6405	17	40.1	-32	13	4.5	OCl	Sco	15.0'	6
6475	17	53.9	-34	49	3.5	OCl	Sco	80.0'	7

THE LATE SUMMER GROUP

6705	18	51.1	-6	16	7.0	OCl	Sct	14.0'	11
6694	18	45.2	-9	24	9.5	OCl	Sct	15.0'	26
6611	18	18.8	-13	47	6.5	C/N	Ser	7.0'	16
6618	18	20.8	-16	11	7.0	C/N	Sgr	11.0'	17
6613	18	19.9	-17	8	8.0	OCl	Sgr	9.0'	18
6603	18	18.4	-18	25	11.5	OCl	Sgr	5.0'	24
6514	18	2.3	-23	2	5.0	C/N	Sgr	28.0'	20
6531	18	4.6	-22	30	7.0	OCl	Sgr	13.0'	21
6523	18	3.1	-24	23	5.0	C/N	Sgr	60' X 35'	8
6656	18	36.4	-29	54	6.5	GCl	Sgr	24.0'	22
6626	18	24.5	-24	52	8.5	GCl	Sgr	11.2'	28
6494	17	56.8	-19	1	6.0	OCl	Sgr	27.0'	23
4725	18	28.8	-19	17	4.9	OCl	Sgr	40.0'	25
6715	18	55.1	-30	29	8.5	GCl	Sgr	9.1'	54
6809	19	40.0	-30	58	7.0	GCl	Sgr	19.0'	55
6637	18	34.4	-32	21	9.0	GCl	Sgr	7.1'	69
6681	18	43.2	-32	18	9.0	GCl	Sgr	7.8'	70
6864	20	6.1	-21	55	9.5	GCl	Sgr	6.0'	75

THE FALL AND EARLY WINTER GROUP

6779	19	16.6	30	11	9.5	GCl	Lyr	7.1'	56
6720	18	53.6	33	2	9.5	PLN	Lyr	85.6" X 61.6"	57
6913	20	23.9	38	32	9.0	OCl	Cyg	7.0'	29
7092	21	32.2	48	26	5.5	OCl	Cyg	32.0'	39
6853	19	59.6	22	43	7.5	PLN	Vul	480" X 340"	27
6838	19	53.8	18	47	8.5	GCl	Sge	7.2'	71
7099	21	40.4	-23	11	8.5	GCl	Cap	11.0'	30
7089	21	33.5	-0	49	7.5	GCl	Aqr	12.9'	2
6981	20	53.5	-12	32	10.0	GCl	Aqr	5.9'	72
6994	20	59.0	-12	38	9.0	OCl	Aqr	2.8'	73
7078	21	30.0	12	10	7.5	GCl	Peg	12.3'	15
628	1	36.6	15	48	10.5	Gal	Psc	10.2' X 9.5'	74
1068	2	42.7	-0	2	10.5	Gal	Cet	7' X 6'	77

Scale Models

One overlooked feature of our Mall display last April was the scale model of our solar system. Scale models help break incomprehensible dis-

tances into bit-sized chunks for easier understanding.

At the mall, our display centered around a 20" sun, suspended above our telescope display in front of Sears. At this scale, the planed jupiter was a 2" diameter ball suspended in front of Penny's, about 750' away (it should have been over 900' away, but the mall isn't big enough). The terrestrial planets were all between 1/16 - 3/16" in diameter. Steve had these drawn to scale on the planet posters that were located at appropriate solar distances. At this scale, Pluto should have been less than 1 mm in diameter, over a mile away near the Cloverleaf Party Store.

The next time you visualize the earth, keep the following in mind: If the earth were the size of an 8' weather balloon, Mt. Everest would be a bump 1/16th inch high, the Sears tower about as thick as a sheet of paper, and the atmosphere would extend 1" above the balloon's surface. The space shuttle would orbit 2-3" above the surface, whereas geosynchronous communications satellites would be about 23' away. The 2' diameter moon would be 250' away, and the 800' diameter sun would be 18 miles away!

Scale models can open up a whole new perspective on the universe. They also work for small things, too. How big are you compared to a molecule, an atom, or a proton? If you are interested in this topic, talk to Pete at the next meeting and watch for more in the July newsletter.

1991 Observing Program

We actually saw some clear sky recently! Some scores have increased due to the recent star party....

Peter Burkey.....30 points
 Mark Logsdon.....160 points
 Steve Tuls.....80 points
 Bob Wade.....175 points